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JANUARY

Frequently Asked Questions

1. The following are common installation errors in ADS-B Out installations.
   A. Missing barometric pressure altitude
   B. Air/ground determination issues
   C. Duplicate and wrong ICAO codes
   D. All of the above
   E. A and B only

2. The practice of copying ADS-B Out configurations from one aircraft to the next is the best way to ensure fewer ADS-B Out installation errors.
   A. True
   B. False

Safety Assurance System

3. Which of the following safety attributes help form the backbone of the FAA’s Safety Assurance System (SAS)?
   A. Process measurement
   B. Controls
   C. Risk
   D. All of the above
   E. A and B only

4. Safety Assurance System is an extension of SMS and intends to improve safety in operations by defining detailed processes, implementing controls, and developing and implementing corrective actions.
   A. True
   B. False

5. Which of the following are true about SAS?
   A. It is not found in any regulation
   B. It is inspector guidance
   C. Should still be supported as a fundamental goal of the FAA
   D. All of the above
   E. A and B only

Step Aside VOR; PBN is Taking Over

6. Since the dawn of aviation, pilots have flown mostly with reference to _____.
   A. The stars
   B. The ground
   C. Satellites
   D. None of the above

7. The goal of the FAA is to make _____ the primary form of air navigation in the National Airspace System (NAS).
   A. VOR
   B. PBN
   C. GPS
   D. RNAV

8. Which of the following are advantages of performance-based navigation (PBN) procedures?
   A. Aircraft are enabled to fly more direct routes
   B. Reduced separation between aircraft
   C. Easier for controllers to handle in congested airspace
   D. All of the above
   E. A and B Only

FEBRUARY

Frequently Asked Questions

9. A repair station’s test equipment calibration standards must be derived from and traceable to which of the following?
   A. ASTM Standard F1469
   B. National Institute of Standards and Technology
   C. Standards set by test equipment manufacturer
   D. A and B only
   E. B and C only

10. The accepted industry practice for calibrations intervals is usually _____.
    A. Six months
    B. One year
    C. Two years
    D. Dependent on frequency of use
11. Most LEDs are monochromatic in their light output, meaning their light produced occurs at a single wavelength.
   A. True  
   B. False

12. An LED’s output can be set in the design and production process, resulting in visible light ranging from _____.
   A. 500 nm – 6,000 nm  
   B. 300 nm – 800 nm  
   C. 400 nm – 700 nm  
   D. None of the above

13. Longer life, lower power consumption and high efficiency are some of the benefits of _____.
   A. Incandescent lights  
   B. Halogen lights  
   C. Fluorescent lights  
   D. LEDs

ADS-B In

14. ADS-B In allows equipped aircraft to “see” two types of services: _____.
   A. FIS-B and TIS-B  
   B. FIS-B and TCAS  
   C. TIS-B and NEXRAD  
   D. TIS-B and TFRs

15. Both FIS-B and TIS-B are broadcast on 978 MHz and 1090 MHz.
   A. True  
   B. False

16. To get the most out of ADS-B In, an aircraft needs to squawk with an approved ADS-B Out system of some form.
   A. True  
   B. False

Frequently Asked Questions: ADS-B

17. For U.S. civil aircraft, the ICAO 24-bit address is established as a function of the _____.
   A. ADS-B installer’s discretion  
   B. Avionics manufacturer’s designation  
   C. Aircraft registration or “N” number  
   D. AC 20-165B

18. If the transmitted ICAO code doesn’t correlate to the aircraft’s assigned N number, the ADS-B installation is still considered compliant with the FAA rule.
   A. True  
   B. False

19. Ground test equipment will verify that an ICAO code is loaded, not that it is valid for the airframe.
   A. True  
   B. False

Is Your New ADS-B Equipment Working Correctly?

20. If the transmitted ICAO code doesn’t correlate to the aircraft’s assigned N number, the ADS-B installation is still considered compliant with the FAA rule.
   A. True  
   B. False

What’s Next with NextGen?

21. The NextGen system envisioned to help support the requirements for handling unmanned aircraft systems in the NAS is referred to as _____.
   A. SWIM – System Wide Information Management  
   B. ERAM – En Route Automation Modernization  
   C. NVS – NAS Voice System  
   D. TAMR – Terminal Automation Modernization Replacement

22. In its simplest form, performance-based navigation (PBN) is a much more advanced form of RNAV with onboard monitoring and alerting capability.
   A. True  
   B. False

Frequently Asked Questions

23. In order for work to be considered contract maintenance, the work performed must be something the contracting repair station is rated for and is using the certificate for the approval of return to service.
   A. True  
   B. False

24. A step or series of steps in the process of performing maintenance, preventative maintenance or alterations that may result in approving an article for return to service is considered _____.
   A. Contracting  
   B. Maintenance function  
   C. Outsourced maintenance  
   D. Maintenance privileges  
   E. None of the above
Frequently Asked Questions: ADS-B

25. Motor gliders with factory-installed electrical systems will not require ADS-B Out to operate in rule airspace after the equipage deadline.
   A. True
   B. False

ADS-B Airspace

26. The airspace within a 30-nautical mile radius of a Class B airport from the surface to 10,000 feet requiring aircraft to have a Mode C transponder with altitude reporting is _____.
   A. Class A airspace
   B. Class B airspace
   C. Mode C Veil
   D. Class C airspace

27. For general aviation aircraft, ADS-B Out is required in Class B and C airspace as well as the Mode C Veil.
   A. True
   B. False

28. The airspace defined by having an operational control tower, servicing by radar approach control, and a certain number of IFR operations or passenger enplanements is _____.
   A. Class A airspace
   B. Class B airspace
   C. Mode C Veil
   D. Class C airspace

Frequently Asked Questions: ADS-B

29. A master minimum equipment list (MMEL) contains a list of equipment and instruments that may be inoperative on a specific type of aircraft, where an MEL is the document for a particular make and model by serial and registration number.
   A. True
   B. False

30. The _____ permits operation of the aircraft under specified conditions with certain equipment inoperative.
    A. MMEL
    B. MEL
    C. STC
    D. LOA

31. Examples of ways an installed ADS-B system can accurately determine air-ground status of the aircraft may include _____.
    A. Weight on wheel (WOW) switch and GPS velocity
    B. GPS velocity, airport database, geometric altitude
    C. Ground speed comparison to a single threshold value
    D. A and C only
    E. A and B only

32. For an installed ADS-B system, it is acceptable to have a manual selection of the air-ground status of the aircraft.
    A. True
    B. False

Radar Love

33. FIS-B weather images have aged _____ by the time they are broadcast.
    A. None, they are real-time
    B. 1 minute
    C. 6 minutes
    D. 10 to 12 minutes

34. A key difference between FIS-B and airborne weather radar is FIS-B provides a nationwide view instead of just showing what’s in front of the aircraft.
    A. True
    B. False

35. Examples of airborne weather radar shortcomings include _____.
    A. Signal attenuation due to precipitation
    B. Useful range can be limited to no more than 320 nautical miles
    C. Limited mounting options for antenna
    D. All of the above
    E. None of the above

Seeing the Invisible Light

36. Radar altimeters provide help in avoiding terrain once below _____.
    A. 1,000 feet AGL
    B. 1,500 feet AGL
    C. 2,500 feet AGL
    D. 5,000 feet AGL
Which of the following can be flown using positioning from either satellite signals or distance measuring equipment in case of a GPS outage?

A. T-Routes  
B. Q-Routes  
C. LPV  
D. RNP  

Repair stations are required to have certificated mechanics with inspection authorization on staff in order to return aircraft to service.

A. True  
B. False  

According to 14 CFR 43.7, persons authorized to approve aircraft, airframes, aircraft engines, propellers, appliances, or component parts to service include _____.

A. The holder of a mechanic certificate  
B. The holder of a repair station certificate  
C. The holder of a pilot certificate  
D. All of the above  
E. A and B only  

The main-ship battery is typically an aircraft’s single level of redundancy for the electrical system.

A. True  
B. False  

Cybersecurity in the Sky

Cockpit connectivity is a more vulnerable and likely target for hackers than cabin connectivity.

A. True  
B. False  

Cockpit technology and its susceptibility to cyberattacks should be considered in two separate categories: _____ and _____.

A. Pilots; flight attendants  
B. Installed, certificated hardware; portable devices  
C. Safe charging of devices; password protection  
D. Wi-Fi; Ethernet  

Power to the Panel

The main-ship battery typically an aircraft’s single level of redundancy for the electrical system.

A. True  
B. False
52. All-electric panels help eliminate the _____, which is arguably the most failure-prone accessory that analog panels use for power.
   A. Main-ship battery  
   B. Alternator  
   C. Generator  
   D. Suction pump

53. Which of the following provide air and attitude-data sensing found in modern primary flight displays via the AHRS?
   A. Attitude indicator  
   B. Directional gyro  
   C. MEMS  
   D. Turn coordinator

54. A pilot-entered Flight ID in an ADS-B Out system can still be rule compliant.
   A. True  
   B. False

55. Installation of a TSO ELT in a small airplane (less than 12,500 pounds) using the methods, techniques and practices contained in AC 43.13-2B is a major alteration.
   A. True  
   B. False

57. Flight schools may use a _____ in order to reduce confusion and ambiguity among several similar-sounding aircraft operating in close proximity.
   A. NAS special use designator  
   B. U.S. special call sign designator  
   C. Local call sign designator  
   D. Flight ID

58. If an ADS-B Out system does not allow the aircraft identification to be changed to match a call sign, it will have to revert back to the _____.
   A. ATC assigned transponder code  
   B. Aircraft Registration (N-Number)  
   C. Local call sign designator  
   D. None of the above

59. Repair stations assume the responsibility for airworthiness of a transponder installation completed by a third party when they perform 91.413 tests and inspections.
   A. True  
   B. False

60. According to 91.413, ATC transponder checks and inspections can be performed by _____.
   A. Repair stations  
   B. Aircraft manufacturer if it installed the transponder  
   C. Part 121 or 135 operator  
   D. All of the above  
   E. A and B only

61. Ground testing and ADS-B Out systems cannot lead to creation of a false airborne target because ADS-B systems are equipped to know when there is weight on wheels.
   A. True  
   B. False

Real-World Avionics – ICAO avionics equipment codes

62. ICAO codes used in flight planning _____.
   A. Identify installed avionics equipment  
   B. Were originally only required for domestic flights  
   C. Will be required by the FAA for operators filing instrument flight plans  
   D. All of the above  
   E. A and C only

63. An aircraft with basic VHF nav/com and Mode C transponder equipment will file _____ on item 10 of the ICAO equipment code form.
   A. SBDFGRWZ/EB2  
   B. S/C  
   C. OV/C  
   D. SBGR/S

Curing the Snaps, Crackles & Pops of P-Static

64. The electrical charge on an aircraft due to atmospheric friction is known as P-Static and often occurs around _____.
   A. Trailing edges of wings  
   B. Control surface tips  
   C. Vertical and horizontal surfaces  
   D. All of the above  
   E. A and B only
65. Which of the following serve as an electrical conductor, preventing P-Static buildups by allowing electrons to bleed from the airframe back to the atmosphere?
   A. Bonding jumpers
   B. Static wicks
   C. Grounding lines
   D. None of the above

   NOVEMBER

   ADS-B In Solutions

66. ADS-B In receivers are designed to only pick up one ADS-B Out frequency, either 978 MHz or 1090 MHz frequency – not both.
   A. True
   B. False

67. The satellite weather graphics fed to ADS-B In systems should only be used for ______ flight planning, not ______ flight planning, because the image is 7 to 12 minutes old.
   A. Strategic, tactical
   B. Tactical, strategic
   C. IFR, strategic
   D. Tactical, IFR

68. It is possible for an ADS-B In-equipped aircraft to receive a partial traffic picture unless another aircraft wakes up the ADS-B ground station that repeats the traffic the receiver can’t pick up.
   A. True
   B. False

69. Operators who fly internationally will have to outfit their aircraft with the ______ transponder option because it is the standard selected by ICAO.
   A. 978 MHz
   B. 1090ES
   C. Mode C
   D. Any of the above

70. 978 MHz UAT technology ______.
   A. Supports traffic and weather
   B. Has broader bandwidth than 1090ES
   C. Is a more congested frequency than 1090ES
   D. All of the above
   E. A and B Only

71. The FAA allows operators the option of keeping the transponder on standby while taxing in their ADS-B Out-equipped aircraft.
   A. True
   B. False

DECEMBER

Frequently Asked Questions: ADS-B

72. There are no explicit requirements for a receiving inspection under the Federal Aviation Regulations.
   A. True
   B. False

73. The foundation of any repair station’s receiving inspection should include a definition of “approved parts.”
   A. True
   B. False

74. Possible sources of making a traceability determination could include ______.
   A. Shipping tickets
   B. Invoices
   C. Work orders
   D. All of the above
   E. A and B only

75. The ADS-B Out rule is an airspace rule and applies to any aircraft flying in ADS-B airspace regardless of the state of registry of the aircraft.
   A. True
   B. False
### 2017 Technical Training Exam

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**Important date:**  **April 1, 2018**  
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Choose the best available answer. Work individually.

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