

2016 RECURRENT TRAINING EXAM (BASED ON 2015 ISSUES)

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Course: C-IND-IM-160310-K-006-018

Expires: March 31, 2018



Instructions for marking this answer sheet:

Completely darken only one box for each question. Do not use (X) or (✓). Use black lead pencil to mark. To make corrections erase darkened-in box and place a slash (/) through the incorrect answer to indicate a change has been made.

Questions are arranged in vertical sequence as indicated by the arrows. Please note that this year if you pass it will cost \$19.99 to receive your certificate.

EXAM EXPIRES DECEMBER 31, 2016.

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1	A	B	C	D	E	40	A	B	C	D	E	79	A	B	C	D	E	118	A	B	C	D	E	157	A	B	C	D	E
2	A	B	C	D	E	41	A	B	C	D	E	80	A	B	C	D	E	119	A	B	C	D	E	158	A	B	C	D	E
3	A	B	C	D	E	42	A	B	C	D	E	81	A	B	C	D	E	120	A	B	C	D	E	159	A	B	C	D	E
4	A	B	C	D	E	43	A	B	C	D	E	82	A	B	C	D	E	121	A	B	C	D	E	160	A	B	C	D	E
5	A	B	C	D	E	44	A	B	C	D	E	83	A	B	C	D	E	122	A	B	C	D	E	161	A	B	C	D	E
6	A	B	C	D	E	45	A	B	C	D	E	84	A	B	C	D	E	123	A	B	C	D	E	162	A	B	C	D	E
7	A	B	C	D	E	46	A	B	C	D	E	85	A	B	C	D	E	124	A	B	C	D	E	163	A	B	C	D	E
8	A	B	C	D	E	47	A	B	C	D	E	86	A	B	C	D	E	125	A	B	C	D	E	164	A	B	C	D	E
9	A	B	C	D	E	48	A	B	C	D	E	87	A	B	C	D	E	126	A	B	C	D	E	165	A	B	C	D	E
10	A	B	C	D	E	49	A	B	C	D	E	88	A	B	C	D	E	127	A	B	C	D	E	166	A	B	C	D	E
11	A	B	C	D	E	50	A	B	C	D	E	89	A	B	C	D	E	128	A	B	C	D	E	167	A	B	C	D	E
12	A	B	C	D	E	51	A	B	C	D	E	90	A	B	C	D	E	129	A	B	C	D	E	168	A	B	C	D	E
13	A	B	C	D	E	52	A	B	C	D	E	91	A	B	C	D	E	130	A	B	C	D	E	169	A	B	C	D	E
14	A	B	C	D	E	53	A	B	C	D	E	92	A	B	C	D	E	131	A	B	C	D	E	170	A	B	C	D	E
15	A	B	C	D	E	54	A	B	C	D	E	93	A	B	C	D	E	132	A	B	C	D	E	171	A	B	C	D	E
16	A	B	C	D	E	55	A	B	C	D	E	94	A	B	C	D	E	133	A	B	C	D	E	172	A	B	C	D	E
17	A	B	C	D	E	56	A	B	C	D	E	95	A	B	C	D	E	134	A	B	C	D	E	173	A	B	C	D	E
18	A	B	C	D	E	57	A	B	C	D	E	96	A	B	C	D	E	135	A	B	C	D	E	174	A	B	C	D	E
19	A	B	C	D	E	58	A	B	C	D	E	97	A	B	C	D	E	136	A	B	C	D	E	175	A	B	C	D	E
20	A	B	C	D	E	59	A	B	C	D	E	98	A	B	C	D	E	137	A	B	C	D	E	176	A	B	C	D	E
21	A	B	C	D	E	60	A	B	C	D	E	99	A	B	C	D	E	138	A	B	C	D	E	177	A	B	C	D	E
22	A	B	C	D	E	61	A	B	C	D	E	100	A	B	C	D	E	139	A	B	C	D	E	178	A	B	C	D	E
23	A	B	C	D	E	62	A	B	C	D	E	101	A	B	C	D	E	140	A	B	C	D	E	179	A	B	C	D	E
24	A	B	C	D	E	63	A	B	C	D	E	102	A	B	C	D	E	141	A	B	C	D	E	180	A	B	C	D	E
25	A	B	C	D	E	64	A	B	C	D	E	103	A	B	C	D	E	142	A	B	C	D	E	181	A	B	C	D	E
26	A	B	C	D	E	65	A	B	C	D	E	104	A	B	C	D	E	143	A	B	C	D	E	182	A	B	C	D	E
27	A	B	C	D	E	66	A	B	C	D	E	105	A	B	C	D	E	144	A	B	C	D	E	183	A	B	C	D	E
28	A	B	C	D	E	67	A	B	C	D	E	106	A	B	C	D	E	145	A	B	C	D	E	184	A	B	C	D	E
29	A	B	C	D	E	68	A	B	C	D	E	107	A	B	C	D	E	146	A	B	C	D	E	185	A	B	C	D	E
30	A	B	C	D	E	69	A	B	C	D	E	108	A	B	C	D	E	147	A	B	C	D	E	186	A	B	C	D	E
31	A	B	C	D	E	70	A	B	C	D	E	109	A	B	C	D	E	148	A	B	C	D	E	187	A	B	C	D	E
32	A	B	C	D	E	71	A	B	C	D	E	110	A	B	C	D	E	149	A	B	C	D	E	188	A	B	C	D	E
33	A	B	C	D	E	72	A	B	C	D	E	111	A	B	C	D	E	150	A	B	C	D	E	189	A	B	C	D	E
34	A	B	C	D	E	73	A	B	C	D	E	112	A	B	C	D	E	151	A	B	C	D	E	190	A	B	C	D	E
35	A	B	C	D	E	74	A	B	C	D	E	113	A	B	C	D	E	152	A	B	C	D	E	191	A	B	C	D	E
36	A	B	C	D	E	75	A	B	C	D	E	114	A	B	C	D	E	153	A	B	C	D	E	192	A	B	C	D	E
37	A	B	C	D	E	76	A	B	C	D	E	115	A	B	C	D	E	154	A	B	C	D	E						
38	A	B	C	D	E	77	A	B	C	D	E	116	A	B	C	D	E	155	A	B	C	D	E						
39	A	B	C	D	E	78	A	B	C	D	E	117	A	B	C	D	E	156	A	B	C	D	E						

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Tips for completing this exam:

Mark all answers on the answer sheet provided. This is an open book exam. So place all issues in a pile, beginning with the January/February

2015, and follow through all 2015 issues until the exam is complete. You can find the articles on [www. AviationPros.com](http://www.AviationPros.com) by putting the

headline in the search box.

The exam is also available online.

AMT EXAM



JANUARY/FEBRUARY 2015

MRO Trends: Game-Changing Challenges Are Ahead

1. Today's aircraft require maintenance checks

- A. Less frequently than older aircraft
- B. More frequently than older aircraft
- C. That are the same as older aircraft
- D. Are more expensive to perform than older aircraft
- E. None of the above

2. How do MROs stay relevant with new OEM designs?

- A. Undercut OEM maintenance repairs
- B. Develop more licensing agreements and joint ventures with OEMs
- C. Add additional tooling and expertise
- D. Add additional facilities
- E. Schedule additional maintenance procedures

3. What can MROs do to combat the maintenance challenges of the future?

- A. Become more efficient
- B. Develop maintenance technology solutions
- C. Specialize in one fleet of aircraft
- D. Schedule use of facilities more accurately
- E. All of the above

Bell 525 Relentless

4. The fly-by-wire flight control system will

- A. Provide additional situational awareness
- B. Decrease situational awareness
- C. Improve a pilot's ability to control the aircraft
- D. Reduce a pilot's ability to control the aircraft
- E. Both A and C

5. The new helicopter design includes composite materials

- A. To reduce part count

- B. To reduce corrosion
- C. To lower costs
- D. Both A and B
- E. None of the above

6. Bell Helicopter used the MSG-3 process

- A. To better determine maintenance schedules
- B. To build in operational safety
- C. To develop maintenance tasks to reduce failure rates
- D. To increase accessibility to components
- E. All of the above

7. Bell Helicopter's Integrated Vehicle Health and Monitoring system

- A. Allows more complex data to be pulled from the aircraft
- B. Collects fleet information for analysis
- C. Facilitates transfer of data to operators and suppliers to improve customer support
- D. All of the above
- E. Both B and C

8. To support the new design Bell Helicopter

- A. Will have a mix of field maintenance and authorized service centers
- B. Includes human factors training for technicians
- C. Uses 3-D graphics for step-by-step maintenance training
- D. A and C
- E. All of the above

Break Ground for Aviation

9. What companies are adding maintenance facilities in Puerto Rico?

- A. JetBlue
- B. Spirit Airlines
- C. Lufthansa Technik
- D. AAR
- E. All of the above

10. Which companies are expanding into Rockford, IL?

- A. AAR

- B. Rock Valley College
- C. FlightSafety International
- D. A and B
- E. All of the above

Bell Helicopter "Finishes" Rotorcraft in Tennessee

11. The "finishing" includes

- A. Interiors installation
- B. Exteriors painted
- C. Avionics installed
- D. Company logos added
- E. All of the above

12. The Piney Flats, TN, facility employs about 500 people and has delivered 250 helicopters in the last couple years.

- A. True
- B. False

13. The facility completes a pre-hire assessment to find highly skilled employees and a new hire gets ____ weeks of initial training.

- A. Four weeks
- B. Two weeks
- C. Five or six weeks
- D. Three weeks
- E. None of the above

Don't Find Fault, Find a Remedy

14. Since _____ the U.S. Government Accountability Office has called for updates to aircraft maintenance curriculum requirements.

- A. 2003
- B. 1962
- C. 2000
- D. 2008
- E. 2005

15. Aviation Technician Education Council and ____ have worked together to update Part 147 requirements.



- A. Aviation Electronics Association
- B. Federal Aviation Administration
- C. Aeronautical Repair Station Association
- D. B and C
- E. All of the above

Today's Students Are Tomorrow's Leaders

16. What programs has the General Aviation Manufacturers Association been involved in to attract more students to aviation careers?

- A. Build A Plane Aviation Design Challenge
- B. Flying Classroom
- C. Developing curriculum with National Aviation Committee
- D. A and B
- E. All of the above

17. The Accenture 2014 Manufacturing Skills and Training Study showed that more than ___ percent of manufacturers reported a moderate to severe shortage of skilled resources.

- A. 70
- B. 75
- C. 50
- D. 60

18. U.S. manufacturers stand to see their earnings shrink up to ___ percent annually due to greater production costs and revenue losses stemming from a skills shortage.

- A. 15
- B. 8
- C. 11
- D. 10

Rotorcraft Outreach to A&P Schools

19. With the industry mechanic shortage, students should be introduced to both fixed and rotary wing aircraft early on.

- A. True
- B. False

20. To attract students to the rotorcraft field, companies can

- A. Donate equipment to schools
- B. Start an apprentice program
- C. Join HAI to assist in addressing the challenge
- D. All of the above

MARCH 2015

How Does Tire Pressure Maintenance Impact Aircraft Safety?

21. How do aircraft tires differ from car or truck tires?

- A. Higher speed rating
- B. Higher load
- C. Higher inflation pressure
- D. All of the above
- E. There is no difference

22. The most important action an operator can take to prevent tire-related events is to maintain proper tire inflation pressure.

- A. True
- B. False

23. It's important to check aircraft tire inflation pressure

- A. After each flight
- B. Before each flight
- C. Before first flight of the day or before each flight if not flown daily
- D. B and C
- E. None of the above

24. Why is a calibrated gauge important?

- A. You can't identify underinflated tires by looking
- B. The wing height doesn't indicate tire pressure
- C. Because improperly inflated tires can have severe consequences
- D. All of the above
- E. It's not important, you can tell by looking if a tire is underinflated

25. If tire pressure is lower than 90 percent

- A. Remove tire/wheel assembly from service
- B. Re-inflate to determine cause of leakage
- C. Service the tire to 105 percent
- D. Order a new tire
- E. A and B

How Honeywell Is Streamlining System Maintenance

26. Honeywell's MyMaintainer mobile app allows technicians to wirelessly access information on the ramp and perform fault analysis from aircraft data.

- A. True
- B. False

27. Benefits of the app include:

- A. Downloaded data can speed up turn time
- B. Easier for technician to troubleshoot problems
- C. Allows root cause corrective actions so designs can be improved as needed
- D. All of the above
- E. None of the above

28. Honeywell has more than _____ authorized dealers and more than _____ mechanical service centers.

- A. 250 and 50
- B. 350 and 80
- C. 300 and 60
- D. 375 and 65
- E. None of the above

29. Licensing and authorization are predicated on

- A. Service center equipment, service center expertise and level of authorization
- B. Service center location and service center expertise
- C. Percentage of markup and service center expertise
- D. Level of safety
- E. None of the above

Beware The Cost of Avionics Obsolescence

30. The components that make up the avionics found in the cockpit weren't designed for aviation.

- A. True
- B. False

31. Parts obsolescence affects avionics systems on aircraft built ____

- A. Between 1979 to 2000
- B. Between 2000 to the early 2000s
- C. Between 1990 and 2010
- D. Between 1980 to the early 2000s
- E. Between 1970 to 2001

32. The biggest issue with cathode ray tube (CRT) is

- A. Hard to replace
- B. Screen burn
- C. High manufacturing costs and high power requirements
- D. Outdated technology
- E. All of the above

33. Avionics manufacturers predict CRTs won't be available by 2017/2018. Operators will have to

- A. Upgrade to LED and LCD components
- B. Retrofit with Garmin, Honeywell or Rockwell Collins systems
- C. Source out pre-owned aftermarket parts
- D. All of the above
- E. None of the above

EFB Assists in Maintenance Troubleshooting

34. The benefits of Electronic Flight Bags include real-time revisions to manuals and charts and match the trend toward mobile technology

- A. True
- B. False

35. UTC Aerospace Systems' EFB will

- A. Allow pilots to photograph or videotape an event or instrument images for a mechanic to download
- B. Be launched via Delta Air Lines
- C. Capture, display or alert specific information or event
- D. Both A and C
- E. All of the above

Stay Connected: New Flight Communications Technology

36. Satcom Direct has developed a system for passengers to be able to use their smartphone and number to text and talk onboard their aircraft.

- A. True
- B. False

37. Global VT technology

- A. Overcomes problems associated with satellite networks
- B. Allows executives to participate in conference calls
- C. Will be offered under a yearly subscription model
- D. Both A and B
- E. All of the above

38. Satcom Direct launched TerraCom Direct

- A. To expand its business



- B. To provide secure communications via flight
- C. To monitor and report malicious activity or anomalies that data has been compromised
- D. To better serve its customers
- E. All of the above

Do You See An Aviation Safety Inspector in the Mirror?

39. Aircraft technical knowledge and experience are only a part of the ASIs necessary skill set. Today's best ASIs must:

- A. Have good interpersonal skills
- B. Relate to each individual and organization as they partner in safety and compliance
- C. Evaluate situations and manage workloads effectively
- D. All of the above

40. ASIs receive about ____ hours of resident and computer-based training in their first two years of employment.

- A. 100
- B. 500
- C. 1,000
- D. 750

41. To engage with your ASI as a safety partner, you can

- A. Seek information and regulation interpretation
- B. Voluntary report errors
- C. Receive human factors information
- D. All of the above

How to Survive a Recession

42. To continue profitability during the last recession, Threshold Aviation Group

- A. Continued its low-cost structure
- B. Kept its fuel cost lower than competitors to attract more business
- C. Didn't develop new services
- D. Both A and B
- E. Didn't hire any new employees

43. Over the past 15 years, Threshold Aviation Group has bought, repaired, refurbished, and sold a total of 60 aircraft.

- A. True
- B. False

44. To solidify its growth and contributions to the community, Threshold Aviation

- A. Works with local colleges to train new technicians
- B. Brings in new projects, to keep employees busy and increase their skill sets
- C. Both A and B
- D. Works with other organizations to have an annual Thanksgiving dinner for needy families
- E. All of the above

The Challenges of Detecting Composite Damage

45. GAO-11-849 Aviation Safety reported that damage to composite structures is unique in that it may not be visible or may be barely visible, making it more difficult to detect than damage to metallic structures.

- A. True
- B. False

46. To facilitate composite damage detection, an EASA research project recommended

- A. Prevent impact between aircraft and ground service vehicles
- B. Train personnel to improve reporting of collisions
- C. Utilize equipment that features vehicle monitoring systems with sensors and cameras
- D. Inspect damaged surfaces after reporting collision event
- E. All of the above

47. A ramp damage checker from ____ is an ultrasonic tool to detect defects in material.

- A. GE Aviation
- B. Olympus
- C. TLD Group
- D. GEDA
- E. None of the above

Prepare for Cyber Threats

48. In this day and age as we continuously move to more automated and online technologies we are increasing the opportunity for criminals to damage our businesses.

- A. True
- B. False

49. Damage can be done through

- A. Viruses in emails
- B. Accessing credit card information
- C. Accessing employee information
- D. All of the above

50. Insurance coverage for cyber attacks includes:

- A. Loss of digital assets
- B. Extortion costs
- C. Cost of notification
- D. Business interruption
- E. All of the above

Cape Air Sustains Cessna 402 Fleet While Searching for Replacement

51. Cape Air/Nantucket Airlines sports a fleet of 82 Cessna 402 aircraft serving 44 destinations which were manufactured 30 years ago.

- A. True
- B. False

52. The National Institute for Aviation Research conducted testing for two years on a aircraft flown for several airlines, and Cape Air

- A. Studied the results to create a template of what to look for in terms of maintenance
- B. Created an initiative to proactively replace main structural elements on the 402 fleet
- C. Created its own in-house MRO
- D. All of the above
- E. B and C

53. In terms of replacements, Cape Air is

discussing options with engine and airframe manufacturers as well as other _____.

- A. Operators
- B. Pilots
- C. Passengers
- D. All of the above
- E. None of the above

APRIL 2015

Cirrus Offers Safe Airplanes, Beautiful Lines, and Fast Sailing Ships

54. Cirrus Aircraft's safety records include an accident rate that is ____ percent less than the general aviation average and a fatal accident rate that is ____ percent less.

- A. 35 and 55
- B. 30 and 50
- C. 55 and 35
- D. 25 and 45
- E. 22 and 55

55. The Cirrus Aircraft SR20, developed by Alan and Dale Klapmeier, featured

- A. Automotive styling
- B. Avionics with digital displays
- C. Built-in cabin roll bars and air bag seat belts for pilot and co-pilot
- D. Cirrus Airframe Parachute System (CAPS)
- E. All of the above

56. To date ____ lives have been saved with the Cirrus Airframe Parachute System (CAPS) on the SR series aircraft.

- A. 100
- B. 105
- C. 115
- D. 150
- E. 135

57. At the ____-year interval, the rocket motor of CAPS is replaced and the chute is sent back to the factory where it is inspected and repacked.

- A. 5
- B. 8
- C. 10
- D. 7
- E. None of the above

58. The advantages of using composite materials on the Cirrus aircraft include

- A. Reduction in the number of aircraft parts and fasteners
- B. Composite materials are more durable and resistant to damage from bird strikes than metal aircraft
- C. No corrosion
- D. Faster design changes possible
- E. All of the above

Celebrate the Chinese New Year

59. To meet the need of business aviation there are plans for ____ new airports in China

- A. 200
- B. 400
- C. 220
- D. 250
- E. 225



60. Superior Aviation Town will include an airport, FBO, sales and demonstration facilities, retail, manufacturing, residential and green recreational space.

- A. True
- B. False

How to Clean An Aircraft

61. The belly of an aircraft is important when considering the effects of corrosion as soils are more difficult to remove as engine exhausts, wheel lubricants and cabin wastes tend to accumulate there.

- A. True
- B. False

62. The most common agents causing direct chemical attack on aircraft are:

- A. Spilled battery acid or fumes from batteries
- B. Residual flux deposits from inadequately cleaned, welded, brazed or soldered joints
- C. Entrapped caustic cleaning solutions
- D. A and B
- E. All of the above

63. A new family of biobased cleaners

- A. Comprised of seed oils of soy, corn, palm oil
- B. Are safe to handle, store and transport
- C. Won't compromise downstream oil/water separators
- D. All of the above
- E. None of the above

Why Quality Assurance is Important

64. Clint Lowe looks back at his ___ year military career to explain why quality assurance is important.

- A. 30
- B. 36
- C. 38
- D. 40

65. Examples include the results of not following safety practices, not making sure all tools are put away, and taking shortcuts with safety equipment.

- A. True
- B. False

66. You need to understand I'm looking out for ___ when I grab you for not wearing personal protective equipment.

- A. You
- B. Your parents
- C. Both A and B
- D. None of the above

Why It's Important to Have an Emergency Response Plan

67. Having an ERP will help you and your staff be better prepared at a time when things may be at their worst. It will:

- A. Provide step-by-step procedures for staff
- B. Describe how to secure and review all records
- C. Help with insurance as you planned ahead
- D. Instruct key company reps how to participate in an investigation

E. All of the above

68. An ERP should include prewritten statements and press releases

- A. So that executives can agree on content
- B. To better assist employees and their families
- C. To help dispel rumors
- D. All of the above

69. An ERP shouldn't sit on the shelf, it should

- A. Be practiced annually
- B. Be practiced twice a year
- C. Be practiced three times a year
- D. None of the above

MAY 2015

Get Ready for Diesels!

70. ___'s J182T will be the start of diesel designed aircraft in the United States when the new airplane with the SMA SR305-230E-C1 engine is certified.

- A. Cessna
- B. Piper
- C. Cirrus
- D. Textron Aviation
- E. Gulfstream

71. Diesel engines

- A. Burn nearly half the fuel than an avgas engine
- B. Require 100-hour oil change
- C. Include carburetor and sparkplugs
- D. A and B
- E. All of the above

72. A diesel installation is not cheap, often being well over \$100,000 to \$150,000.

- A. True
- B. False

73. Gas aviation engines run from 7:1 to 8.5:1 compression ratios while diesels are in the neighborhood of 18:1.

- A. True
- B. False

74. The major diesel engine manufacturers are

- A. SMA
- B. Austro Engine
- C. Continental/Technify Motors
- D. All of the above
- E. None of the above

75. The primary tool for a diesel engine is:

- A. Smaller wrenches, sockets and borescopes
- B. Proper training
- C. Laptop
- D. Glowplug
- E. All of the above

Industry Require a Need for Agility

76. New technologies tend to focus on breakthrough materials, flight mechanics, cabin experience, cost containment, and fuel cost.

- A. True
- B. False

77. ___ have especially encountered IT barriers as highly modified enterprise resource planning solutions can be expensive to purchase and costly to upgrade.

- A. High traffic airports
- B. Small to midsize businesses
- C. MRO companies
- D. Equipment maintenance crews
- E. Major airlines

78. Maintenance information technology (IT) solutions should

- A. Be flexible and able to be tailored to workflow
- B. Include triggers or alerts to monitor conditions
- C. Be able to track service history and spare part inventory
- D. Include mobile devices to access critical data
- E. All of the above

Maintainer-Friendly PurePower PW800 Begins Airframe Integration

79. By the time the PW800 engine is projected to enter service the PurePower engine family is expected to have accumulated more than ___ million hours.

- A. 1.3
- B. 1
- C. 1.5
- D. 2
- E. None of the above

80. Gulfstream has implemented a ___-hour on-condition plan for the powerplant.

- A. 5,000
- B. 10,000
- C. 12,000
- D. 8,000
- E. 6,000

81. Pratt & Whitney Canada engineered the PW800's accessory suite so technicians can remove and replace almost all accessories in 20 minutes or less.

- A. True
- B. False

82. The PW800 series shares a common core architecture with the PW1000 geared turbo fan.

- A. True
- B. False

Risk-Based Decision Making for Part 147 Schools

83. Among the top five challenges in maintenance human factors are:

- A. Safety culture/leadership
- B. technical documentation
- C. Fatigue
- D. Voluntary reporting
- E. All of the above

84. Hazard identification processes and



forms must be preceded by a culture change where management, workers, and regulators place emphasis on voluntary reports that do not result in unjust disciplinary reaction.

- A. True
- B. False

Increase Thermal Stability and Prevent Engine Coking with Fuel Additive

85. What engine companies are mentioned in the article that are working to meet operating cost pressures that prolong engine-on-wing time and reduce maintenance time and expenses?

- A. Honeywell, Pratt & Whitney, and GE
- B. Rolls-Royce, CFM, and Safran
- C. GE, Rolls-Royce, and Honeywell
- D. Turbomeca, MTU, and Rolls-Royce
- E. All of the above

86. The U.S. Air Force and U.S. Army began a study to determine what would prevent fuel system coking.

- A. True
- B. False

87. In some testing, maintenance costs reduced by more than ___ percent with fuel additives.

- A. 50
- B. 60
- C. 75
- D. 70
- E. None of the above

What Do You Need to Know About Industrial Ovens?

88. Gas-powered industrial ovens are the most efficient.

- A. True
- B. False

89. Electric infrared heaters can provide nearly unlimited heating zones that can be turned on or off as needed.

- A. True
- B. False

Conference Call

90. At ATEC's 2015 annual meeting it awarded the Outstanding Educator of the Year to

- A. Henry Eng
- B. Russell Wheatley
- C. Nancy Jones
- D. Ron Donner

91. _____ was recognized for winning the School Category of the 2015 Aerospace Maintenance Competition at MRO Americas in Miami.

- A. Aviation Institute of Maintenance
- B. Redstone College
- C. Salt Lake Community College
- D. None of the above

92. Russell Wheatley was recognized for being the Outstanding Student of the

Year, he attends Pittsburgh Institute of Aeronautics.

- A. True
- B. False

JULY 2015

What's New? Technology Innovations

93. Computer-aided drafting and computer-aided manufacturing (CAD/CAM) make it possible to create an optimized construction strategy.

- A. True
- B. False

94. CATIA (computer-aided three-dimensional interactive activation) was started as an in-house development in 1977 by ____.

- A. Bombardier
- B. Boeing
- C. Dassault
- D. Airbus
- E. Bell Helicopter

95. Fly-by-wire systems result in

- A. Precise handling
- B. Reduced workload
- C. Maximum performance
- D. Envelope protection
- E. All of the above

96. On the Aerion AS2 software is used to initiate upgrades; no hardware or wiring changes required.

- A. True
- B. False

97. Advisory Circular ____ addresses many of the challenges associated with virtual maintenance logs.

- A. 120-78
- B. 120-87
- C. 100-77
- D. 200-78
- E. None of the above

Aerospace Best Practices: Clean as You Go

98. Dust, FOD, and small particles from sanding, grinding, sawing, or drilling can

- A. Endanger worker safety
- B. Affect product quality
- C. Hinder production
- D. All of the above
- E. None of the above

99. OSHA requires personal protection equipment (PPE) for exposure to most composite reinforcement fibers.

- A. True
- B. False

100. FOD damage is estimated to cost the aerospace industry ___ a year.

- A. \$50 million
- B. \$4 billion
- C. \$5 million

- D. \$10 billion
- E. \$7 billion

AEAC's Sun Flyer Aims to be the Next Generation Flight Training Aircraft

101. The solar-electric Sun Flyer was introduced at the 2015 EAA AirVenture.

- A. True
- B. False

102. Sun Flyer operating costs are projected to be ___ per flight hour.

- A. \$15
- B. \$10
- C. \$12
- D. \$11
- E. \$18

How Technology Has Prompted Innovation

103. An innovative voice technology solution using voice recognition as an alternative to inspection and maintenance written instructions called Vocollect was developed by ____.

- A. Boeing
- B. Honeywell
- C. Lufthansa Technik
- D. GE Aviation
- E. HAITEC

104. Vocollect benefits include

- A. Better quality
- B. Standardized workflow
- C. Improved ergonomics
- D. Better user experience
- E. All of the above

105. Robotic projects for improved aircraft maintenance include:

- A. Rapid Repair
- B. CAIRE
- C. MORFI
- D. All of the above
- E. None of the above

Dr. Bill's Human Factors Program Health Checklist

106. Who sets standards to measure human factors program health?

- A. IATA
- B. EASA
- C. FAA
- D. NTSB
- E. B and C

107. To ensure the accuracy of human factors data, have answers to these questions:

- A. When have you last reviewed and recommitted to your voluntary reporting and just culture policy?
- B. What proof do you have that employees really believe that they can report errors without punishment?
- C. How do you formally disseminate lessons learned from voluntary reports on event investigations?
- D. All of the above



E. None of the above

108. The majority of FAA's maintenance/engineering applied research and development is conducted in

- A. Washington, D.C.
- B. Seattle
- C. Oklahoma City
- D. Baltimore
- E. All of the above

Innovation and Inspiration Flourish in GA Manufacturing

109. BRS Aerospace parachutes on GA aircraft have saved more than ___ lives and the Cirrus Airframe Parachute System (CAPS) has saved more than ____ lives.

- A. 350 and 125
- B. 200 and 100
- C. 300 and 105
- D. 325 and 155
- E. 375 and 105

110. Installation and use of angle of attack (AOA) is an integral part of the FAA's Fly Safe national safety campaign launched in 2014.

- A. True
- B. False

Ask and Answer: Improving Airworthiness Directives

111. Any successful AD will meet four standards: clear requirements, consistent interpretation, compliant incorporation, and effective oversight.

- A. True
- B. False

112. The AD Aviation Rulemaking Committee has developed a questionnaire asking for information on specific ADs. The data will be used to support AD process improvement recommendations.

- A. True
- B. False

Responsible Safety

113. According to Stephen Carbone, Effectively perfecting the flying public's safety is better served by serious reformers, not idea men.

- A. True
- B. False

114. With the Air France 447 accident the idea was presented to install cameras in the cockpit. This could be dangerous because

- A. Risks outweigh the benefits
- B. Shows a lack of industry knowledge
- C. Wouldn't prevent accidents
- D. All of the above

115. Improving transportation safety is not difficult; indeed, many recent accidents trace back to

- A. Ignoring decades old regulations
- B. Refusing to learn from our mistakes

- C. Both A and B
- D. None of the above

AUGUST 2015

Training is About Need

116. A high turnover rate will increase not only the cost of hiring new personnel and training them but will

- A. Affect bottom line profits
- B. Impact consistent performance
- C. Delay maintenance procedures
- D. Affect company morale
- E. All of the above

117. Organizations that place a premium in training personnel work very hard to keep those employees in the work force and tend to have the best work cultures.

- A. True
- B. False

118. Computer-based training

- A. Works best for recurrent training
- B. Allows scheduling, recording, and certifying training activities
- C. Provides a flexible and cost-effective way to communicate new knowledge and standards
- D. All of the above
- E. None of the above

Soft Skills Have Hard Value

119. When asked what some of the daily challenges are in their jobs, ___ percent of the problems involve people issues.

- A. 50
- B. 60
- C. 75
- D. 80
- E. 90

120. Core skills include:

- A. Managing time
- B. Better communication skills
- C. Resolve conflicts
- D. Team building
- E. All of the above

The Global Need to Know

121. ASTM International used to be known as

- A. American Society for Testing and Manufacturing
- B. American Standards for Testing and Manufacturing
- C. American Society for Testing and Materials
- D. American Standards for Testing and Materials
- E. None of the above

122. ASTM aviation activities include:

- A. Specifications for aviation gasoline and jet fuel
- B. Light sport aircraft manufacturing and operations
- C. Certification of non-transport aircraft
- D. Security in conjunction with ICAO

E. All of the above

123. ASTM Committee F48 is designed to create universally accepted standards for those involved in all phases of aircraft manufacturing as well as ongoing support and continued airworthiness.

- A. True
- B. False

Information Technology: Inspiration and Impediments

124. An IT executive pegs the aviation industry's innate conservatism to fear that data might disappear in the process of migration from a current data management system to a more advanced software system.

- A. True
- B. False

125. Training on a new software system is important

- A. So operations continue smoothly
- B. To cushion the comfort zone of users
- C. That it reflect the organization's workflow
- D. All of the above
- E. None of the above

126. To successfully transition to a new software system requires a dedicated project manager.

- A. True
- B. False

Satcom Direct Introduces AeroIT, Training and Certification for IT in Aviation

127. AeroIT, the first IT training and certification course, was developed to address the training need for aircraft mechanics.

- A. True
- B. False

128. AeroIT certification covers

- A. Satellite networks
- B. Troubleshooting aircraft networks
- C. Network management
- D. Network theory
- E. All of the above

129. The training is getting attention and ____ want to add it to their training.

- A. Global Jet Services and FlightSafety International
- B. FlightSafety International and the National Center for Aerospace & Transportation Technologies
- C. National Center for Aerospace & Transportation Technologies and the FAA
- D. Aircraft Electronics Association and the FAA
- E. None of the above

Open Books and Possibilities with High School Aviation Courses

130. The GAMA/Build a Plane Aviation Design Challenge takes place in



- A. Seattle, WA
- B. Oshkosh, WI
- C. Arlington, VA
- D. Cuba City, WI
- E. None of the above

131. The Air+Space Academy started in ____ and now reaches more than ____ high schools in Kentucky and Tennessee to increase students knowledge of STEM and introduce them to the aviation industry.

- A. 2001 and nine
- B. 2010 and 55
- C. 2008 and 35
- D. 2010 and 50
- E. None of the above

132. Air+Space Academy works with to provide students with college credit opportunities.

- A. Eastern Kentucky University
- B. Morehead State University
- C. Embry-Riddle Aeronautical University
- D. State Departments of Education
- E. All of the above

Got Character?

133. Many hours of a manager's day are spent dealing with human issues and a lack of professionalism.

- A. True
- B. False

134. Employers claim that today's college graduates lack

- A. Collaboration skills
- B. Communication skills
- C. Critical judgment
- D. Decision-making skills
- E. All of the above

135. The Hallmark Character Education Program was founded on industry requests for employees to be dependable, ethical, trustworthy, problem-solvers, able to communicate with colleagues and customers, and ____.

- A. Understand and embrace the organization's mission
- B. Understand their role in the organization
- C. Be agile
- D. Leadership
- E. All of the above

136. When discussing entry-level employees or any employee, which of the three legs of the stool (skills, knowledge, or character) is most important?

- A. Skills
- B. Knowledge
- C. Character
- D. All of the above

SEPTEMBER 2015

Composites Training: Getting the Basics Right

137. Composite training for experienced technicians requires relearning these habits:

- A. Exact fiber orientation
- B. Ensuring the cure
- C. Mixing the resins right
- D. All of the above
- E. None of the above

138. Composite training courses stress the importance of working with the trailing edge of the die grinder so as to delicately feather the materials.

- A. True
- B. False

139. Wisconsin Indianhead Technical College supports which companies?

- A. Kestrel Aircraft
- B. AAR
- C. Cirrus Aircraft
- D. All of the above

140. Students learning composite repair procedures can

- A. Repair aircraft
- B. Repair a wind turbine blade
- C. Repair a marine hull
- D. All of the above

Paint: What is Important to the Aircraft Maintenance Industry?

141. What are maintainers looking for when it comes to paint?

- A. Durability
- B. Color match
- C. Customer support
- D. Price
- E. All of the above

142. What did survey respondents indicate their current coating brand could do better (highest percentage)?

- A. Faster dry times
- B. More color choices
- C. Better training
- D. Faster delivery
- E. More hands-on assistance

143. To give customers a preview of the finished product, Elliott Aviation uses EnVision 3-D modeling technology.

- A. True
- B. False

The Reality of Service Cultures

144. Organizational culture is the unique blend of values and beliefs that define an organization. It includes

- A. How we interact
- B. How we speak
- C. Attitude and feelings about organization
- D. All of the above

145. The culture of your company should transcend any preconceived personal or generational differences.

- A. True
- B. False

Redress Your Aviation Grievances

146. Underutilized approaches to working with the FAA are

- A. Petition for rulemaking and petition for exemption
- B. Using the Fifth Amendment right to petition the government for a redress of grievances
- C. Staging a riot
- D. All of the above

OCTOBER 2015

Aviation is Good for Business

147. The NBAA Maintenance Committee promotes the Next Tech for NextGen project

- A. By showing middle and high school students the high-tech gadgets of aviation to attract them to the industry
- B. By providing scholarships through TRACS to provide funding for training and a cost of living allowance to make training more accessible
- C. By advocating for regulatory updates
- D. All of the above

148. The Maintenance Management Conference (MMC) is only for maintenance managers.

- A. True
- B. False

149. The MMC offers

- A. Regulatory updates
- B. Technology briefings
- C. Human factors programs
- D. Management programs
- E. All of the above

The Pros and Cons of Technical Advancements in Aviation Maintenance Documentation

150. Tablet technology has been a positive force for maintenance, flight operations, and in-flight departments due to

- A. Manuals on a tablet weigh less
- B. Manuals are easier to revise electronically
- C. Tablets cost less than paper files
- D. All of the above

151. When manuals were being revised on paper approximately ____ percent of end users read the revisions, now it has dropped to less than ____ percent.

- A. 50 and 25
- B. 60 and 10
- C. 70 and 15
- D. None of the above

152. Some of the cons to electronic management of manuals include

- A. Some companies are using the same procedures for revisions, making it more difficult
- B. Several airlines have purchased expensive document management systems which is harder to use
- C. Microsoft Word is being used for document



- management raising costs and lowering quality
D. Maintaining documents is a time-consuming process
E. All of the above

153. An FAA workshop summarized that technical documentation will require commitment, investment and a change of culture in order to succeed in aviation.

- A. True
B. False

Human Factors Are Important to Aircraft Certification

154. The FAA Aircraft Certification Service (AIR) ensures that the aircraft and components are designed, manufactured, and modified for safety throughout the product life cycle.

- A. True
B. False

155. Sources to assist with field approvals include:

- A. Operator's Manual for Human Factors in Aviation
B. FAA website
C. Local FSDO
D. All of the above

Getting Ahead of the Game: The Surge in Transmittable, Real-time Diagnostics

156. Dassault Falcon Jet's future maintenance diagnostic satellite-based system resides on EASy-equipped Falcons – 2000, 900, and 7X series craft fitted with Honeywell's Primus Epic system.

- A. True
B. False

157. Textron Aviation's entry into the real-time market is ___ and it's on the Citation M2, CJ3+, Sovereign, Latitude, and CX+.

- A. Broadcast
B. LinxUs
C. LinkUs
D. None of the above

158. With Daher's downloadable data, the inspection program has evolved so that now you do a check every ___ hours or 12 months instead of 100, 300 and 600 hours.

- A. 200
B. 150
C. 250
D. 300

OCTOBER 2015

Culture Shock

159. Accident reports don't assign blame, they give accurate event summaries and recommendations. The problem according to Stephen Carbone:

- A. The public doesn't read accident reports
B. News reports aren't written by aviation

- experts
C. News accounts of the related event included opinions and allegations, not facts
D. All of the above

160. For recommendations to be taken seriously to prevent future accidents/incidents, it is vital to identify stark critical errors in both maintenance and operations.

- A. True
B. False

161. Before ___, NTSB did not have FAA-certificated aircraft maintenance accident investigators; maintenance issues were delegated to engineers who never turned a wrench.

- A. 2000
B. 2001
C. 1998
D. 1999

162. Accident investigation organizations, the author states, need to take the role of maintenance as a serious contributor to safety so that safety cultures can be improved.

- A. True
B. False

A Trip to the Doc's Office

163. The B-29 Superfortress aircraft represented innovation in aircraft design and included:

- A. Airframe with green house windows upfront and blister windows on the side
B. Electrically operated components
C. Wright engines delivering 2,200 horsepower per engine
D. Pressurization systems for crew compartments
E. All of the above

164. Its high-lift wing design had to provide the lift for ___ pounds of high explosives and the fuel to make it across the Pacific.

- A. 25,000
B. 30,000
C. 20,000
D. None of the above

165. The Boeing plant in Wichita manufactured ___ of the classic bombers.

- A. 1,600
B. 1,515
C. 1,644
D. 2,000

166. Doc was rescued by ___ from the bone yard at China Lake Naval Warfare Center Weapons Center in California.

- A. Jeff Turner
B. Tony Mazzolini
C. Tom Bertels
D. T.J. Morrow

167. The restoration process started in ___ when the aircraft arrived in Wichita.

- A. 2013
B. 2003

- C. 2000
D. 2008

168. ___ and ___ were in the aircraft when the engines were tested on September 18, 2015.

- A. Jeff Turner and T.J. Morrow
B. Jeff Turner and Tony Mazzolini
C. T.J. Norman and Jim Murphy
D. Connie Palacios and Max Parkhurst

169. Doc's Friends was formed in

- A. 2000
B. 2008
C. 2013
D. 2011

What is Your Organization's Service Culture?

170. Customers (and employers) expect that a trained professional has excellent technical skills, but they also expect effective, friendly communication.

- A. True
B. False

171. The second dimension of a service culture directly speaks to the effectiveness of service delivery to

- A. External customers
B. Internal customers
C. Both internal and external customers
D. None of the above

172. The four customer service culture profiles described include:

- A. Insider, technical, market, and customer
B. Technical skills, communication, relationship building, and teamwork
C. All of the above
D. None of the above

Replace Yourself

173. Boeing's 2015 Pilot and Technician Outlook forecasted the global commercial aviation industry will need more than 1 million new workers, 558,000 pilots and ___ maintenance technicians between now and 2034.

- A. 600,000
B. 619,000
C. 609,000
D. 629,000

174. What can you do to help the need for technicians?

- A. Encourage young talent
B. Talk about aviation careers
C. Participate in career days at local schools
D. All of the above

175. ARSA developed ___ as a recruitment tool to help the aviation community find technically skilled applicants.

- A. Aero.Jobs.org
B. Dream It. Do It.
C. stemedcoalition.org
D. Aviation Technician Education Council



Compliance vs. Safety: How to Work (Safely) at Heights

176. A safety-based approach looks ___ to see what is truly safe for a worker to be doing.

- A. At the minimum regulations
- B. Beyond the minimum requirements
- C. At the legal requirements
- D. All of the above

177. OSHA defines ___ feet as the point that fall protection is required.

- A. 5
- B. 5.5
- C. 6
- D. 6.5

178. A proper assessment of a task is required to determine the risk for the employee and is based on:

- A. Review the process, is there a better way?
- B. Is there a barrier between worker and hazard?
- C. Is there an active travel restraint/restriction system?
- D. Is there an active fall arrest system?
- E. All of the above

179. A safety-based approach starts with getting the worker to where they need to be, and choosing the right approach from there, not taking a good tool and using it for every application.

- A. True
- B. False

NOVEMBER/DECEMBER 2015

How Advances in NDT Technology Are Transforming Aviation MRO

180. Maintenance delays and unexpected downtime cost the airline industry an estimated ___ per year and nondestructive testing (NDT) is one significant component.

- A. \$20 million
- B. \$10 billion
- C. \$8 billion
- D. \$6 billion

181. The drivers behind emerging inspection technologies include:

- A. Three-dimensional computed topography
- B. Visual inspection borescopes
- C. Mobile, user interfaces
- D. All of the above

182. ___ can now be used as a quality control and process optimization tool,

providing fast inspection.

- A. 2-D radiography
- B. Software
- C. Computed topography
- D. Hand-held computers

183. Mobile devices speed up the inspection process

- A. By utilizing technology that younger technicians are familiar with
- B. By being able to consult experts at other locations
- C. By streamlining data sharing and reporting process
- D. All of the above

United Dedicates Charles Taylor Bust at ORD

184. For the dedication of the Charles Taylor bust at O'Hare, which descendants of Taylor's were present?

- A. Grandson
- B. Great grandson
- C. Both grandson and great grandson
- D. None of the above

185. How many United Airlines technicians have received the Charles Taylor Master Mechanic award?

- A. More than 50
- B. More than 40
- C. 25
- D. 45

186. Where is the bust located?

- A. United's Terminal One
- B. Underground tunnel linking B and C concourses
- C. O'Hare International Airport
- D. All of the above

187. What Master Mechanic was present at the dedication and is related to one of the Next Gen Award winners?

- A. Bill Grater
- B. Paul Temple
- C. Glenn Hill
- D. George Kirkwood

188. The bust was designed by Virginia K. Hess; other busts are located at

- A. Wright State University
- B. Embry-Riddle Aeronautical University
- C. San Diego Aerospace Museum
- D. National Air & Space Museum
- E. All of the above

Shop Liability: How Risk Management Can = Premium Savings

189. Why have your insurance broker visit your business?

- A. Can identify hazards and good practices
- B. Can go to bat for you with employees
- C. Form better relationship
- D. Could save money

190. What creates liability exposure at a maintenance shop?

- A. Hangar rash
- B. Product quality
- C. Workmanship
- D. All of the above

AMT Next Gen Awards

191. How many award winners were on the cover and how many were presented?

- A. 40 and 40
- B. 40 and 41
- C. 39 and 41
- D. None of the above

192. Which regular AMT columnist received a Next Gen Award?

- A. Brett Levanto
- B. Stephen Carbone
- C. Bill Johnson
- D. Steve Bruss

NOTE FROM AMT:

Are you ready to take the exam, but don't have all of the back issues of *Aircraft Maintenance Technology* from 2015?

Well, you have several options. You can go to your buddy who receives the magazine and ask to borrow his issues. If by chance he is unwilling to part with his copies, you still have other options.

You can call us at (920) 563-6388 to order any back issues you are missing. Back issues are \$10 per copy. Or you can also visit our web site www.AviationPros.com. You will be able to perform a search by article title.

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While there, why not sign up for our electronic newsletter delivered to you daily via email, or any of the other electronic products we offer.

Just a reminder that things have changed over the last several years. AC 65-25E requires 12 hours for a Bronze Award, 40 hours for a Silver, and 80 hours for a Gold.

The exam is now available online and can be submitted online. If you prefer to submit the paper version, please be sure that all of the information on the answer sheet is filled in. We receive several tests each year that we can't issue a certificate for because the return address information is not filled out. It is also a good idea to photocopy your completed test just in case it doesn't make it to our offices. **Also be aware that this year the exam requires a fee of \$19.99.**

Good luck!



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