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<b>TEMA:</b> 0113	ATP - (CHAP. 02) EQUIPMENT, NAVIGATION, AND FACILITIES	
<b>COD_PREG:</b>	<b>PREGUNTA:</b>	<b>RPTA:</b>
8135	Who must the crew of a domestic or flag air carrier airplane be able to communicate with, under normal conditions, along the entire route (in either direction) of flight?	C
<b>OPCION A:</b>	ARINC.	
<b>OPCION B:</b>	Any FSS.	
<b>OPCION C:</b>	Appropriate dispatch office.	
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8140	Information recorded during normal operations of a cockpit voice recorder in a large pressurized airplane with four reciprocating engines	A
<b>OPCION A:</b>	may all be erased or otherwise obliterated except for the last 30 minutes.	
<b>OPCION B:</b>	may be erased or otherwise obliterated except for the last 30 minutes prior to landing.	
<b>OPCION C:</b>	may all be erased, as the voice recorder is not required on an aircraft with reciprocating engines.	
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8141	Which rule applies to the use of cockpit voice recorder erasure feature?	B
<b>OPCION A:</b>	All recorded information may be erased, except for the last 30 minutes prior to landing.	
<b>OPCION B:</b>	Any information more than 30 minutes old may be erased.	
<b>OPCION C:</b>	All recorded information may be erased, unless the DGAC needs to be notified of an occurrence.	
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8142	For the purpose of testing the flight recorder system,	B
<b>OPCION A:</b>	a minimum of 1 hour of the oldest recorded data must be erased to get a valid test.	
<b>OPCION B:</b>	a total of 1 hour of the oldest recorded data accumulated at the time of testing may be erased.	
<b>OPCION C:</b>	a total of no more than 1 hour of recorded data may be erased.	
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8143	A cockpit voice recorder must be operated	A
<b>OPCION A:</b>	from the start of the before starting engine checklist to completion of final checklist upon termination of flight.	
<b>OPCION B:</b>	from the start of the before starting engine checklist to completion of checklist prior to engine shutdown.	
<b>OPCION C:</b>	when starting to taxi for takeoff to the engine shutdown checklist after termination of the flight.	
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8145	When an air carrier flight is operated under IFR or over-the-top which navigation equipment is required to be installed in duplicate?	A
<b>OPCION A:</b>	VOR.	
<b>OPCION B:</b>	ADF.	
<b>OPCION C:</b>	VOR and DME.	
<hr/>		
8146	When must an air carrier airplane be DME equipped?	B
<b>OPCION A:</b>	In Class E airspace for all IFR or VFR on Top operations.	
<b>OPCION B:</b>	Whenever VOR navigational receivers are required.	
<b>OPCION C:</b>	For flights at or above FL 180.	
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8147	When a pilot plans a flight using NDB NAVAIDS, which rule applies?	C
<b>OPCION A:</b>	The airplane must have sufficient fuel to proceed, by means of VOR NAVAIDS, to a suitable airport and land.	
<b>OPCION B:</b>	The pilot must be able to return to the departure airport using other navigation radios.	
<b>OPCION C:</b>	The airplane must have sufficient fuel to proceed, by means of VOR NAVAIDS, to a suitable airport and complete an instrument approach by use of the remaining airplane radio system.	
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8148	What action should be taken by the pilot in command of a transport category airplane if the airborne weather radar becomes inoperative en route on an IFR flight for which weather reports indicate possible thunderstorms?	B
<b>OPCION A:</b>	Request radar vectors from ATC to the nearest suitable airport and land.	
<b>OPCION B:</b>	Proceed in accordance with the approved instructions and procedures specified in the operations manual for such an event.	
<b>OPCION C:</b>	Return to the departure airport if the thunderstorms have not been encountered, and there is enough fuel remaining.	
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8149	If an air carrier airplane is flying IFR using a single ADF navigation receiver and the ADF equipment fails, the flight must be able to	A

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<b>OPCION A:</b>	proceed safely to a suitable airport using VOR aids and complete an instrument approach by use of the remaining airplane radio system.	
<b>OPCION B:</b>	continue to the destination airport by means of dead reckoning navigation.	
<b>OPCION C:</b>	proceed to a suitable airport using VOR aids, complete an instrument approach and land.	

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8150	If an air carrier airplane's airborne radar is inoperative and thunderstorms are forecast along the proposed route of flight, an airplane may be dispatched only	C
<b>OPCION A:</b>	when able to climb and descend VFR and maintain VFR/OT en route.	
<b>OPCION B:</b>	in VFR conditions.	
<b>OPCION C:</b>	in day VFR conditions.	

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8151	An air carrier airplane's airborne radar must be in satisfactory operating condition prior to dispatch, if the flight will be	A
<b>OPCION A:</b>	conducted under VFR conditions at night with scattered thunderstorms reported en route.	
<b>OPCION B:</b>	carrying passengers, but not if it is "all cargo".	
<b>OPCION C:</b>	conducted IFR, and ATC is able to radar vector the flight around areas of weather.	

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8152	While on an IFR flight in controlled airspace, the failure of which unit will precipitate an immediate report to ATC?	C
<b>OPCION A:</b>	One engine, on a multiengine aircraft.	
<b>OPCION B:</b>	Airborne radar.	
<b>OPCION C:</b>	DME.	

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8154	Which airplanes are required to be equipped with a ground proximity warning glide slope deviation alerting system?	A
<b>OPCION A:</b>	All turbine powered airplanes.	
<b>OPCION B:</b>	Passenger-carrying turbine-powered airplanes only.	
<b>OPCION C:</b>	Large turbine-powered airplanes only.	

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8194	Which equipment requirement must be met by an air carrier that elects to use a dual Inertial Navigation System (INS) on a proposed flight?	C
<b>OPCION A:</b>	The dual system must consist of two operative INS units.	
<b>OPCION B:</b>	A dual VORTAC/ILS system may be substituted for an inoperative INS.	
<b>OPCION C:</b>	Only one INS is required to be operative, if a Doppler Radar is substituted for the other INS.	

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8195	An air carrier operates a flight in VFR over-the-top conditions. What radio navigation equipment is required to be a dual installation?	A
<b>OPCION A:</b>	VOR.	
<b>OPCION B:</b>	VOR and ILS.	
<b>OPCION C:</b>	VOR and DME.	

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8196	Routes that require a flight navigator are listed in the	C
<b>OPCION A:</b>	Airplane Flight Manual	
<b>OPCION B:</b>	International Flight Information Manual.	
<b>OPCION C:</b>	Air carrier's Operations Specifications.	

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8197	Where is a list maintained for routes that require special navigation equipment?	A
<b>OPCION A:</b>	Air Carrier's Operations Specifications.	
<b>OPCION B:</b>	International Flight Information Manual.	
<b>OPCION C:</b>	Airplane Flight Manual	

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8203	An air carrier that elects to use an Inertial Navigational System (INS) must meet which equipment requirement prior to takeoff on a proposed flight?	B
<b>OPCION A:</b>	The INS system must consist of two operative INS units.	
<b>OPCION B:</b>	Only one INS is required to be operative, if a Doppler Radar is substituted for the other INS.	
<b>OPCION C:</b>	A dual VORTAC/ILS system may be substituted for an inoperative INS.	

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8868	Fig. 125 Which RMI illustration indicates the aircraft to be flying outbound on the magnetic bearing of 235° FROM the station? (Wind 050° at 20 knots.)	B
<b>OPCION A:</b>	2.	
<b>OPCION B:</b>	3.	

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**OPCION C:** 4.

(Ver figura referencial 125 en el Manual de Figuras)

8869 Fig. 125

B

What is the magnetic bearing TO the station as indicated by illustration 4?

**OPCION A:** 285°.

**OPCION B:** 055°.

**OPCION C:** 235°.

(Ver figura referencial 125 en el Manual de Figuras)

8870 Fig. 125

A

Which RMI illustration indicates the aircraft is southwest of the station and moving closer TO the station?

**OPCION A:** 1.

**OPCION B:** 2.

**OPCION C:** 3.

(Ver figura referencial 125 en el Manual de Figuras)

8871 Fig. 125

B

Which RMI illustration indicates the aircraft is located on the 055° radial of the station and heading away from the station?

**OPCION A:** 1.

**OPCION B:** 2.

**OPCION C:** 3.

(Ver figura referencial 125 en el Manual de Figuras)

8901 What is the advantage of HIRL or MIRL on an IFR runway as compared to a VFR runway?

B

**OPCION A:** Lights are closer together and easily distinguished from surrounding lights.

**OPCION B:** Amber lights replace white on the last 2,000 feet of runway for a caution zone.

**OPCION C:** Alternate red and white lights replace the white on the last 3,000 feet of runway for a caution zone.

8902 Identify touchdown zone lighting (TDZL).

A

**OPCION A:** Two rows of transverse light bars disposed symmetrically about the runway centerline.

**OPCION B:** Flush centerline lights spaced at 50-foot intervals extending through the touchdown zone.

**OPCION C:** Alternate white and green centerline lights extending from 75 feet from the threshold through the touchdown zone.

8903 Identify runway remaining lighting on centerline lighting systems.

B

**OPCION A:** Amber lights from 3,000 feet to 1,000 feet, then alternate red and white lights to the end.

**OPCION B:** Alternate red and white lights from 3,000 feet to 1,000 feet, then red lights to the end.

**OPCION C:** Alternate red and white lights from 3,000 feet to the end of the runway.

8904 Identify taxi leadoff lights associated with the centerline lighting system.

C

**OPCION A:** Alternate green and yellow lights curving from the centerline of the runway to the centerline of the taxiway.

**OPCION B:** Alternate green and yellow lights curving from the centerline of the runway to the edge of the exit.

**OPCION C:** Alternate green and yellow lights curving from the centerline of the runway to a point on the exit

8905 How can a pilot identify a military airport at night?

C

**OPCION A:** Green, yellow, and white beacon light.

**OPCION B:** White and red beacon light with dual flash of the white.

**OPCION C:** Green and white beacon light with dual flash of the white.

8906 How can a pilot identify a lighted heliport at night?

A

**OPCION A:** Green, yellow, and white beacon light.

**OPCION B:** White and red beacon light with dual flash of the white.

**OPCION C:** Green and white beacon light with dual flash of the white.

8907 Identify the runway distance remaining markers.

A

**OPCION A:** Signs with increments of 1,000 feet distance remaining.

**OPCION B:** Red markers laterally placed across the runway at 3,000 feet from the end.

**OPCION C:** Yellow marker laterally placed across the runway with signs on the side denoting distance to end.

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8908	What are the indications of Precision Approach Path Indicator (PAPI)?	A
<b>OPCION A:</b>	High - white, on glidepath - red and white; low - red.	
<b>OPCION B:</b>	High - white, on glidepath - green; low - red.	
<b>OPCION C:</b>	High - white and green, on glidepath - green; low - red.	
8909	What does the pulsating VASI consist of?	C
<b>OPCION A:</b>	Three-light system, two pulsing and one steady.	
<b>OPCION B:</b>	Two-light projectors, one pulsing and one steady.	
<b>OPCION C:</b>	One-light projector, pulsing white when above glide slope or red when more than slightly below glide slope, steady white when on glide slope, steady red for slightly below glide path.	
8910	What are the indications of the pulsating VASI?	B
<b>OPCION A:</b>	High - pulsing white, on glidepath - green, low - pulsing red.	
<b>OPCION B:</b>	High - pulsing white, on glidepath - steady white, slightly below glide slope steady red, low - pulsing red.	
<b>OPCION C:</b>	High - pulsing white, on course and on glidepath - steady white, off course but on glidepath - pulsing white and red; low - pulsing red.	
8911	What is the advantage of a three-bar VASI?	B
<b>OPCION A:</b>	Pilots have a choice of glide angles.	
<b>OPCION B:</b>	A normal glide angle is afforded both high and low cockpit aircraft.	
<b>OPCION C:</b>	The three-bar VASI is much more visible and can be used at a greater height.	
8912	A pilot of a high-performance airplane should be aware that flying a steeper-than-normal VASI glide slope angle may result in	B
<b>OPCION A:</b>	a hard landing.	
<b>OPCION B:</b>	increased landing rollout.	
<b>OPCION C:</b>	landing short of the runway threshold.	
8913	The higher glide slope of the three-bar VASI is intended for use by	C
<b>OPCION A:</b>	high performance aircraft.	
<b>OPCION B:</b>	helicopters.	
<b>OPCION C:</b>	high cockpit aircraft.	
8914	What is the purpose of REIL?	A
<b>OPCION A:</b>	Identification of a runway surrounded by a preponderance of other lighting.	
<b>OPCION B:</b>	Identification of the touchdown zone to prevent landing short.	
<b>OPCION C:</b>	Establish visual descent guidance information during an approach.	
8915	Identify REIL.	C
<b>OPCION A:</b>	Amber lights for the first 2,000 feet of runway.	
<b>OPCION B:</b>	Green lights at the threshold and red lights at far end of runway.	
<b>OPCION C:</b>	Synchronized flashing lights laterally at each side of the runway threshold.	
8916	What does the tri-color VASI consist of?	B
<b>OPCION A:</b>	Three light bars; red, green, and amber.	
<b>OPCION B:</b>	One light projector with three colors; red, green, and amber.	
<b>OPCION C:</b>	Three glide slopes, each a different color; red, green, and amber.	
8917	Which color on a tri-color VASI is a "high" indication?	B
<b>OPCION A:</b>	Red.	
<b>OPCION B:</b>	Amber.	
<b>OPCION C:</b>	Green.	
8918	Which color on a tri-color VASI is an "on course" indication?	C
<b>OPCION A:</b>	Red.	
<b>OPCION B:</b>	Amber.	
<b>OPCION C:</b>	Green.	
8919	Which color on a tri-color VASI is a "low" indication?	A

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- OPCION A:** Red.  
**OPCION B:** Amber.  
**OPCION C:** Green.

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8920 What is the normal range of the tri-color VASI at night? A

- OPCION A:** 5 miles.  
**OPCION B:** 10 miles.  
**OPCION C:** 15 miles.

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8921 What does the Precision Approach Path Indicator (PAPI) consist of? B

- OPCION A:** Row of four lights parallel to the runway; red, white, and green.  
**OPCION B:** Row of four lights perpendicular to the runway; red and white.  
**OPCION C:** One light projector with two colors; red and white.

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8922 Fig. 129 A

What is the runway distance remaining at "A" for a daytime takeoff on runway 9?

- OPCION A:** 1,000 feet.  
**OPCION B:** 1,500 feet.  
**OPCION C:** 2,000 feet.

(Ver figura referencial 129 en el Manual de Figuras)

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8923 Fig. 130 B

What is the runway distance remaining at "A" for a nighttime takeoff on runway 9?

- OPCION A:** 1,000 feet.  
**OPCION B:** 2,000 feet.  
**OPCION C:** 2,500 feet.

(Ver figura referencial 130 en el Manual de Figuras)

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8924 Fig. 130 C

What is the runway distance remaining at "B" for a daytime takeoff on runway 9?

- OPCION A:** 2,000 feet.  
**OPCION B:** 2,500 feet.  
**OPCION C:** 3,000 feet.

(Ver figura referencial 130 en el Manual de Figuras)

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8925 Fig. 130 B

What is the runway distance remaining at "C" for a daytime takeoff on runway 9?

- OPCION A:** 2,500 feet.  
**OPCION B:** 2,000 feet.  
**OPCION C:** 1,500 feet.

(Ver figura referencial 130 en el Manual de Figuras)

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8926 Fig. 130 B

What is the runway distance remaining at "D" for a daytime takeoff on runway 9?

- OPCION A:** 500 feet.  
**OPCION B:** 1,000 feet.  
**OPCION C:** 1,500 feet.

(Ver figura referencial 130 en el Manual de Figuras)

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8927 Fig. 131 B

What is the runway distance remaining at "E" for a daytime takeoff on runway 9?

- OPCION A:** 1,500 feet.  
**OPCION B:** 2,000 feet.  
**OPCION C:** 2,500 feet.

(Ver figura referencial 131 en el Manual de Figuras)

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8928 Fig. 131 B

What is the runway distance remaining at "A" for a nighttime takeoff on runway 9?

- OPCION A:** 2,000 feet.  
**OPCION B:** 3,000 feet.



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**OPCION C:** 3,500 feet.

(Ver figura referencial 131 en el Manual de Figuras)

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8929 Fig. 131

A

What is the runway distance remaining at "D" for a daytime takeoff on runway 9?

**OPCION A:** 3,000 feet.

**OPCION B:** 2,500 feet.

**OPCION C:** 1,500 feet.

(Ver figura referencial 131 en el Manual de Figuras)

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8930 Fig. 131

B

What is the runway distance remaining at "B" for a nighttime takeoff on runway 9?

**OPCION A:** 1,000 feet.

**OPCION B:** 2,000 feet.

**OPCION C:** 2,500 feet.

(Ver figura referencial 131 en el Manual de Figuras)

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8931 Fig. 131

C

What is the runway distance remaining at "F" for a daytime takeoff on runway 9?

**OPCION A:** 2,000 feet.

**OPCION B:** 1,500 feet.

**OPCION C:** 1,000 feet.

(Ver figura referencial 131 en el Manual de Figuras)

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8932 Fig. 131

A

What is the runway distance remaining at "C" for a nighttime takeoff on runway 9?

**OPCION A:** 1,000 feet.

**OPCION B:** 1,500 feet.

**OPCION C:** 1,800 feet.

(Ver figura referencial 131 en el Manual de Figuras)

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8945 How may a pilot determine if a LORAN-C receiver is authorized for IFR operations?

A

**OPCION A:** Consult the Airplane Flight Manual Supplement.

**OPCION B:** A placard stating, "LORAN-C APPROVED FOR IFR EN ROUTE, TERMINAL AND APPROACH SEGMENTS."

**OPCION C:** An airframe logbook entry that the LORAN-C receiver has been checked within the previous 30-calendar days.

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8946 What documents the authorized operational level of LORAN-C?

B

**OPCION A:** A placard stating "KIRAB-C APPROVED FOR IFR."

**OPCION B:** The Airplane Flight Manual Supplement or DGAC Form 337, Major Repair and Alteration.

**OPCION C:** An entry in the aircraft maintenance logbook giving place, date, and signature of authorizing official.

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8947 LORAN-C is based upon measurements of the difference in time arrival of pulses generated by what type radio stations?

C

**OPCION A:** A group of stations operating on the 108-115 MHz frequency band.

**OPCION B:** Two stations operating on the 90-110 MHz frequency band.

**OPCION C:** A chain of stations operating on the 90-110 kHz frequency band.

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8949 Which class of NOTAM gives the latest information on LORAN-C chain or station outages?

B

**OPCION A:** NOTAM (L)'s under the identifier "LORAN-C."

**OPCION B:** NOTAM (D)'s under the identifier "LRN."

**OPCION C:** Class II NOTAM's published every 14 days.

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8956 Which component associated with the ILS is identified by the last two letters of the localizer group?

B

**OPCION A:** Inner marker.

**OPCION B:** Middle compass locator.

**OPCION C:** Outer compass locator.

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8957 Which component associated with the ILS is identified by the first two letters of the localizer identification group?

C

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- OPCION A:** Inner marker.  
**OPCION B:** Middle compass locator.  
**OPCION C:** Outer compass locator.

8958 What aural and visual indications should be observed over an ILS inner marker? A

- OPCION A:** Continuous dots at the rate of six per second.  
**OPCION B:** Continuous dashes at the rate of two per second.  
**OPCION C:** Alternate dots and dashes at the rate of two per second.

8959 What aural and visual indications should be observed over an ILS middle marker? C

- OPCION A:** Continuous dots at the rate of six per second.  
**OPCION B:** Continuous dashes at the rate of two per second.  
**OPCION C:** Alternate dots and dashes at the rate of two per second.

8960 What aural and visual indications should be observed over an ILS outer marker? B

- OPCION A:** Continuous dots at the rate of six per second.  
**OPCION B:** Continuous dashes at the rate of two per second.  
**OPCION C:** Alternate dots and dashes at the rate of two per second.

8961 Within what frequency range does the localizer transmitter of the ILS operate? B

- OPCION A:** 108.10 to 118.10 MHz.  
**OPCION B:** 108.10 to 111.95 MHz.  
**OPCION C:** 108.10 to 117.95 MHz.

8962 If installed, what aural and visual indications should be observed over the ILS back course marker? A

- OPCION A:** A series of two dot combinations, and a white marker beacon light.  
**OPCION B:** Continuous dashes at the rate of one per second, and a white marker beacon light.  
**OPCION C:** A series of two dash combinations, and a white marker beacon light.

8963 The lowest ILS Category II minimums are B

- OPCION A:** DH 50 feet and RVR 1,200 feet.  
**OPCION B:** DH 100 feet and RVR 1,200 feet.  
**OPCION C:** DH 150 feet and RVR 1,500 feet.

8964 What is the lowest Category IIIA minimum? C

- OPCION A:** DH 50 feet and RVR 1,200 feet.  
**OPCION B:** RVR 1,000 feet.  
**OPCION C:** RVR 700 feet.

8965 How does the SDF differ from an ILS LOC? A

- OPCION A:** SDF - 6° or 12° wide, ILS - 3° to 6°.  
**OPCION B:** SDF - offset from runway plus 3°, ILS - aligned with runway.  
**OPCION C:** SDF - 15° usable off course indications, ILS - 35°.

8966 What functions are provided by ILS? C

- OPCION A:** Azimuth, distance, and vertical angle.  
**OPCION B:** Azimuth, range, and vertical angle.  
**OPCION C:** Guidance, range, and visual information.

8967 How does the LDA differ from an ILS LOC? B

- OPCION A:** LDA. 6° or 12° wide, ILS - 3° to 6°.  
**OPCION B:** LDA. offset from runway plus 3°, ILS - aligned with runway.  
**OPCION C:** LDA. 15° usable off course indications, ILS - 35°.

8968 When is the course deviation indicator (CDI) considered to have a full-scale deflection? B

- OPCION A:** When the CDI deflects from full-scale left to full-scale right, or vice versa.  
**OPCION B:** When the CDI deflects from the center of the scale to full-scale left or right.  
**OPCION C:** When the CDI deflects from half-scale left to half-scale right, or vice versa.

8969 Which "rule-of-thumb" may be used to approximate the rate of descent required for a 3° glidepath? A

- OPCION A:** 5 times groundspeed in knots.  
**OPCION B:** 8 times groundspeed in knots.  
**OPCION C:** 10 times groundspeed in knots.

8970 What facilities may be substituted for an inoperative middle marker during a Category I ILS approach? B

- OPCION A:** ASR and PAR.  
**OPCION B:** The middle marker has no effect on straight-in minimums.  
**OPCION C:** Compass locator, PAR, and ASR.

8971 Fig. 135 - 138 B

Which displacement from the localizer and glide slope at the 1.9 NM point is indicated?

- OPCION A:** 710 feet to the left of the localizer centerline and 140 feet below the glide slope.  
**OPCION B:** 710 feet to the right of the localizer centerline and 140 feet above the glide slope.  
**OPCION C:** 430 feet to the right of the localizer centerline and 28 feet above the glide slope.  
(Ver figura referencial 135/138 en el Manual de Figuras)

8972 Fig. 136 - 138 C

Which displacement from the localizer centerline and glide slope at the 1,300-foot point from the runway is indicated?

- OPCION A:** 21 feet below the glide slope and approximately 320 feet to the right of the runway centerline.  
**OPCION B:** 28 feet above the glide slope and approximately 250 feet to the left of the runway centerline.  
**OPCION C:** 21 feet above the glide slope and approximately 320 feet to the left of the runway centerline.  
(Ver figura referencial 136/138 en el Manual de Figuras)

8973 Fig. 137 - 138 A

Which displacement from the localizer and glide slope at the outer marker is indicated?

- OPCION A:** 1,550 feet to the left of the localizer centerline and 210 feet below the glide slope.  
**OPCION B:** 1,550 feet to the right of the localizer centerline and 210 feet above the glide slope.  
**OPCION C:** 775 feet to the left of the localizer centerline and 420 feet below the glide slope.  
(Ver figura referencial 137/138 en el Manual de Figuras)

8984 Fig. 139 A

What is the lateral displacement of the aircraft in nautical miles from the radial selected on the No.1 NAV?

- OPCION A:** 5.0 NM.  
**OPCION B:** 7.5 NM.  
**OPCION C:** 10.0 NM.

(Ver figura referencial 139 en el Manual de Figuras)

8985 Fig. 139 C

On which radial is the aircraft as indicated by the No.1 NAV?

- OPCION A:** R-175.  
**OPCION B:** R-165.  
**OPCION C:** R-345.

(Ver figura referencial 139 en el Manual de Figuras)

8986 Fig. 139 B

Which OBS selection on the No.1 NAV would center the CDI and change the ambiguity indication to a TO?

- OPCION A:** 175.  
**OPCION B:** 165.  
**OPCION C:** 345.

(Ver figura referencial 139 en el Manual de Figuras)

8987 Fig. 139 C

What is the lateral displacement in degrees from the desired radial on the No.2 NAV?

- OPCION A:** 1°.  
**OPCION B:** 2°.  
**OPCION C:** 4°.

(Ver figura referencial 139 en el Manual de Figuras)

8988 Fig. 139 A

Which OBS selection on the No.2 NAV would center the CDI?



- OPCION A:** 174.  
**OPCION B:** 166.  
**OPCION C:** 335.

(Ver figura referencial 139 en el Manual de Figuras)

8989 Fig. 139

C

Which OBS selection on the No.2 NAV would center the CDI and change the ambiguity indication to a TO?

- OPCION A:** 166.  
**OPCION B:** 346.  
**OPCION C:** 354.

(Ver figura referencial 139 en el Manual de Figuras)

8990 Fig. 140 - 141

A

To which aircraft position(s) does HSI presentation "A" correspond?

- OPCION A:** 9 and 6.  
**OPCION B:** 9 only.  
**OPCION C:** 6 only.

(Ver figura referencial 140/141 en el Manual de Figuras)

8991 Fig. 140 - 141

B

To which aircraft position(s) does HSI presentation "B" correspond?

- OPCION A:** 11.  
**OPCION B:** 5 and 13.  
**OPCION C:** 7 and 11.

(Ver figura referencial 140/141 en el Manual de Figuras)

8992 Fig. 140 - 141

C

To which aircraft position(s) does HSI presentation "C" correspond?

- OPCION A:** 9.  
**OPCION B:** 4.  
**OPCION C:** 12.

(Ver figura referencial 140/141 en el Manual de Figuras)

8993 Fig. 140 - 141

C

To which aircraft position does HSI presentation "D" correspond?

- OPCION A:** 1.  
**OPCION B:** 10.  
**OPCION C:** 2.

(Ver figura referencial 140/141 en el Manual de Figuras)

8994 Fig. 140 - 141

B

To which aircraft position(s) does HSI presentation "E" correspond?

- OPCION A:** 8 only.  
**OPCION B:** 8 and 3.  
**OPCION C:** 3 only.

(Ver figura referencial 140/141 en el Manual de Figuras)

8995 Fig. 140 - 141

A

To which aircraft position does HSI presentation "F" correspond?

- OPCION A:** 4.  
**OPCION B:** 11.  
**OPCION C:** 5.

(Ver figura referencial 140/141 en el Manual de Figuras)

8996 Fig. 140 - 141

B

To which aircraft position(s) does HSI presentation "G" correspond?

- OPCION A:** 7 only.  
**OPCION B:** 7 and 11.  
**OPCION C:** 5 and 13.

(Ver figura referencial 140/141 en el Manual de Figuras)

---

8997 Fig. 140 - 141

B

To which aircraft position does HSI presentation "H" correspond?

**OPCION A:** 8.

**OPCION B:** 1.

**OPCION C:** 2.

(Ver figura referencial 140/141 en el Manual de Figuras)

---

8998 Fig. 140 - 141

C

To which aircraft position does HSI presentation "I" correspond?

**OPCION A:** 4.

**OPCION B:** 12.

**OPCION C:** 11.

(Ver figura referencial 140/141 en el Manual de Figuras)

---

8999 Fig. 142 - 143

C

To which aircraft position does HSI presentation "D" correspond?

**OPCION A:** 4.

**OPCION B:** 15.

**OPCION C:** 17.

(Ver figura referencial 142/143 en el Manual de Figuras)

---

9000 Fig. 142 - 143

B

To which aircraft position does HSI presentation "E" correspond?

**OPCION A:** 5.

**OPCION B:** 6.

**OPCION C:** 15.

(Ver figura referencial 142/143 en el Manual de Figuras)

---

9001 Fig. 142 - 143

C

To which aircraft position does HSI presentation "F" correspond?

**OPCION A:** 10.

**OPCION B:** 14.

**OPCION C:** 16.

(Ver figura referencial 142/143 en el Manual de Figuras)

---

9002 Fig. 142 - 143

A

To which aircraft position does HSI presentation "A" correspond?

**OPCION A:** 1.

**OPCION B:** 8.

**OPCION C:** 11.

(Ver figura referencial 142/143 en el Manual de Figuras)

---

9003 Fig. 142 - 143

C

To which aircraft position does HSI presentation "B" correspond?

**OPCION A:** 9.

**OPCION B:** 13.

**OPCION C:** 19.

(Ver figura referencial 142/143 en el Manual de Figuras)

---

9004 Fig. 142 - 143

C

To which aircraft position does HSI presentation "C" correspond?

**OPCION A:** 6.

**OPCION B:** 7.

**OPCION C:** 12.

(Ver figura referencial 142/143 en el Manual de Figuras)

---

9019 What would be the identification when a VORTAC is undergoing routine maintenance and is considered unreliable?

C

**OPCION A:** A test signal, "TESTING", is sent every 30 seconds.

**OPCION B:** Identifier is preceded by "M" and an intermittent "OFF" flag would appear.

**OPCION C:** The identifier would be removed.

---

---

9020	Which indication may be received when a VOR is undergoing maintenance and is considered unreliable?	A
<b>OPCION A:</b>	Coded identification T-E-S-T.	
<b>OPCION B:</b>	Identifier is preceded by "M" and an intermittent "OFF" flag might appear.	
<b>OPCION C:</b>	An automatic voice recording stating the VOR is out-of-service for maintenance.	
<hr/>		
9023	What DME indications should a pilot observe when directly over a VORTAC site at 12,000 feet?	B
<b>OPCION A:</b>	0 DME miles.	
<b>OPCION B:</b>	2 DME miles.	
<b>OPCION C:</b>	2.3 DME miles.	
<hr/>		
9024	Where does the DME indicator have the greatest error between the ground distance and displayed distance to the VORTAC?	A
<b>OPCION A:</b>	High altitudes close to the VORTAC.	
<b>OPCION B:</b>	Low altitudes close to the VORTAC.	
<b>OPCION C:</b>	Low altitudes far from the VORTAC.	
<hr/>		
9080	During an en route descent in a fixed-thrust and fixed-pitch attitude configuration, both the ram air input and drain hole of the pitot system become completely blocked by ice. What airspeed indication can be expected?	B
<b>OPCION A:</b>	Increase in indicated airspeed.	
<b>OPCION B:</b>	Decrease in indicated airspeed.	
<b>OPCION C:</b>	Indicated airspeed remains at the value prior to icing.	
<hr/>		
9081	What can a pilot expect if the pitot system ram air input and drain hole are blocked by ice?	A
<b>OPCION A:</b>	The airspeed indicator may act as an altimeter.	
<b>OPCION B:</b>	The airspeed indicator will show a decrease with an increase in altitude.	
<b>OPCION C:</b>	No airspeed indicator change will occur during climbs or descents.	
<hr/>		
9082	If both the ram air input and drain hole of the pitot system are blocked by ice, what airspeed indication can be expected?	A
<b>OPCION A:</b>	No variation of indicated airspeed in level flight if large power changes are made.	
<b>OPCION B:</b>	Decrease of indicated airspeed during a climb.	
<b>OPCION C:</b>	Constant indicated airspeed during a descent.	
<hr/>		
9099	When setting the altimeter, pilots should disregard	A
<b>OPCION A:</b>	effects of nonstandard atmospheric temperatures and pressures.	
<b>OPCION B:</b>	corrections for static pressure systems.	
<b>OPCION C:</b>	corrections for instrument error.	
<hr/>		
9163	En route at FL270, the altimeter is set correctly. On descent, a pilot fails to set the local altimeter setting of 30.57. If the field elevation is 650 feet, and the altimeter is functioning properly, what will it indicate upon landing?	C
<b>OPCION A:</b>	585 feet.	
<b>OPCION B:</b>	1,300 feet.	
<b>OPCION C:</b>	Sea level.	
<hr/>		
9164	What is corrected altitude (approximate true altitude)?	B
<b>OPCION A:</b>	Pressure altitude corrected for instrument error.	
<b>OPCION B:</b>	Indicated altitude corrected for temperature variation from standard.	
<b>OPCION C:</b>	Density altitude corrected for temperature variation from standard.	
<hr/>		
9172	If the ambient temperature is warmer than standard at FL350, what is the density altitude compared to pressure altitude?	B
<b>OPCION A:</b>	Lower than pressure altitude.	
<b>OPCION B:</b>	Higher than pressure altitude.	
<b>OPCION C:</b>	Impossible to determine without information on possible inversion layers at lower altitudes.	
<hr/>		
9173	If the ambient temperature is colder than standard at FL310, what is the relationship between true altitude and pressure altitude?	B
<b>OPCION A:</b>	They are both the same, 31,000 feet.	
<b>OPCION B:</b>	True altitude is lower than 31,000 feet.	
<b>OPCION C:</b>	Pressure altitude is lower than true altitude.	

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9174	Which pressure is defined as station pressure?	B
<b>OPCION A:</b>	Altimeter setting.	
<b>OPCION B:</b>	Actual pressure at field elevation.	
<b>OPCION C:</b>	Station barometric pressure reduced to sea level.	
<hr/>		
9222	How will the airspeed indicator react if the ram air input to the pitot head is blocked by ice, but the drain hole and static port are not?	A
<b>OPCION A:</b>	Indication will drop to zero.	
<b>OPCION B:</b>	Indication will rise to the top of the scale.	
<b>OPCION C:</b>	Indication will remain constant but will increase in a climb.	
<hr/>		
9258	What type service should normally be expected from an En Route Flight Advisory Service?	A
<b>OPCION A:</b>	Weather advisories pertinent to the type of flight, intended route of flight, and altitude.	
<b>OPCION B:</b>	Severe weather information, changes in flight plans, and receipt of position reports.	
<b>OPCION C:</b>	Radar vectors for traffic separation, route weather advisories, and altimeter settings.	
<hr/>		
9261	Below FL 180, en route weather advisories should be obtained from an FSS on	B
<b>OPCION A:</b>	122.1 MHz.	
<b>OPCION B:</b>	122.0 MHz.	
<b>OPCION C:</b>	123.6 MHz.	
<hr/>		
9357	How long is cockpit voice recorder and flight recorder data kept, in the event of an accident or occurrence resulting in terminating the flight?	A
<b>OPCION A:</b>	60 days.	
<b>OPCION B:</b>	90 days.	
<b>OPCION C:</b>	30 días.	
<hr/>		
9375	What is the maximum permissible variation between the two bearing indicators on a dual VOR system when checking one VOR against the other?	A
<b>OPCION A:</b>	4° on the ground and in flight.	
<b>OPCION B:</b>	6° on the ground and in flight.	
<b>OPCION C:</b>	6° and in flight and 4° on the ground.	
<hr/>		
9376	Which entry shall be recorded by the person performing a VOR operational check?	C
<b>OPCION A:</b>	Frequency, radial and facility used, and bearing error.	
<b>OPCION B:</b>	Flight hours and number of days since last check, and bearing error.	
<b>OPCION C:</b>	Date, place, bearing error, and signature.	
<hr/>		
9377	Which checks and inspections of flight instruments or instrument systems must be accomplished before an aircraft can be flown under IFR?	A
<b>OPCION A:</b>	VOR within 30 days and altimeter systems and transponder within 24 calendar months.	
<b>OPCION B:</b>	ELT test within 30 days, altimeter systems within 12 calendar months, and transponder within 24 calendar months.	
<b>OPCION C:</b>	Airspeed indicator within 24 calendar months, altimeter system within 24 calendar months, and transponder within 12 calendar months.	
<hr/>		
9378	A pilot approaching to land a turbine-powered aircraft on a runway served by a VASI shall	C
<b>OPCION A:</b>	not use the VASI unless a clearance for a VASI approach is received.	
<b>OPCION B:</b>	use the VASI only when weather conditions are below basic VFR.	
<b>OPCION C:</b>	maintain an altitude at or above the glide slope until a lower altitude is necessary for a safe landing.	
<hr/>		
9380	What action is necessary when a partial loss of ILS receiver capability occurs while operating in controlled airspace under IFR?	C
<b>OPCION A:</b>	Continue as cleared and file a written report to the DGTA if requested.	
<b>OPCION B:</b>	If the aircraft is equipped with other radios suitable for executing an instrument approach, no further action is necessary.	
<b>OPCION C:</b>	Report the malfunction immediately to ATC.	
<hr/>		
9381	What action should be taken if one of the two VHF radios fail while IFR in controlled airspace?	A

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- 
- OPCION A:** Notify ATC immediately.  
**OPCION B:** Squawk 7600.  
**OPCION C:** Monitor the VOR receiver.

---

9386 While flying IFR in controlled airspace, if one of the two VOR receivers fails, which course of action should the pilot-in-command follow? B

- OPCION A:** No call is required if one of the two VOR receivers is operating properly.  
**OPCION B:** Advise ATC immediately.  
**OPCION C:** Notify the dispatcher via company frequency.

---

9387 While flying in controlled airspace under IFR, the ADF fails. What action is required? C

- OPCION A:** Descend below Class A airspace.  
**OPCION B:** Advise dispatch via company frequency.  
**OPCION C:** Notify ATC immediately.

---

9403 Which facility may be substituted for the middle marker during a Category I ILS approach? C

- OPCION A:** VOR/DME FIX.  
**OPCION B:** Surveillance radar.  
**OPCION C:** Compass locator.

---

9404 What record shall be made by the pilot performing a VOR operational check? B

- OPCION A:** The date, frequency of VOR or VOT, number of hours flown since last check, and signature in the aircraft log.  
**OPCION B:** The date, place, bearing error, and signature in the aircraft log or other record.  
**OPCION C:** The date, approval or disapproval, tach reading, and signature in the aircraft log or other permanent record.

---

9405 During a VOT check of the VOR equipment, the course deviation indicator centers on 356° with the TO/FROM reading FROM. This VOR equipment may B

- OPCION A:** be used if 4° is entered on a correction card and subtracted from all VOR courses.  
**OPCION B:** be used during IFR flights, since the error is within limits.  
**OPCION C:** not be used during IFR flights, since the TO/FROM should read TO.

---

9406 If an airborne checkpoint is used to check the VOR system for IFR operations, the maximum bearing error permissible is A

- OPCION A:** plus or minus 6°.  
**OPCION B:** plus 6° or minus 4°.  
**OPCION C:** plus or minus 4°.

---

9407 A function of the minimum equipment list is to indicate instruments or equipment which C

- OPCION A:** are required to be operative for overwater passenger air carrier flights.  
**OPCION B:** may be inoperative for a one-time ferry flight of a large airplane to a maintenance base.  
**OPCION C:** may be inoperative prior to beginning a flight in an aircraft.

---

9408 When is DME required for an instrument flight? A

- OPCION A:** At or above 24,000 feet MSL if VOR navigational equipment is required.  
**OPCION B:** In terminal radar service areas.  
**OPCION C:** Above 12,500 feet MSL.

---

9410 Information obtained from flight data and cockpit voice recorders shall be used only for determining C

- OPCION A:** who was responsible for any accident or incident.  
**OPCION B:** evidence for use in civil penalty or certificate action.  
**OPCION C:** possible causes of accidents or incidents.

---

9411 Which ground components are required to be operative for a Category II approach in addition to LOC, glide slope, marker beacons, and approach lights? C

- OPCION A:** Radar and RVR.  
**OPCION B:** RCLS and REIL.  
**OPCION C:** HIRL, TDZL, RCLS, and RVR.
-

---

9412	When may a pilot descend below 100 feet above the touchdown zone elevation during a Category II ILS instrument approach when only the approach lights are visible?	C
<b>OPCION A:</b>	After passing the visual descent point (VDP).	
<b>OPCION B:</b>	When the RVR is 1,600 feet or more.	
<b>OPCION C:</b>	When the red terminal bar of the approach light systems are in sight.	
<hr/>		
9413	In addition to the localizer, glide slope, marker beacons, approach lighting, and HIRL, which ground components are required to be operative for a Category II instrument approach to a DH below 150 feet AGL?	C
<b>OPCION A:</b>	RCLS and REIL.	
<b>OPCION B:</b>	Radar and RVR.	
<b>OPCION C:</b>	TDZL, RCLS, and RVR.	
<hr/>		
9416	When instructed by ATC to "Hold short of a runway (ILS critical area, etc.)," the pilot should stop	B
<b>OPCION A:</b>	with the nose gear on the hold line.	
<b>OPCION B:</b>	so that no part of the aircraft extends beyond the hold line.	
<b>OPCION C:</b>	so the flight deck area of the aircraft is even with the hold line.	
<hr/>		
9417	You have just landed at JFK and the tower tells you to call ground control when clear of the runway. You are considered clear of the runway when	C
<b>OPCION A:</b>	the aft end of the aircraft is even with the taxiway location sign.	
<b>OPCION B:</b>	the flight deck area of the aircraft is even with the hold line.	
<b>OPCION C:</b>	all parts of the aircraft have crossed the hold line.	
<hr/>		
9421	Holding position signs have	A
<b>OPCION A:</b>	white inscriptions on a red background.	
<b>OPCION B:</b>	red inscriptions on a white background.	
<b>OPCION C:</b>	yellow inscriptions on a red background.	
<hr/>		
9422	Airport information signs, used to provide destination or information, have	C
<b>OPCION A:</b>	yellow inscriptions on a black background.	
<b>OPCION B:</b>	white inscriptions on a black background.	
<b>OPCION C:</b>	black inscriptions on a yellow background.	
<hr/>		
9423	Hold line markings at the intersection of taxiways and runways consist of four lines (two solid and two dashed) that extend across the width of the taxiway. These lines are	B
<b>OPCION A:</b>	white in color and the dashed lines are nearest the runway.	
<b>OPCION B:</b>	yellow in color and the dashed lines are nearest the runway.	
<b>OPCION C:</b>	yellow in color and the solid lines are nearest the runway.	
<hr/>		
9425	TCAS I provides	B
<b>OPCION A:</b>	traffic and resolution advisories.	
<b>OPCION B:</b>	proximity warning.	
<b>OPCION C:</b>	recommended maneuvers to avoid conflicting traffic.	
<hr/>		
9426	TCAS II provides	A
<b>OPCION A:</b>	traffic and resolution advisories.	
<b>OPCION B:</b>	proximity warning.	
<b>OPCION C:</b>	maneuvers in all directions to avoid the conflicting traffic.	
<hr/>		
9427	Each pilot, who deviates from an ATC clearance in response to a TCAS advisory, is expected to notify ATC and	C
<b>OPCION A:</b>	maintain the course and altitude resulting from the deviation, as ATC has radar contact.	
<b>OPCION B:</b>	request a new ATC clearance.	
<b>OPCION C:</b>	expeditiously return to the ATC clearance in effect prior to the advisory, after the conflict is resolved.	
<hr/>		
9428	Each pilot who deviates from an ATC clearance in response to a TCAS II, resolution advisory (RA) is expected to	C
<b>OPCION A:</b>	maintain the course and altitude resulting from the deviation, as ATC has radar contact.	
<b>OPCION B:</b>	request ATC clearance for the deviation.	
<b>OPCION C:</b>	notify ATC of the deviation as soon as practicable.	

---

---

9436 Fig. 156

B

This sign, which faces the runway and is visible to the pilot, indicates

**OPCION A:** a point at which the pilot should contact ground control without being instructed by the tower.

**OPCION B:** a point at which the aircraft will be clear of the runway.

**OPCION C:** the point at which the emergency arresting gear is stretched across the runway.

(Ver figura referencial 156 en el Manual de Figuras)

---

9437 Fig. 157

C

This is an example of:

**OPCION A:** an ILS Critical Area Holding Position Sign.

**OPCION B:** a Runway Boundary Sign.

**OPCION C:** an ILS Critical Area Boundary Sign.

(Ver figura referencial 157 en el Manual de Figuras)

---

9570 Fig. 112

C

While arcing left on the IAH 10 DME Arc, the pilot experiences a left crosswind component. Where should the bearing pointer be referenced relative to the 90° (wingtip) position to maintain the 10 DME range?

**OPCION A:** On the left wingtip reference.

**OPCION B:** Behind the left wingtip reference.

**OPCION C:** Ahead of the left wingtip reference.

(Ver figura referencial 112 en el Manual de Figuras)

---

9723 Authorization to conduct any GPS operation under IFR requires that

C

**OPCION A:** the equipment be approved in accordance with TSO C-115a.

**OPCION B:** the pilot review appropriate weather, aircraft flight manual (AFM), and operation of the particular GPS receiver.

**OPCION C:** air carrier and commercial operators must meet the appropriate provisions of their approved operations specifications.

---

9724 Authorization to conduct any GPS operation under IFR requires that

B

**OPCION A:** the pilot review appropriate weather, aircraft flight manual (AFM), and operation of the particular GPS receiver.

**OPCION B:** air carrier and commercial operators must meet the appropriate provisions of their approved operations specifications.

**OPCION C:** the equipment be approved in accordance with TSO C-115a.

---

9731 Land and Hold Short Operations (LAHSO) include landing and holding short:

B

**OPCION A:** of an intersecting taxiway only.

**OPCION B:** of some designated point on the runway.

**OPCION C:** only of an intersecting runway or taxiway.

---

9732 A Land and Hold Short Operations (LAHSO) clearance, that the pilot accepts:

B

**OPCION A:** must be adhered to.

**OPCION B:** does not preclude a rejected landing.

**OPCION C:** precludes a rejected landing.

---

9733 In conducting Land and Hold Short Operations (LAHSO), the pilot should have readily available:

A

**OPCION A:** the published Available Landing Distance (ALD), landing performance of the aircraft, and slope of all LAHSO combinations at the destination airport.

**OPCION B:** the published runway length and slope for all LAHSO combinations at the airport of intended landing.

**OPCION C:** the landing performance of the aircraft, published Available Landing Distance (ALD) for all LASHO combinations at the airport of intended landing, plus the forecast winds.

---

9734 The airport markings, signage and lighting associated with Land and Hold Short (LAHSO) consists of:

B

**OPCION A:** yellow hold-short markings, red and white signage, and in-pavement lights.

**OPCION B:** red and white signage, yellow hold-short markings, and at some airports, in-pavement lights.

**OPCION C:** red and black signage, in-pavement lights, and yellow hold-short markings.

---