

PART VI

WARNING INSTRUMENTS AND SYSTEMS

21. This Part prescribes the minimum warning instruments and systems requirements for aircraft operating in Trinidad and Tobago.

Applicability
of Part VI

Mach Number Indicator

22. An operator shall ensure that his aircraft which has speed limitations expressed in terms of mach number in the Aircraft Flight Manual is equipped with a mach number indicator.

Mach number
indicator

Requirement for Loss of Pressurization Warning

23. An operator shall ensure that a pressurized aircraft intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hectopascals or twenty-five thousand feet or more shall be equipped with a device to provide an aural or distinct visual warning to the flight crew of any dangerous loss of pressurization.

Loss of
pressurization
indicator

Landing Gear Warning Device

24. (1) An air operator shall ensure that an aeroplane in which he conducts operations has a landing gear also has a landing gear aural warning system that gives continuous aural warning under the following conditions:

Landing gear
aural
warning
device

- (a) for aeroplanes with an established approach wing-flap position, whenever the wing flaps are extended beyond the maximum certified approach climb configuration position in the Aeroplane Flight Manual and the landing gear is not fully extended and locked; and
- (b) for aeroplanes without an established approach climb wing flap position, whenever the wing flaps are extended beyond the position at which landing gear extension is normally performed and the landing gear is not fully extended and locked.

(2) A flap position-sensing unit utilized under subregulation (1) may be installed at any suitable place on the aeroplane.

(3) The landing gear aural warning system required under subregulation (1) shall not be capable of manual shut-off.

(4) Where an aeroplane has a throttle activated device installed, the air operator of such aeroplane shall ensure that it has a landing gear aural warning system, which meets the requirements of this Regulation.

(5) The landing gear aural warning system of an aeroplane under subregulation (4) may utilize any part of the throttle-actuated system as part of the landing gear aural warning system.

Altitude Alerting System

Altitude
alerting
system

25. (1) An air operator shall not operate—

- (a) a turbine propeller powered aeroplane with a maximum certified take-off mass in excess of five thousand, seven hundred kilogrammes or having a maximum approved passenger seating configuration of more than nine seats; or
- (b) a turbojet powered aeroplane, unless it is equipped with an alerting system capable of alerting the flight crew—
- (c) upon approaching pre-selected altitude in either ascent or descent; and
- (d) by at least an aural signal, when deviating above or below a pre-selected altitude.

(2) The equipment on an aeroplane that operates in defined portions of airspace where a Reduced Vertical Separation Minimum of 1000 feet is applied above FL 290 under regulation 13, shall be capable of—

- (a) indicating to the flight crew the flight level being flown; and
- (b) providing an alert at a maximum threshold of plus or minus 300 feet to the flight crew when a deviation occurs from the selected flight level.

Ground Proximity Warning System

Ground
proximity
warning
system

26. (1) An operator shall not conduct operations in a turbine-engined aeroplane having a maximum certified take-off mass in excess of five thousand, seven hundred kilogrammes or having a maximum approved passenger seating configuration of more than nine seats for which a Certificate of Airworthiness was first issued after 31st December, 2003 and all such aeroplanes after 31st December, 2006, unless it is equipped with a ground proximity warning system which has a forward looking terrain avoidance function.

(2) An operator shall not conduct operations unless his aircraft ground proximity warning system automatically provides as a minimum, by means of aural signals, which may be supplemented by visual signals, timely and distinctive warning to the flight crew when the aircraft is in potentially hazardous proximity to the surface of the earth in the following circumstances:

- (a) excessive descent rate;

- (b) excessive altitude loss after take-off or go-around; and
- (c) unsafe terrain clearance.

(3) An air operator shall not conduct operations in a turbine engined aeroplane with a maximum certified take-off mass in excess of five thousand, seven hundred kilogrammes or having a maximum approved passenger seating configuration of more than nine seats, unless it is equipped with a ground proximity warning system.

(4) An air operator shall not conduct operations in a turbine engined aeroplane with a maximum certified take-off mass in excess of fifteen thousand kilogrammes or having a maximum approved passenger seating configuration of more than thirty seats, unless it is equipped with a ground proximity warning system which has a forward looking terrain avoidance function.

(5) An air operator shall not conduct operations in a piston engined aeroplane of a maximum certified take-off mass in excess of five thousand, seven hundred kilogrammes or having a maximum approved passenger seating configuration of more than nine passengers, unless it is equipped with a ground proximity warning system which provides the warnings specified in subregulation (6)(a) and (c), warning of unsafe terrain clearance and a forward looking terrain avoidance function.

(6) An air operator shall not conduct operations unless his aircraft ground proximity warning system automatically provides, as a minimum, by means of aural signals, which may be supplemented by visual signals, timely and distinctive warning to the flight crew when the aircraft is in potentially hazardous proximity to the surface of the earth in the following circumstances:

- (a) excessive descent rate;
- (b) excessive terrain closure rate;
- (c) excessive altitude loss after take-off or go-around; and
- (d) unsafe terrain clearance while the aircraft is not in landing configuration where—
 - (i) gear is not down and locked;
 - (ii) flaps not in a landing position; and
- (e) excessive descent below the instrument glide path.

Weather Radar

Airborne
weather
radar
equipment

27. An air operator shall not operate an aircraft in commercial air transport operations whenever such an aircraft is being operated at night or in instrument meteorological conditions in an area where a thunderstorm or other potentially hazardous weather condition, which may be detectable with an airborne weather radar, may be expected to occur along the route, unless such aircraft is equipped with airborne weather radar equipment.