



Aerospace Maintenance Competition

Presented by *Snap-on*

Event Manual

The Aerospace Maintenance Council, a non-profit organization, promotes and supports the aerospace maintenance community. The council's flagstone event, the Aerospace Maintenance Competition (AMC), recognizes and celebrates the aviation maintenance technician, and raises awareness of the knowledge and skill required to maintain safe, airworthy aircraft, worldwide. The competition is held annually in conjunction with [Aviation Week's MRO Americas](#). The 2018 event will take place on April 9-12 at the Orange County Convention Center in Orlando.

The purpose of this manual is to provide participants information about the competition and its competitive events. It will be revised periodically while events are added and modified, please check back often to ensure you're referencing the most current version.

Send comments and suggested revisions to team@aerospacecompetition.com.

Table of Contents

About.....	4
Schedule of Events.....	4
About MRO Americas.....	4
Venue.....	4
Hotel Accommodation.....	5
Exhibit Hours and Floor Access.....	5
Rules.....	5
Scoring.....	6
Sponsor and Event Setup.....	7
Shipping information.....	7
Competition Layout.....	8
Team and Sponsor Recognition.....	9
Orientation Briefing.....	9
Event Grouping.....	9
Teams.....	11
Events.....	14
#1 Daniels Manufacturing Electrical Troubleshooting.....	19
#2 Daniels Manufacturing Corporation Safe-T-Cable.....	21
#3 Airbus A320 CAT III Certification.....	23
#4 Non-Destructive Testing—CANCELLED.....	24
#5 United Fuel Tank Entry Precautions.....	25
#6 Boroscope—CANCELLED.....	27
#7 Eastern Florida State Space Vehicle - Vacuum Loading Operation.....	28
#8 Spectro Scientific Oil Test Analysis.....	33
#9 Abaris Training Composite Repair.....	35
#10 PPG Aerospace Cockpit and Wing Sealant.....	37
#11 ULTRAX Condition Based Intelligence™ (CBI™).....	38
#12 Atheer AiR & American Airlines Augmented Reality Pedestal.....	39
#13 Embry-Riddle Precision Measurement.....	41

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

#14 JetBlue University ADS-B Troubleshooting 43

#15 Barfield Fuel Quantity 44

#16 Barfield Pitot Static 47

#17 FedEx Express Turbine Engine 48

#18 Indian Hills Community College Magneto 52

#19 Boeing Cable Rigging..... 54

#20 American Airlines APU Burner Can 56

#21 Pratt & Whitney Geared Turbo Fan Engine 58

#22 W.L. Gore & Associates, Inc. Dry Sealant Panel Installation 59

#23 Alaska Airlines External Power Receptacle Event 63

#24 Nida Corporation Power Troubleshooting..... 65

#25 Boeing Fiber Optics 67

#26 Aircraft Maintenance Technicians Association Charles E. Taylor Exam 71

#27 Aerospace Maintenance Competition Safety Wiring 72

#28 Advanced Torque Products Accurate Torqueing 73

#29 U.S. Air Force Flex Fluid Lines 74

#30 Alberth Aviation Wheel and Brake Removal and Installation 77

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

About

The AMC provides an opportunity for current and future maintenance professionals to showcase their abilities and see how they stack up against peers across the country. Five-member teams compete in maintenance events intended to test skill and knowledge required of an aviation maintenance technician. Teams may enter one of six categories:

- Commercial Aviation
- General Aviation
- Space
- Education
- Military
- MRO/OEM

The competition is managed by the Aerospace Maintenance Council’s AMC committee. It is supported through the generous contributions of the aerospace community. Sponsors host events, provide prizes and make monetary contributions.

Schedule of Events

- Sunday, April 8, 12:00 PM – 5:00 PM: Event Setup (sponsors and judges only)
- Monday, April 9, 8:15 AM – 9:00 AM: Judge Briefing (exhibit hall doors open at 8:00 AM)
- Monday, April 9, 9:00 AM – 12:00 PM: Competitor Orientation
- Monday, April 9, 1:30 PM – 5:00 PM: Competition
- Tuesday, April 10, 9:00 AM – 5:00 PM: Competition
- Wednesday, April 11, 9:00 AM – 2:30 PM: Competition
- Thursday, April 12, 9:00 AM – 12:00 PM: Award Ceremony

About MRO Americas

The competition is held on the exhibit floor of [MRO Americas](#), an annual gathering of aviation maintenance professionals that incorporates informative conference sessions and a showcase of new and innovative products, technologies, offerings and services. More information about the location and logistics can be found on that event’s website.

The AMC will take place at MRO Americas **Booth Number 100**.

The exhibit hall layout is available at <http://mroamericas.aviationweek.com/am18/Public/eventmap.aspx?shavailable=1&shexhlist=1>.

Venue

MRO Americas and the AMC will take place at the [Orange County Convention Center](#) in Orlando, 9899 International Drive, North Concourse, halls A&B.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Hotel Accommodation

Aviation Week has reserved room blocks at a discounted rate for all MRO Americas participants. Reserve accommodation at

<http://mroamericas.aviationweek.com/am18/Public/Content.aspx?ID=1068009&sortMenu=112003>.

Exhibit Hours and Floor Access

To access the competition area, all attendees must register for a floor pass at

<https://www.eiseverywhere.com/ereg/newreg.php?eventid=273265&categoryid=2131470>. Individuals

must be 16 years and older to register.

If completed in advance, registration is free for competitors, instructors/coaches, sponsors, visitors and volunteers.

Only those with designated AMC badges (identifying the individual as a competitor, instructor/coach, sponsor, or volunteer/staff) are permitted to access the competition floor prior to official show opening times.

Badges may be picked up on site at the MRO Americas Registration Area – located on the main level of the Convention Center’s north hall.

Registration Hours

- April 9 from 8:00 AM – 5:00 PM
- April 10, 8:00 AM – 5:30 PM
- April 11, 8:00 AM – 5:30 PM
- April 12, 8:00 AM – 2:30 PM

Exhibit Hall Hours

- Tuesday April 10, 2018 10:30 AM – 5:30 PM
- Wednesday April 11, 2018 9:30 AM – 5:30 PM
- Thursday April 12, 2018 9:30 AM – 1:00 PM

Rules

- 1) Each team must consist of five team members.
- 2) Competitors must be either certificated by a national aviation authority (e.g., hold an FAA mechanic certificate), enrolled in a certificated aviation maintenance technician school, employed by a certificated repair station or manufacturing facility, or a member of the armed forces.
- 3) Each team is allowed, but not required, to designate alternate(s) in the event a member is not able to participate the day of the competition.
- 4) School category teams are comprised of five currently-enrolled students. Individuals that graduated the institution in the last six months that are not currently employed by an aviation-related company are also eligible to compete. Instructors are not eligible to compete.
- 5) Teams have 15 minutes to complete each competitive event.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

- 6) There is a five-minute break between the end of one event and the beginning of the next event. Competitors present in the five minutes preceding the event start time may review task cards, materials, or prepare for the event, as permitted by the event judge. Time will not be credited for competitors arriving after the designated start time.
- 7) Each team member must sign a release of liability to participate, completed at check-in.
- 8) Each event has a designated number of team member(s) eligible to participate. For events that require less than five team members, the team will assign member(s) of their choice to compete.
- 9) If a team member completes an event before the 15-minute time limit, he/she may assist fellow team member(s) in other events.
- 10) Scores are calculated based on the standard event score sheet.
- 11) Event sponsors provide judges for each event. Scores are calculated based on the [standard score sheet](#), and at the judge's discretion. Problems and/or questions may be addressed during an event at the judge's discretion. Judges may stop the clock to remedy problems or answer a question at their discretion. Appeals to a judge decision may be brought to the AMC chairman.
- 12) Scores provided verbally at the completion of an event are not official until properly recorded.
- 13) Scores provided to the scoring committee are considered final once received. The AMC chairman reserves the right to modify final scores up until the awards ceremony.
- 14) The three teams with the lowest score in each category will be recognized at the awards ceremony. The team with the lowest score across all categories will be awarded the William F. "Bill" O'Brien Award for Excellence in Aircraft Maintenance.
- 15) The AMC chairman reserves the right to remove any team member(s) from the competition for, but not limited to, unprofessional behavior, cheating, etc.
- 16) The AMC committee reserves the right to alter events and/or rules prior to or during the competition and will make best efforts to notify all team members of the change.
- 17) Participants are expected to observe personal protection equipment requirements throughout the competition. Failure to observe safety practices will result in penalties.
- 18) All required tooling and protection equipment is provided by event sponsors. Personal tools are not allowed.
- 19) Judges will receive all final, tallied scores for their event the evening before the awards ceremony to ensure final scores are correct and consistent with their own notes.

Scoring

Judges will utilize the standard [AMC score sheet](#) to calculate team scores for each event. Event scores are calculated by adding the total amount of time expended to complete the event, plus penalties assessed. Standard penalties are assessed for—

- Failure to follow procedures
- Improper use of tools
- Failure to properly store tools and/or equipment
- Improper use of safety equipment
- Incomplete or incorrect recordkeeping
- Unprofessionalism

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

- Other, and provided for by the specific event or at the judge’s discretion

Any additional penalties that will be considered for a particular event are detailed in the event criteria.

Sponsor and Event Setup

Event, bronze- and gold-level sponsors will setup competitive events and exhibit tables on Sunday, April 8 from noon to 5:00 PM. Event breakdown will take place when the exhibit floor closes, Thursday, April 12 from 1:00 PM to 10:30 PM.

All exhibitor materials must be removed from the exhibit facility by Friday, April 13, 2018 at 1:00 PM.

All event spaces with electric needs will be pre-set with a 120V 5 Amp (500w) Single Outlet, two standard six-foot tables and two chairs. Sponsors are responsible for costs associated with any additional freight or facility needs (i.e., furniture, electric, wireless internet, carpet, etc.). Contact team@aerospacecompetition.com to coordinate these additional requirements.

Information regarding shipments and exhibit hall access is in the MRO Americas Exhibitor Manual available at <http://mroamericas.aviationweek.com/am18/Public/Content.aspx?ID=1068012&sortMenu=115000>.

Shipping information

To ensure proper delivery, shipments should identify the AMC Booth #100, and the AMC-designated event/table space (for example, 100-01, 100-02, etc.), as provided for in the AMC layout (below).

Warehouse Shipping (for materials arriving after March 9 and before April 2):

Aerospace Maintenance Competition / Booth #100-XX
MRO Americas 2018
C/O FREEMAN
10088 GENERAL DR
ORLANDO, FL 32824
(407) 816-7900

Show Site Shipping Address (for materials arriving after April 7):

Aerospace Maintenance Competition / Booth #100-XX
MRO Americas 2018
C/O FREEMAN
ORANGE COUNTY CONVENTION CENTER - NORTH BUILDING
9400 UNIVERSAL BLVD
ORLANDO, FL 32819-9340

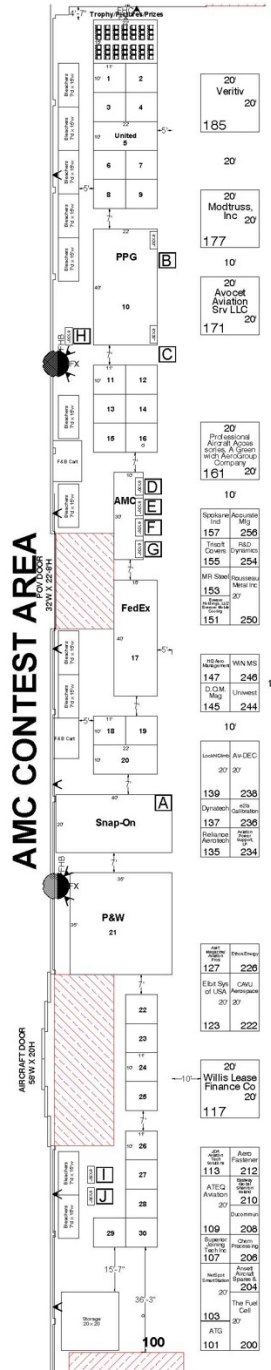
This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Competition Layout

A new layout will allow for perimeter walkways and enhanced spectator viewing. Numbered spaces 1-30 correspond to event numbers.



This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Team and Sponsor Recognition

Sponsor and team logos will be displayed on event signage and in the event program. Signage will be created and displayed at the AMC committee’s discretion. Teams and sponsors should not bring banners or signage to the competition.

Orientation Briefing

The briefing takes place the day before the competition begins and is mandatory for all team members and judges. Guests are not permitted.

Following the general competition overview, competitors will have the opportunity to walk around the competition floor to get a close-up look at each event and ask further questions. If practical that event’s judge may offer tutorials to ensure all competitors understand the event criteria and requirements.

MRO Americas trade show exhibitors will be setting up their respective booths on the showroom floor during the AMC orientation. As such, all AMC participants are asked to stay in the AMC area during that time, please do not wander around the show room floor.

Event Grouping

Teams members will compete in simultaneous events according to the following event group schedule.

Group	Event	Team Members Required
1	#10 PPG Aerospace Cockpit and Wing Sealant	5
2	#17 FedEx Express Turbine Engine #29 U.S. Air Force Flex Fluid Lines N/A Boroscope— CANCELLED	3 2 0
3	#18 Indian Hills Community College Magneto N/A Non-Destructive Testing— CANCELLED #22 W.L. Gore & Associates, Inc. Dry Sealant Panel Installation	2 0 3
4	#25 Boeing Fiber Optics #11 ULTRAX Condition Based Intelligence TM (CBI TM) #13 Embry-Riddle Precision Measurement	2 2 1
5	#23 Alaska Airlines External Power Receptacle #1 Daniels Manufacturing Electrical Troubleshooting	2 2

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Group	Event	Team Members Required
	#3 Airbus A320 CAT III Certification	1
6	#16 Barfield Pitot Static #5 United Fuel Tank Entry Precautions #8 Spectro Scientific Oil Test Analysis	2 2 1
7	#14 JetBlue University ADS-B Troubleshooting #24 Nida Corporation Power Troubleshooting #2 Daniels Manufacturing Corporation Safe-T-Cable	2 2 1
8	#21 Pratt & Whitney Geared Turbo Fan Engine #7 Eastern Florida State Space Vehicle - Vacuum Loading Operation #26 AMTA Charles E. Taylor Exam	2 2 1
9	#19 Boeing Cable Rigging #30 Alberth Aviation Wheel and Brake Removal and Installation	2 3
10	#9 Abaris Training Composite Repair #20 American Airlines APU Burner Can #27 Aerospace Maintenance Competition Safety Wiring	2 2 1
11	#15 Barfield Fuel Quantity #12 American Airlines & Ather AiR Augmented Reality Pedestal #28 Advanced Torque Products Accurate Torqueing	2 2 1

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Teams

The following teams are confirmed to participate in the 2018 event. Each team is assigned a team number that will be used as identifiers on the team schedule and to facilitate scoring:

Team No.	Team Name	Category
1	American Airlines - DFW	Commercial
2	Aviation Institute of Maintenance - Houston	School
3	Alaska Airlines - ANC	Commercial
4	Australian Licenced Aircraft Engineers Association	MRO/MFR
5	JetBlue	Commercial
6	Eastern Florida State College	School
7	China Eastern Airlines	Commercial
8	Pittsburgh Institute of Aeronautics - Hagerstown	School
9	United Airlines - MCO	Commercial
10	TulsaTech	School
11	UPS	Commercial
12	United States Air Force - McChord	Military
13	FedEx Express - INDY	MRO/MFR
14	Mohawk Valley Community College	School
15	United States Air Force - Ogden Air Logistics Complex	Military
16	Phillips 66	General Aviation
17	United States Coast Guard - Aero Engineers	Military
18	Boeing	MRO/MFR
19	Qantas	Commercial

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Team No.	Team Name	Category
20	United States Army - 128th Aviation Brigade	Military
21	American Airlines - DWH	MRO/MFR
22	Liberty University	School
23	Alaska Airlines - SEA	Commercial
24	Middle Tennessee State University - Team 1	School
25	Horizon Air	Commercial
26	United States Coast Guard - Air Station Clearwater	Military
27	FedEx Express - MEM	MRO/MFR
28	United States Air Force - Seymour Johnson	Military
29	West Atlantic Line	Commercial
30	Broward College - Team 1	School
31	Pratt & Whitney - WiseMen	MRO/MFR
32	United States Air Force - Altus A-Team	Military
33	United Airlines - CLE	Commercial
34	Pittsburgh Institute of Aeronautics - Pittsburgh	School
35	Jetstar	Commercial
36	Aviation Institute of Maintenance - Irving	School
37	United Airlines – Chix Fix	Commercial
38	Middle Tennessee State University - Team 2	School
39	Flybe	MRO/MFR
40	Pittsburgh Institute of Aeronautics - Myrtle Beach	School

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Team No.	Team Name	Category
41	United States Air Force - Fairchild	Military
42	Indian Hills Community College	School
43	HAECO Americas	MRO/MFR
44	Salt Lake Community College	School
45	Pratt & Whitney - WiseWomen	MRO/MFR
46	West Los Angeles College	School
47	United States Air Force - Eglin 33rd AMXS	Military
48	Utah State University	School
49	American Airlines - TUL	MRO/MFR
50	Broward College - Team 2	School
51	Airborne Maintenance & Engineering Services	MRO/MFR
52	United States Air Force - McConnell 22 MXG/931 MXG	Military
53	Monarch Aircraft Engineering Limited - Team 1	Commercial
54	Pittsburgh Institute of Aeronautics - Youngstown	School
55	United Airlines - HOU	MRO/MFR
56	Vaughn College of Aeronautics and Technology	School
57	Elevate Aviation	Commercial
58	Southern Illinois University Carbondale - Team 1	School
59	United States Marine Corp - VMM 165	Military
60	Monarch Aircraft Engineering Limited - Team 2	School
61	United States Coast Guard - C-27J APO	Military

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Team No.	Team Name	Category
62	Southern Illinois University Carbondale - Team 2	School
63	United States Air Force - Dyes	Military
64	TulsaTech Aerospace Academy	School
65	United States Air Force - Hurlburt Field 1 SOAMXS	Military
66	Aviation High School	School
67	AVIANCA	Commercial
68	Del Mar College	School
69	United States Marine Corp - MALS 39	Military
70	National Center for Aviation Training	School
71	United States Air Force - Warner Robins Air Logistics Center	Military
72	United States Air Force - Oklahoma City Air Logistics Complex	Military

Events

The AMC consists of various events to test the knowledge and skills needed of today's aviation technician. All teams will compete in every event, teams are responsible for assigning individual competitors to each event. The number of competitors required to complete each event is provided in the event grouping, above.

Events will be added and revised as necessary, check the website often to ensure you're referencing the latest version of this manual.

Description, instructions and judging criteria for each event are provided in subsequent pages of this manual. Competitors may contact judges directly with questions on a specific event.

Event Schedule

The competition consists of 36, 15-minute stages. Two teams will complete each event group simultaneously. Each team is responsible for assigning the number of individual competitors required for each event, as provided for in the event grouping, above.

Special note for the Pratt & Whitney Geared Turbo Fan Engine, in Event Group 8, odd-numbered teams will complete the Pratt & Whitney Geared Turbo Fan portion of that event; even numbered teams will complete the Radial Engine Spark Plug portion.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Monday April 9									
	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9
Start Time	13:30	13:50	14:10	14:30	14:50	15:10	15:30	15:50	16:10
End Time	13:45	14:05	14:25	14:45	15:05	15:25	15:45	16:05	16:25
Event Group 1	1 & 2	23 & 24	45 & 46	67 & 68	17 & 18	39 & 40	61 & 62	11 & 12	33 & 34
Event Group 2	3 & 4	25 & 26	47 & 48	69 & 70	19 & 20	41 & 42	63 & 64	13 & 14	35 & 36
Event Group 3	5 & 6	27 & 28	49 & 50	71 & 72	21 & 22	43 & 44	65 & 66	15 & 16	37 & 38
Event Group 4	7 & 8	29 & 30	51 & 52	1 & 2	23 & 24	45 & 46	67 & 68	17 & 18	39 & 40
Event Group 5	9 & 10	31 & 32	53 & 54	3 & 4	25 & 26	47 & 48	69 & 70	19 & 20	41 & 42
Event Group 6	11 & 12	33 & 34	55 & 56	5 & 6	27 & 28	49 & 50	71 & 72	21 & 22	43 & 44
Event Group 7	13 & 14	35 & 36	57 & 58	7 & 8	29 & 30	51 & 52	1 & 2	23 & 24	45 & 46
Event Group 8	15 & 16	37 & 38	59 & 60	9 & 10	31 & 32	53 & 54	3 & 4	25 & 26	47 & 48
Event Group 9	17 & 18	39 & 40	61 & 62	11 & 12	33 & 34	55 & 56	5 & 6	27 & 28	49 & 50
Event Group 10	19 & 20	41 & 42	63 & 64	13 & 14	35 & 36	57 & 58	7 & 8	29 & 30	51 & 52
Event Group 11	21 & 22	43 & 44	65 & 66	15 & 16	37 & 38	59 & 60	9 & 10	31 & 32	53 & 54

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Tuesday April 10									
	Stage 10	Stage 11	Stage 12	Stage 13	Stage 14	Stage 15	Stage 16	Lunch	Stage 17
Start Time	9:30	9:50	10:10	10:30	10:50	11:10	11:30	11:45	13:05
End Time	9:45	10:05	10:25	10:45	11:05	11:25	11:45	13:00	13:20
Event Group 1	55 & 56	5 & 6	27 & 28	49 & 50	71 & 72	21 & 22	43 & 44		65 & 66
Event Group 2	57 & 58	7 & 8	29 & 30	51 & 52	1 & 2	23 & 24	45 & 46		67 & 68
Event Group 3	59 & 60	9 & 10	31 & 32	53 & 54	3 & 4	25 & 26	47 & 48		69 & 70
Event Group 4	61 & 62	11 & 12	33 & 34	55 & 56	5 & 6	27 & 28	49 & 50		71 & 72
Event Group 5	63 & 64	13 & 14	35 & 36	57 & 58	7 & 8	29 & 30	51 & 52		1 & 2
Event Group 6	65 & 66	15 & 16	37 & 38	59 & 60	9 & 10	31 & 32	53 & 54		3 & 4
Event Group 7	67 & 68	17 & 18	39 & 40	61 & 62	11 & 12	33 & 34	55 & 56		5 & 6
Event Group 8	69 & 70	19 & 20	41 & 42	63 & 64	13 & 14	35 & 36	57 & 58		7 & 8
Event Group 9	71 & 72	21 & 22	43 & 44	65 & 66	15 & 16	37 & 38	59 & 60		9 & 10
Event Group 10	1 & 2	23 & 24	45 & 46	67 & 68	17 & 18	39 & 40	61 & 62		11 & 12
Event Group 11	3 & 4	25 & 26	47 & 48	69 & 70	19 & 20	41 & 42	63 & 64		13 & 14

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Tuesday, April 10										
	Stage 18	Stage 19	Stage 20	Stage 21	Stage 22	Stage 23	Stage 24	Stage 25	Stage 26	Stage 27
Start Time	13:25	13:45	14:05	14:25	14:45	15:05	15:25	15:45	16:05	16:25
End Time	13:40	14:00	14:20	14:40	15:00	15:20	15:40	16:00	16:20	16:40
Event Group 1	15 & 16	37 & 38	59 & 60	9 & 10	31 & 32	53 & 54	3 & 4	25 & 26	47 & 48	69 & 70
Event Group 2	17 & 18	39 & 40	61 & 62	11 & 12	33 & 34	55 & 56	5 & 6	27 & 28	49 & 50	71 & 72
Event Group 3	19 & 20	41 & 42	63 & 64	13 & 14	35 & 36	57 & 58	7 & 8	29 & 30	51 & 52	1 & 2
Event Group 4	21 & 22	43 & 44	65 & 66	15 & 16	37 & 38	59 & 60	9 & 10	31 & 32	53 & 54	3 & 4
Event Group 5	23 & 24	45 & 46	67 & 68	17 & 18	39 & 40	61 & 62	11 & 12	33 & 34	55 & 56	5 & 6
Event Group 6	25 & 26	47 & 48	69 & 70	19 & 20	41 & 42	63 & 64	13 & 14	35 & 36	57 & 58	7 & 8
Event Group 7	27 & 28	49 & 50	71 & 72	21 & 22	43 & 44	65 & 66	15 & 16	37 & 38	59 & 60	9 & 10
Event Group 8	29 & 30	51 & 52	1 & 2	23 & 24	45 & 46	67 & 68	17 & 18	39 & 40	61 & 62	11 & 12
Event Group 9	31 & 32	53 & 54	3 & 4	25 & 26	47 & 48	69 & 70	19 & 20	41 & 42	63 & 64	13 & 14
Event Group 10	33 & 34	55 & 56	5 & 6	27 & 28	49 & 50	71 & 72	21 & 22	43 & 44	65 & 66	15 & 16
Event Group 11	35 & 36	57 & 58	7 & 8	29 & 30	51 & 52	1 & 2	23 & 24	45 & 46	67 & 68	17 & 18

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual


Wednesday, April 11										
	Stage 28	Stage 29	Stage 30	Stage 31	Stage 32	Stage 33	Stage 34	Lunch	Stage 35	Stage 36
Start Time	9:30	9:50	10:10	10:30	10:50	11:10	11:30	11:45	13:05	13:25
End Time	9:45	10:05	10:25	10:45	11:05	11:25	11:45	13:00	13:20	13:40
Event Group 1	19 & 20	41 & 42	63 & 64	13 & 14	35 & 36	57 & 58	7 & 8		29 & 30	51 & 52
Event Group 2	21 & 22	43 & 44	65 & 66	15 & 16	37 & 38	59 & 60	9 & 10		31 & 32	53 & 54
Event Group 3	23 & 24	45 & 46	67 & 68	17 & 18	39 & 40	61 & 62	11 & 12		33 & 34	55 & 56
Event Group 4	25 & 26	47 & 48	69 & 70	19 & 20	41 & 42	63 & 64	13 & 14		35 & 36	57 & 58
Event Group 5	27 & 28	49 & 50	71 & 72	21 & 22	43 & 44	65 & 66	15 & 16		37 & 38	59 & 60
Event Group 6	29 & 30	51 & 52	1 & 2	23 & 24	45 & 46	67 & 68	17 & 18		39 & 40	61 & 62
Event Group 7	31 & 32	53 & 54	3 & 4	25 & 26	47 & 48	69 & 70	19 & 20		41 & 42	63 & 64
Event Group 8	33 & 34	55 & 56	5 & 6	27 & 28	49 & 50	71 & 72	21 & 22		43 & 44	65 & 66
Event Group 9	35 & 36	57 & 58	7 & 8	29 & 30	51 & 52	1 & 2	23 & 24		45 & 46	67 & 68
Event Group 10	37 & 38	59 & 60	9 & 10	31 & 32	53 & 54	3 & 4	25 & 26		47 & 48	69 & 70
Event Group 11	39 & 40	61 & 62	11 & 12	33 & 34	55 & 56	5 & 6	27 & 28		49 & 50	71 & 72

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#1 Daniels Manufacturing Electrical Troubleshooting
-------	---

Provided by	
-------------	--



Contact(s)/Judge(s)	Matthew Bohannon, Product Manager, matthewb@dmctools.com
---------------------	---

Description	Competitors will be required to find the fault in a MIL-DTL-26500 connector consisting of 30 size 16 contacts using a Snap-on multi-meter. Competitors will remove the faulty wire, properly terminate contacts to a new wire, insert the new wire into both sides of the connector, and check contact retention using a retention tester and continuity using a multi-meter.
-------------	---

References	Photo 1 Photo 2 Photo 3 DMC wiring diagram
------------	---

Tools and equipment list	AF8: Crimp Tool TH1A: Turret Head DAK16B: Insertion Tool DRK16B: Removal Tool HT250-2: Retention Tester 67-016-01: Retention Tester Tip (socket) 68-016-01: Retention Tester Tip (pin) Digital Multimeter: Snap-on, part number EEDM504D 22" pre-stripped wire Contacts: M39029/31-229 (PIN) , M39029/32-248 (SOCKET)
--------------------------	--

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number:	06
Original Issue Date:	01/25/2018
Revision Date:	04/01/2018

Event Manual

Event	#1 Daniels Manufacturing Electrical Troubleshooting
	26500 Connectors: MS24264-R-24-T-30P, MS24264-R-24-T-30S 1 wire improperly terminated to simulate a faulty wire
Team members required	Two
Instructions	<ul style="list-style-type: none"> A) Competitors will be presented with mounted 26500 receptacles on a mock panel B) The connector will have 30 contact cavities with size 16 contacts C) Competitors must check continuity of all contact cavities and find the faulty wire using a multi-meter D) Remove the faulty wire using the proper tooling E) Competitors must assemble the crimp tools provided with the corresponding accessory (turret head or positioner) F) The competitors must set the crimp tools to the proper crimp settings based upon the contact part number and wire gauge G) Once properly set, the competitors will crimp a pin and socket on the opposite ends of a 22" piece of pre-stripped wire (provided) H) Completed wire must then be inserted into the proper cavities of the 26500 connector I) Once the new wire is inserted, the competitors must test contact retention using a 5lb or less retention test tool J) Finally, competitors must test the continuity of the new wire using a multi-meter
Scoring	Scores will be calculated according to the AMC score sheet . Additional penalties may be assessed for improper use of tooling and incorrect repair of faulty wire.

Event Manual

Event	#2 Daniels Manufacturing Corporation Safe-T-Cable
-------	---

Provided by	
-------------	--



Contact(s)/Judge(s)	Matthew Bohannon, Product Manager, matthewb@dmctools.com
---------------------	---

Description	This event will test each participant's skill and speed while accomplishing a series of patterns using Safe-T-Cable. The application of the safe-t-cable must maintain positive tension on the fasteners and meet the criteria for flex limits.
-------------	---

References	None
------------	------

Tools and equipment list	Safety (Safe-T-Cable) Cable Gun SCTR327 (7 inch nose for .32 cable) C10-218 Cable qty 100 .032" x 18" safety cables
--------------------------	--

Team members required	One
-----------------------	-----

Instructions	Competitors must first verify proper function and tensioning settings of the tool by using the SCT-TB1 and a 3/8 inch drive torque wrench. Safe-T-Cable should remain in place on SCT-TB1 test block during application of the measured force. Once verification is complete, competitors will complete as many patterns as they can in the allotted time. Competitors must properly thread the safe-t-cable through the fasteners in a manner that maintains positive tension. Competitors will properly tension the safe-t-cable and crimp a ferrule on the end of the cable using the DMC SCTR327 rotary tool. Any excess cable must be properly disposed of after application is complete.
--------------	--

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number:	06
Original Issue Date:	01/25/2018
Revision Date:	04/01/2018

Event Manual

Event	#2 Daniels Manufacturing Corporation Safe-T-Cable
-------	---

Scoring Scores will be calculated according to the [AMC score sheet](#). Additional penalties may be assessed related to tautness of the safety cable and negative safety.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#3 Airbus A320 CAT III Certification
Provided by	AIRBUS
Judges	Victor Liriano, Manger, Maintenance Training, victor.liriano@airbus.com Frank Johnson Instructor, Examination Manager
Description	A component has been replaced on the A320 which causes the aircraft to be downgraded to CAT 1 status. Before departure the aircraft must be recertified CAT III as the destination (SFO) is experiencing low visibility. NOTE: DUE TO THE NATURE OF THIS EVENT, SCORES WILL NOT BE INCLUDED IN OVERALL TEAM TALLIES. HOWEVER, TOP SCORES FOR THE EVENT WILL BE RECOGNIZED AT THE AWARDS CEREMONY.
References	Airbus A320 Simulation Guide LAND CAT III CAPABILITY TEST – ADJUSTMENT/TEST (revised 4/2)
Tools and equipment list	None
Team members required	One
Instructions	A) Aircraft is Energized with Electrical Power ON 1) EIS start procedures accomplished 2) Air Data Reference is Aligned 3) Hydraulic system is pressurized B) The test will begin on the first page of the AFS/LAND TEST – 1 C) The technician will follow AMM 22-97-00 pb 501 reference to complete the task. D) The total number of MCDU task pages is 8. At the end of each page a question will need to be answered with a YES or NO answer E) If any part(s) of the test is not executed in the correct sequence, the trainer will not allow you to proceed. ACTION NOT AUTHORIZED will be annunciated. F) At the conclusion of the test the technician will need to execute correct close-up procedures in order to complete the task.
Judging criteria & penalties	Scores will be calculated according to the AMC score sheet .

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018


Event Manual

Event	#4 Non-Destructive Testing—CANCELLED
-------	--------------------------------------

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#5 United Fuel Tank Entry Precautions
Provided by	UNITED 
Contact(s)/Judge(s)	Fred Glau, Supervisor, Fred.Glau@united.com Paul Davis, Lead Technician Scotty Cole, Avionics Technician Jorge Tamayo, Lead Technician
Description	Competitors will ensure that the airplane is correctly grounded to an approved ground before you defuel the airplane or open any fuel tanks. The main, and APU batteries must be disconnected. Placards which state not to connect the batteries until the fuel tanks are closed should be attached to all disconnected battery locations. All safety, support and maintenance equipment must be in place before you open the fuel tank access doors. Movement of equipment can cause sparks which can cause fuel vapors to ignite.
References	Fuel Tank Precautions Manual
Tools and equipment list	None
Team members required	Two
Instructions	<ul style="list-style-type: none"> A) Run through the following checklist to ensure: B) Airplane and adjacent equipment properly grounded. (Verbal) C) Area secured and warning signs positioned. (Verbal) D) A/C Grounded (Verbal) E) Parking brake set (Verbal). F) Verify NGS system operable (Green Light On). G) Deactivate NGS system: Turn NGS switch to off, pull NGS C/B attach and loto H) Turn off Ext power I) Turn off Battery switch J) Disconnect Battery K) Ensure requirements listed on Aircraft Confined Space Entry Permit are complied with L) Open Fuel plate M) Meter Readings N) Oxygen reading (%): Safe level

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

	<p>O) Fuel vapor level reading (ppm) P) Combustible gas meter (LEL) reading Q) I confirm that all entry requirements were met prior to any entry R) Signature of Tech S) Remove obstruction if any T) Ok to close tank U) Torque fuel plate V) Connect Aircraft battery W) Connect Ext Power X) Turn on Battery switch Y) Turn on EXT power Z) Activate NGS System: Remove Loto tags, Reset C/B, turn on NGS Switch AA) Verify NGS light is Green and on</p>
Scoring	Scores will be calculated according to the AMC score sheet .

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual


Event	#6 Boroscope—CANCELLED
-------	------------------------

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#7 Eastern Florida State Space Vehicle - Vacuum Loading Operation
-------	---

Provided by	 Eastern Florida STATE COLLEGE
-------------	---

Contact(s)/Judge(s)	Bill Fletcher, fletcherw@easternflorida.edu
---------------------	---

Description	<p>This event simulates the loading of a small quantity of a hazardous commodity from a holding tank into a space vehicle flight tank. The individual performing the procedure will be required to don the proper PPE, assemble a mobile fluid transfer station per a detailed procedure and a schematic and transfer 200 grams of a commodity (colored water) from a holding tank to a flight tank using a vacuum loading operation. A command/response protocol (see definition below) must be followed when completing the operation. Upon completion of the fluid transfer all system lines will be evacuated using compressed air (60 seconds) and disassembled from the station. (Note: The Flight Tank does not drain during line evacuation).</p>
-------------	---

The QDs we are using are a push/pull type connector (explain inserting and pushing until it bottoms out and then how they have to push on the collar to get it to release the tubing). One will be available at the event table prior to the event for the technician to look at and operate to familiarize themselves on how it works.

All steps must be completed. There are no provisions for NOT PERFORMING a step or series of steps.

Definition of Command/Response Protocol- a method of communication in such a manner that the command or work instruction is read by one individual (command) and then it is repeated (response) by the person performing that work step as they complete the instruction.

References	None
------------	------

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number:	06
Original Issue Date:	01/25/2018
Revision Date:	04/01/2018

Event Manual

Event #7 Eastern Florida State Space Vehicle - Vacuum Loading Operation

Tools and equipment list

- PE provided for the individual performing the procedure
 - Tyvek suit (simulates SCAPE Suit) – one per team – Sara Gloves (Disposable Polypropylene Coveralls wit Hood and Booties) 2X #13-PPW-CHB-2X-C2, X Large #13-PPW-CHB-XL-C2, Large #13-PPW-CHB-2X-LG-C2
 - Neoprene gloves – 1 pair per team – Home Depot (Large #202188317, X-Large #202288319 Large and XL Nitrile Gloves 1 Box each
 - Face shields - 4
 - Disposable Respirator- one per team
 - Painters Tape – 3 rolls
- Equipment provided
 - Control Box - 2 (plus 3 AC to DC adapters)
 - Vacuum Pump w/gauge -2 plus a spare
 - Power Cords for Vacuum Pumps – 2 (with switches label Vacuum pump)
 - Air compressor (shared between two stations) plus one 3 way adapter and 2 hoses
 - Power cord and 3 way plug
 - Multiple electrical strip - 2
 - Air Compressor cover
 - Compressed air-pressure regulator - Spare
 - Supply tank -2
 - Flight tank -4 plus one spare
 - Vacuum & Fluid Lines (6 Tygon tubes cut to 4 foot lengths each) 3 sets plus spare tubing
 - Digital Scale - 2
 - Timer – 2
 - Stop Watches - 2
 - Clip Boards – 4
 - Pens and Markers – Multiple
 - Alcohol Wipes (For cleaning face shields)
 - Banner Stand (To hold banners between competition tables) plus banners
 - SpaceTEC Banner for bleacher area (Needs to be shipped to AMC early so it can be placed on the bleachers).
 - Large and Small Tie Wraps
 - SpaceTEC tablecloths with clear plastic to cover them for water spots -2

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#7 Eastern Florida State Space Vehicle - Vacuum Loading Operation
	<ul style="list-style-type: none"> ○ Shop Towel Rolls - 4 ○ Poly-Temp PTFE Thread Tape ○ Spare Seal Kit for Vacuum Pump ○ Large Trash Bags ○ Green Food Coloring ○ Batteries (AA and AAA) ○ Mounting Tape ○ Double Stick Tape ○ Duct Tape ○ Sealer (for possible leaks in tanks) ○ Spare air gauge ○ Spare Water Separator ○ Spare Desiccant Dryer/filter ○ Electrical tape ○ Rubber bands (Medium and Large) ○ Velcro ● Tool Bag and Tools <ul style="list-style-type: none"> ○ Vehicle Processing Kit <ul style="list-style-type: none"> ▪ Tube Bender ▪ Tube Cutter ▪ 37 Degree Flaring Tool ▪ Fitting Box ▪ Spare Tubing ○ Box Cutter ○ Needle Nose Pliers ○ Tape Measure ○ Phillips and Flathead Screwdrivers ○ 2 Adjustable Wrenches ○ Wire Cutters ○ Slip Joint Pliers ○ Scissors
Team members required	Two
Instructions	<p>A) Preparation and protocol</p> <ol style="list-style-type: none"> 1) The operator (team member 1) will dress out in appropriate PPE to simulate the protective equipment used during such an operation.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event

#7 Eastern Florida State Space Vehicle - Vacuum Loading Operation

- 2) Team member 2 will read out the procedure while team member 1 performs the operation. The “call and response” protocol referenced above must be used. That is, team member 2 will read out the step, and team member 1 gives an appropriate response to verify the step is complete. For example, if team member 2 reads off “close valve 1”, team member 1 would respond with “valve 1 closed” after completing the step.
- B) Setup
- 1) Turn on power to Control Box
 - 2) Cycle electrical valves to ensure operation (red light indicator)
 - 3) Verify all valves (manual and electrical) are closed
 - 4) Turn off power to the Control Box
 - 5) Connect Vacuum and Fluid lines as shown in schematic. Note: all fittings are push lock type. Ensure lines are pushed in all the way. The compressed air line to pressure valve will already be connected.
 - 6) Verify all Vacuum and Fluid lines are connected as shown in schematic.
 - 7) Verify Flight Tank is on digital scale.
- C) Evacuate Tank
- 1) Turn on power to Control Box
 - 2) Start Vacuum Pump
 - 3) Open Vacuum Valve
 - 4) Open Flight Valve
 - 5) Open MV2
 - 6) Evacuate system until vacuum gage reads at least 22 Hg +/- 5
 - 7) Close Vacuum Valve
 - 8) Close Flight Valve
 - 9) Turn off Vacuum pump
- D) Flight Tank Load-Vacuum
- 1) Turn on digital scale and tare
 - 2) Open Atmospheric Vent Valve
 - 3) Open Supply Valve
 - 4) Open Flight Valve and cycle valve as necessary to meter 200 grams of fluid into Flight Tank - NOTIFY JUDGE WHEN COMPLETE
 - 5) Close all valves (manual and electric)

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event

#7 Eastern Florida State Space Vehicle - Vacuum Loading Operation

Note: If Vacuum load was unsuccessful, step 4-System Drain must be completed before restarting step 2-Evacuate Tank

E) System Drain

- 1) Verify all valves closed (manual and electric)
- 2) Verify compressed air regulator set at 20+/-5 psi
- 3) Open MV3
- 4) Open MV1
- 5) Open Atmospheric Vent Valve
- 6) Open Flight Valve
- 7) Open Supply Valve
- 8) Open Pressure Valve
- 9) Purge all water from system for 60 seconds (use timer provided) Note: FLIGHT TANK DOES NOT DRAIN
- 10) Close Pressure Valve
- 11) Close Supply Valve
- 12) Close Flight Valve
- 13) Close Atmospheric Vent Valve
- 14) Close MV1
- 15) Reduce compressed air regulator to zero
- 16) Close MV3
- 17) Open MV2 to vent Flight Tank
- 18) Open MV1 to vent Supply Tank
- 19) Close all valves (manual and electric)
- 20) Turn Power off to Control Box

F) System Clean up

- 1) Verify power to vacuum pump and control box is turned off
- 2) Verify all valves closed
- 3) Disconnect all hoses between control panel and tanks (both ends of all 6 hoses must be disconnected)

END OF EVENT


Participants should remove PPE and return it to the PPE staging table

Scoring

Scores will be calculated according to the [AMC score sheet](#). Additional penalties may be assessed for each step not completed and for each gram over/under flight tank load target

Event Manual

Event	#8 Spectro Scientific Oil Test Analysis
-------	---

Provided by	
Contact(s)/Judge(s)	Robert Wopperer, RWopperer@spectrosci.com
Description	This is a skill event to test the mechanics ability to successfully test an oil sample on the FieldLab 58 oil analyzer and produce a test report with automated maintenance recommendations.
References	<p>FieldLab 58 operators manual</p> <p>FieldLab 58 quick start guide</p> <p>FieldLab 58 (aka Q5800) Marine Corps case study</p> <p>How to run a sample video</p>
Tools and equipment list	<p>All the required equipment, tools and supplies are provided by Spectro Scientific in the competition booth.</p> <ul style="list-style-type: none"> • FieldLab 58 Analyzer • Consumables kit (bottle, syringe, pipette, wipes) • Printer and paper
Team members required	One
Instructions	<p>A) Select the bottle of oil sample</p> <p>B) Follow the instructions for running a sample through the four test phases on the FieldLab 58</p> <p>C) Produce a printed report on the printer</p> <p>D) Clock stops when the printer stops printing</p>

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual


Scoring

Scores will be calculated according to the [AMC score sheet](#). Additional penalties may be assessed for imprecise test results and for each parameter that is more than two standard deviations from the known mean value for this sample on this analyzer.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#9 Abaris Training Composite Repair
Provided by	
Contact(s)/Judge(s)	Corrie Volinkaty, Technical Instructor, corrie@abaris.com
Description	This skills event is based on an elevated high temperature, vacuum bagged, composite repair scenario.
References	Text book titled “Essentials of Advance Composite Fabrication & Repair” Available thru Aviation Supplies & Academics, Inc.’s website www.asa2fly.com
Tools and equipment list	Each team will be provided a work packet which includes the Job Card, Repair Ply Material and vacuum bag. All tools & equipment needed to perform this skills event will be provided and reused by all teams including the following items; Vacuum source/hoses/ports, Heatcon Single Zone Bonder/heat blanket/thermocouples, scissors, Stanley Knife, sharpie marker, volt ohm meter, 12-inch scale, circle template, tape dispenser and calculator.
Team members required	Two
Instructions	<p>A) Competitors may review the job card in the five minutes preceding the event’s official start time. Arriving at the Composite Skills Event early allows for more time to review Job Card & derive a plan of attack.</p> <p>B) The Job Card can be accomplished in any order that is decided by the team, but all sign off blocks must be completed. Non-completed job cards are a frequently-cited penalty for this event so take care to sign off all blocks.</p> <p>C) Repair ply material, a rectangle piece of paper, will be used for the repair plies. After drawing a 3”, 4” and 5” circle with the circle template provided, mark the warp direction by drawing a line</p>

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#9 Abaris Training Composite Repair
	<p>within each circle. The short side of the repair material is the warp direction. Once cut out, follow Job Card for proper orientation of each repair ply...a cause of many deductions in the past, the Judge will be watching closely!!</p> <p>D) Teams should be familiar with Ohm's Law when given Voltage, Wattage & solving for Resistance ($R = V^2 \div W$). This will be used to calculate, measure & document both results on the Job Card. They also need to solve & calculate a resin mix ratio word problem...Example; Based on a given amount of total mixed epoxy resin needed, say 50 grams with a mix ratio 100:35, how many grams of Part A? How many grams of Part B? Teams will clearly write their answers on the Job Card.</p> <p>E) Teams should also be familiar with vacuum bag processing. Peel ply, Bleeder, solid film, Breather materials needed for this skills challenge will be pre-cut, clearly marked and reused for all other teams. Once their repair area is vacuumed down they can start the bonder.</p> <p>F) After you are done, the judge will give your time to write on the Job Card. Take a breath... & please help clean up and put the table back the way you found it. All cleanup efforts are greatly appreciated.</p> <p>G) All teams must understand that these instructions are a general overview of this skills challenge & that there is a lot of detail on the Job Card, that if not followed, can lead to problems and/or unexpected deductions.</p> <p>Scoring</p> <p>Scores will be calculated according to the AMC score sheet. Additional penalties may be assessed for items missed or a block not signed off on a job card.</p>

Event Manual

Event	#10 PPG Aerospace Cockpit and Wing Sealant
Provided by	
Contact(s)/Judge(s)	Connie Griesemer, Product Support Engineer, PPG, cgriesemer@ppg.com
Description	This is a three-part event, each consisting of 15 minutes (scored and timed separately). There is a transparencies section and a sealant and sealant application tools section. The transparencies section will require a Surface Seal application and a humpseal repair. The sealant section will require operators to perform fillet sealing applications inside a demo wing. The application tools section will relate to FOD mitigation.
References	Technical data sheet for Semco® 1088 Mixer, FlexPak cartridge, Semco® 1250 Battery Gun, and TDS/Application Guide for P/S 815M Moisture Seal Repair Procedure Surface Seal Procedure
Tools and equipment list	See above
Team members required	Five
Instructions	See procedures, linked above.
Scoring	Scores will be calculated according to the AMC score sheet . Additional penalties may be assessed for any process errors and/or quality concerns based on overall appearance, proper use of vinyl guide strip, blend into existing moisture seal, holes or bubbles, proper sealant mixing, water break free surface, proper coating application and cleanliness.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#11 ULTRAX Condition Based Intelligence™ (CBI™)
Provided by	
Contact(s)/Judge(s)	Travis Fisher – Corporate Development, 816-595-4472 tfisher@ultraxinc.com
Description	Electrical Analysis & Troubleshooting
References	www.ultraxinc.com www.ultraxinc.com/amc2018
Tools and equipment list	<p>Each contestant will be issued all supplies necessary to complete the challenge at the beginning of the contest.</p> <p><u>THE SUPPLIES NEEDED ARE:</u></p> <p>A smartphone with the <u>UxValidator App</u> installed & account created</p> <p>A CBI™ Sensor and Harness Set</p>  
Team members required	Two
Instructions	Complete instructions available at www.ultraxinc.com/amc2018 .
Scoring	Scores will be calculated according to the AMC score sheet .

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#12 Atheer AiR & American Airlines Augmented Reality Pedestal
-------	---

Provided by



Contact(s)/Judge(s) ekempa1@yahoo.com
mtnbkeaj@yahoo.com

Description Execute removal/replacement of cockpit console component & record critical information per OEM procedure.

References None

Tools and equipment list
 Screwdriver - common slot
 ESDS wrist strap
 Cannon Plug Pliers
 Voltmeter

Team members required Two

Instructions Due to repeated reports of Com 1 intermittent, maintenance control requests Com 1 and Com 2 control panels to be swapped for troubleshooting.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#12 Atheer AiR & American Airlines Augmented Reality Pedestal
-------	---

- 1) Perform ESDS highlighted tasks per AMM (provided at the event)
- 2) Perform task flow for swapping of Com 1 and Com 2 control panels using AR glasses
- 3) After completion of task contact maintenance control for additional maintenance requirements

Scoring Scores will be calculated according to the [AMC score sheet](#).

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#13 Embry-Riddle Precision Measurement
-------	--

Provided by



Contact(s)/Judge(s) Christopher Piccone, piccoc9b@erau.edu

Description Using specified precision measurement instruments technicians will be required to correctly measure engine components and determine whether or not they can be returned to service. This event will test the competitor skills with precision instruments and their dimensional analytical skills from the measurements taken. This event will also test critical thinking skills through technical manual use to identify limits and determine serviceability of given parts. Measurements may include I.D., O.D., clearance between parts, and depth.

References [General Handbook \(FAA-H-8083-30A\)](#) (Chapter 11)
[Lycoming Direct Drive Overhaul Manual](#)
[Lycoming Direct Drive Illustrated Parts Catalog](#)

Tools and equipment list Outside Micrometer Set
 Depth Micrometer
 Slide Caliper
 T Gauge Set
 Small Hole Gauge Set
[Bore Gauge](#)

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#13 Embry-Riddle Precision Measurement
	Calculator
Team members required	One
Instructions	Technicians must verify calibration using standards bars and referencing calibration date on instrument. After verification of equipment components will be measured and measurements recorded. Referencing the applicable dimensional constraints found in the technical manuals the competitors will identify serviceability of the components.
Scoring	Scores will be calculated according to the AMC score sheet . Additional penalties may be assessed for failure to verify calibration, damage to measurement instruments or parts, improper handling of measurement instruments or parts, incorrect Measurements & calculations (within a degree of error), incorrect technical manual references, or incorrect serviceability identification.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#14 JetBlue University ADS-B Troubleshooting
-------	--

Provided by



Contact(s)/Judge(s)

Andy Kozak, Andrew.kozak@jetblue.com

Description

Technicians will use modern test equipment, Aeroflex IFR 6000 to validate proper operation and reporting to comply with the upcoming 2020 regulations for all aircraft operating in regulated airspace. The technicians will set-up the mock aircraft to be tested and demonstrate proper testing procedures and document results for completion.

References

[Event overview](#)

Tools and equipment list

Electronic Flight Instrument panel set-up with GPS and Encoder simulators to represent a working modern flightdeck.

Team members required

Two

Instructions

The technician will fill out a task card with reported information from the IFR 6000. See linked event overview, above, for more information.

Scoring

Scores will be calculated according to the [AMC score sheet](#).

Event Manual

Event	#15 Barfield Fuel Quantity
-------	----------------------------

Provided by



Contact(s)/Judge(s)

Victor Bontorno, Director, victor.bontorno@barfield.com
 Lew Wingate, Vice President, GTSE & Dist

Description

This timed event will test a team’s ability to troubleshoot and repair a mockup of an aircraft AC capacitance fuel quantity indicating system. The team will be given a problem report, a Barfield DFQ40K Test Set, System and Tank Wall Adapter Cables, a Wiring Diagram and the Procedures used to test, troubleshoot and verify the system. The team will demonstrate the ability to follow the test procedures using the test equipment and comparing recorded test data to find the fault(s). The team will provide the judge with the supporting test data for any fault found and the judge will advise as to course of action to remedy.

References

- [Barfield DFQ40K Test Set information](#)
- [Product Flyer](#)
- [Operation Manual](#)
- [Wiring Diagram](#)
- [Test Data Sheet](#)
- [Procedure](#)

Tools and equipment list

Barfield DFQ40K Test Set, Adapter Cables, and all necessary replacement parts to correct faults found

Team members required

Two

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#15 Barfield Fuel Quantity
-------	----------------------------

Instructions

- 4) TIMER
 - a) The Judge will start the timer to begin the event.
 - b) The Team will be responsible for stopping the timer when finished.
- 5) BENCH
 - a) Circuit Breaker
 - i) CAUTION: The Circuit Breaker (CB) must be open before making/breaking any connections.
 - b) Connections
 - i) Connectors labeled as J1 and J2 are the System connection (equivalent to Indicator connection).
 - ii) Connectors labeled as J3 and J4 are the Probes connection (equivalent to Tank Wall connection).
 - c) Probes
 - i) Are accessible from the rear of bench and require no tools for replacement.
- 6) TEST SET
 - a) The Test Set is already powered ON, initialized and left at the Main Menu.
 - b) All Ranges and Modes have been pre-set.
- 7) ADAPTER CABLES
 - a) The System Adapter Cable P/N 611-00050 is used to test between J1 and J2.
 - b) The Probes Adapter Cable P/N 611-00051 is used to test at J4.
- 8) PROCEDURES & TEST DATA SHEET
 - a) Follow [Procedure \(84-611-00049-170411-1B\)](#)
 - i) The tests sections contained in the procedure MUST be performed in the order given.
 - ii) If there are any issues with the Insulation tests, there will not be more than 1 problem.
 - iii) If there are any issues with the Capacitance tests, there will not be more than 1 problem.
 - iv) The team will provide the judge with the supporting test data for any fault found and the judge will advise as to course of action to remedy.
 - b) Test Data Sheet
 - i) All measurements must be recorded on the [Test Data Sheet \(64-611-00049-170228-4B\)](#) as proof of work.

Event Manual

Event	#15 Barfield Fuel Quantity
-------	----------------------------

- ii) The Team will be responsible for recording their time on the Test Data Sheet.

Scoring Scores will be calculated according to the [AMC score sheet](#).

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#16 Barfield Pitot Static
-------	---------------------------

Provided by



Contact(s)/Judge(s)

Curtis Lamb, Sales Director, curtis.lamb@barfieldinc.com
Richard Floyd, Senior Engineer
Desi Diaz, GSTE Shop Manager

Description

This competition is designed to test the skills of each participating team in their understanding of and ability to troubleshoot an aircraft Pitot-Static system. Barfield recommends participants fully understand a basic aircraft Pitot-Static system and potential issues that could be found. The faults found during this procedure will test this knowledge.

References

[DPS 1000 User Instruction Manual](#)

Tools and equipment list

See procedure, linked below

Team members required

Two

Instructions

[See procedures \(84-611-00052-150412-5\)](#)

Scoring

Scores will be calculated according to the [AMC score sheet](#).

Event Manual

Event	#17 FedEx Express Turbine Engine
-------	----------------------------------

Provided by



Contact(s)/Judge(s)	Mark Holsapple, mark.holsapple@fedex.com
---------------------	--

Description	This event will test the technician's ability to remove and install the Pneumatic Drive Unit (PDU) unit on a Pratt and Whitney JT9D turbofan engine.
-------------	--

References	None
------------	------

Tools and equipment list	<ul style="list-style-type: none"> 1 ea. 100-500 in. lbs. torque wrench 3/8 in. drive 1 ea. 1/4 in. drive standard socket set p/n 110TMDY 1 ea. 1/4 in. drive ratchet 1 ea. 6 in. extension 1/4 in. drive p/n TMXK60 1 ea. 14 in. extension 1/4 in. drive p/n TMXK140 1 ea. 3/8 in. drive standard socket set p/n 211FY 1 ea. 3/8 in. drive ratchet 1 ea. 6 in. extension 3/8 in. drive p/n FXK6 1 ea. 11 in. extension 3/8 in. drive p/n FXK11 1 ea. crows feet wrenches 3/8 in. drive @ 9/16 in. and 5/8 in. and 11/16 in. 1 ea. Snap-On ratcheting screw driver with phillips APEX bit 1 ea. cannon plug pliers 1 ea. safety wire pliers 1 set of standard 12 point combination wrenches p/n OEX710
--------------------------	--

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number:	06
Original Issue Date:	01/25/2018
Revision Date:	04/01/2018

Event Manual

Event	#17 FedEx Express Turbine Engine
Team members required	Three
Instructions	<p>A) Pneumatic Drive Unit (PDU) – Removal/Installation</p> <p>B) Access the pneumatic drive unit through the left fan cowl door.</p> <p>C) Removal</p> <ol style="list-style-type: none"> 1) Remove lockwire, screws, and washers attaching flexible shaft to PDU and remove shaft. 2) Disconnect three hoses from pneumatic drive unit and remove unions and packings. Discard packings 3) Disconnect electrical connector from PDU and install protective caps on connector and PDU receptacle and ports. 4) Remove coupling connecting duct to PDU. 5) Remove bolts, nuts, and washers attaching PDU to brackets. 6) Remove PDU from fan case and install protective caps on duct and PDU port. <p>D) Installation</p> <ol style="list-style-type: none"> 1) Remove protective caps from PDU (1) and flexible duct. Apply lubricant Material No. P06-013 to inside surface of coupling and position on end of flexible duct. 2) Position pneumatic drive unit on brackets, and install bolts (6) in upper forward and aft bracket holes. 3) Install and tighten bolt (6) and washer (7) in lower forward bracket fingertight. 4) Install washers (7) and nuts (8) on bolts in upper and lower aft brackets and TORQUE all nuts and lower forward bolt to between 160 and 190 lbf.in. (1.8 and 2.14 m. daN). 5) Install coupling (2) on PDU and duct flanges. <p>[Verbal (6) thru (9)]</p> <ol style="list-style-type: none"> 6) Apply lubricant, Material No.P06-017, to threads of unions. 7) Install union (11) with new packing (12) in PDU. TORQUE union (11) to between 125 and 140 lbf. in. (1.41 and 1.58 m. daN). 8) Install union (5) with new packing (4) in PDU. TORQUE union (5) to between 115 and 130 lbf.in. (1.29 and 1.47 m. daN). 9) Install union (3) with new packing (13) in PDU and TORQUE to between 90 and 100 lbf.in. (1.02 and 1.13 m. daN). 10) Connect electrical connector DS304 to PDU and tighten fingertight plug one-eighth turn

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event

#17 FedEx Express Turbine Engine

11) Connect hose couplings and

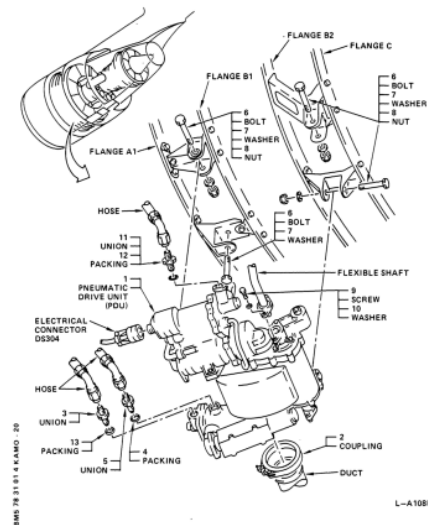
- a) TORQUE hose on union (3) to between 135 and 150 lbf. in. (1.52 and 1.69 m. daN).
- b) TORQUE hose on union (5) to between 180 and 200 lbf. in. (2.03 and 2.26 m. daN).
- c) TORQUE hose on union (11) to between 270 and 300 lbf. in. (3.05 and 3.39 m. daN).

NOTE: Replacement PDUs will normally be pre-adjusted, tagged and lockwired. Tag reads "UNIT CALIBRATED. DO NOT PULL HANDLE. REMOVE TAG PRIOR TO OPERATION". These units can be installed in the system without further adjustment. A PDU without a tag must be adjusted, after installation.

12) If PDU is not pre-adjusted, adjust it as per paragraph E.

- 13) Install flexible shaft on PDU with screws (9) and washers (10). TORQUE screws to between 20 and 25 lbf.in. (0.23 and 0.28 m.daN) and wirelock.

NOTE: Thrust reverser sleeve position must be fully deployed and then seven and one half (7 1/2) turns in the stow direction.



This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#17 FedEx Express Turbine Engine
-------	----------------------------------

Scoring

Scores will be calculated according to the [AMC score sheet](#). Additional penalties may be assessed for failure to complete the task, failure to place PDU on table and simulate packing change, failure to show judge torque on wrench before proceeding, failure to install or secure mount bolts, failure to install, secure or torque Lines and B Nuts, incorrect or sloppy safety wiring.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event #18 Indian Hills Community College Magneto

Provided by Indian Hills Community College



Contact(s)/Judge(s) Terry Dunkin, terry.dunkin@indianhills.edu, 641-683-4252

Description This event will require the contestant to internally time a magneto, test for operation and install on a reciprocating engine.

The contestant will be supplied a magneto, test and timing equipment and the tools necessary to complete the challenge.

The magnetos that will be used are slick magnetos by Champion Aerospace. The service information necessary for the internal timing of the magneto will be furnished to the contestant at the event.

The engine that the magneto is to be installed is a Continental O200A. Information for installation of the magneto can be found in the O200 service manual. The timing requirement will be found in the Engine Type Certificate Data Sheet. All necessary information for completion of this challenge will be supplied to the contestant at the event.

References [Type Certificate Data Sheet](#)

Tools and equipment list None

Team members required Two

Note: One competitor will inspect and internally time the magneto. At the judge's signal, the second competitor may assist installing the magneto to the engine.

Event Manual


Event	#18 Indian Hills Community College Magneto
-------	--

- Instructions
- A) Inspect magneto for internal condition: cursory inspection only. Look for loose wires improper assembly etc.
 - B) Internally time the magneto, follow manufacturers information. Set Egap, Points and distributor.
 - C) Install your magneto on the test stand, run to assure proper operation.
 - D) Validate magneto to engine timing with the aircraft Type Certificate Data Sheet.
 - E) Install your serviced magneto to the engine and check the timing.
 - F) When you have completed the installation of the magneto on the engine, you must turn on the light on your magneto test bench. This will signal for your time to stop.

Scoring

Scores will be calculated according to the [AMC score sheet](#). Additional penalties may be assessed for any portion not completed, improper inspection of points, rotor, distributor block or condenser wire, incorrect internal timing, failure to follow service information, failure to validate magneto timing or improper installation.

Event Manual

Event	#19 Boeing Cable Rigging
Provided by	
Contact(s)/Judge(s)	George Thompson, Boeing Seattle Flight Test, George.c.thompson2@boeing.com Joseph Fancella III, Boeing 777 AMT Pre-Flight & Delivery
Description	After first flight the aileron cable rig was found to be out of tolerance. Re-rigging is required. Use the following instructions to rig the cables. Team members must complete re-rigging of cables AA & AB.
References	None
Tools and equipment list	None
Team members required	Two
Instructions	<p>A) Warning: Check and clear aircraft and flight controls before turning on hydraulics.</p> <p>B) Turn on both A&B system hydraulic switches, cycle ailerons check and Install the rig pins in the captain's wheel and the Aileron control quadrant.</p> <p>C) Warning: Hydraulics systems must be deactivated prior to the start of any rigging operations.</p> <p>D) Turn off and deactivate both A&B systems Hydraulics by pulling the Circuit breaker for A & B system and installing the lock out collars.</p> <p>E) Select the correct riser for 3/32" Dia. cable being rigged per the tensiometer calibration sheet provided. Use the tension values in table 1-3 Cable Rigging Tension page 2 and the tensiometer calibration sheet. Using the cable clamps adjust the cable tension to the correct value +5 / -15 lbs. for 70 F outside ambient temperature. Warning: Check and clear aircraft and flight controls before turning on hydraulics.</p>

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#19 Boeing Cable Rigging
-------	--------------------------

- F) Remove Rig Pins.
- G) Reset Circuit breakers for the A&B system hydraulics
- H) Turn on A&B system hydraulic switches cycle the captain's wheel, 5 times. Note: Operate captain's wheel gently and smoothly when cycling and returning to neutral.
- I) Recheck rig load (table 1-3) of each cable and free insertion and removal of appropriate rig pins, if good turn off hydraulic and safety turnbuckles per Figure 5. Lock clips shall not be reused. The paint on the clips provides a means for determining that the clips have not been previously used.
- J) No more than 3 threads may show beyond turnbuckle body. Align the slit in the barrel with the slot in the cable terminal, insert the straight end of the lock clip into the aperture formed by the aligned slots, Figure 5 View B, Bring hook end of the lock clip over the hole in the center of the turnbuckle barrel and seat the hook loop into the hole by applying pressure to the hook shoulder. Repeat these steps to lock the opposite end of the turnbuckle. Both locking clips may be inserted in the same turnbuckle barrel hole, Figure 5 View C, or they may be inserted in the opposite holes, Figure 5 View D and Figure 5 View E.
- K) Examine both locking clips for proper engagement of the hook lip by a slight pull in the disengaging direction without the use of any tools (Figure 5 View C), and by visual examination to make certain that the hook lip has engaged the interior of the turnbuckle body (Figure 5 View E). Rotate the rod ends to assure that the locking clips are properly installed. Lock clips shall not be reused.
- L) Using the push rod adjust the aileron to align with the index mark and hand tighten lock nut.

Scoring

Scores will be calculated according to the [AMC score sheet](#).

Event Manual

Event	#20 American Airlines APU Burner Can
-------	--------------------------------------

Provided by



Contact(s)/Judge(s)	<p>Jim Gentry, B-737 Supervisor Aircraft Maintenance, American Airlines, jim.gentry@aa.com</p> <p>Glen Phillips, Supervisor, APU and Wiring Center, Glen.Phillips@aa.com</p>
Description	Remove and Replace MD80 APU Combustion Chamber – Packing. Competitors will show inspector torques and return to zero after usage.
References	IPC of APU: MD80 AMM 49-20-01-201
Tools and equipment list	None
Team members required	Two
Instructions	<p>A) General</p> <ol style="list-style-type: none"> 1) The combustion chamber liner is located inside the combustion chamber cap on the APU right side. Access is through the APU right access door. <p>B) Remove Combustion Chamber assembly and replace packing</p> <ol style="list-style-type: none"> 1) Cut safety wire on igniter plug lead and igniter plug. 2) Disconnect igniter plug lead from igniter plug. (Figure 201) 3) Disconnect fuel line from atomizer. (Figure 201) 4) Disconnect combustion chamber drain line from fitting in combustion chamber cap. (Figure 201) 5) Remove safety wire from clamp on combustion chamber cap. 6) Remove clamp that attaches combustion chamber cap to combustion chamber. 7) Remove combustion chamber assembly.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#20 American Airlines APU Burner Can
	<ul style="list-style-type: none">8) Remove and replace combustion chamber cap packing and use supplied lube. <p>C) Reinstall Combustion Chamber assembly</p> <ul style="list-style-type: none">1) Carefully install combustion chamber assembly into the combustion chamber.2) Rotate combustion chamber liner and cap until igniter plug is on top vertical centerline of combustion chamber, drain fitting is on bottom vertical centerline of combustion chamber (Electrical connector and combustion chamber drain line must line up with mating connections).3) Install combustion chamber coupling clamp but do not tighten.4) Connect igniter plug lead to igniter plug. (Figure 201)5) Connect fuel line to atomizer. Torque fuel line to 135 to 150 inch-pounds6) Install combustion chamber drain line and securely tighten.7) Tighten combustion chamber coupling clamp to 50 to 70 inch-pounds and safety wire.8) Safety wire igniter lead cap and igniter bolts.
Scoring	Scores will be calculated according to the AMC score sheet .

Event Manual

Event	#21 Pratt & Whitney Geared Turbo Fan Engine
-------	---

Provided by



Contact(s)/Judge(s)	Mr. John Koza – P&W Flight Safety Investigations, john.koza@pw.utc.com Mr. Del Laughery – P&W Customer Training
Description	Odd-numbered teams will inspect the oil tank for FOD, and remove FOD if present according to PW1100G-JM Engine Task Even-numbered teams will remove and install cylinder spark plugs according to PW R-985 Wasp Jr. Task
References	PW1100G-JM Engine Task PW R-985 Wasp Jr. Task
Tools and equipment list	See referenced tasks, linked above.
Team members required	Two
Instructions	See referenced tasks, linked above.
Scoring	Scores will be calculated according to the AMC score sheet . Additional penalties may be assessed for items described in referenced tasks, linked above.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#22 W.L. Gore & Associates, Inc. Dry Sealant Panel Installation
-------	---

Provided by



Contact(s)/Judge(s)

GORE™ SKYFLEX™ Aerospace Materials Team:
 Jack Penick, Application Engineer jpenick@wlgore.com
 Jon Jacobs, Application Engineer jjacobs@wlgore.com
 Gerhard Burmann, Application Engineer gburmann@wlgore.com

Description

This task will include D-Nose Leading Edge and Access Panel installation using GORE SKYFLEX Aerospace Materials

References

D-Nose - Installation Guide and Link to video for Installing Flat Tapes on D-Nose: [Installation Guide Tapes](#)
[Video Surface Protection - D-Nose](#)
 Access Panel - Installation Guide and Link to video for Installing Gaskets on Access Panel: [Installation Guide Gaskets](#)
[Video Environmental Sealant - Gasket](#)

Tools and equipment list

Scissors – [Link to Scissors](#)
 Nylon Hole Awl – [Link to Awl](#)
 Torque Wrench – One per team
 Drill – One per team
 Rags

Team members required

Three

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event

#22 W.L. Gore & Associates, Inc. Dry Sealant Panel Installation

Instructions

- A) D-Nose LEADING EDGE:
- 1) Find 700 Series GORE™ SKYFLEX™ Aerospace Tapes- Part Number GSC-21-95159-024 and ensure within shelf life.
 - 2) Ensure Spar and D-Nose clean and free of debris
 - 3) Apply GORE™ SKYFLEX™ Aerospace Tapes on Leading Edge Spar using 4 pieces of tape cut to length with scissors. The first piece should be applied along the top and the second along the bottom. Finally apply two shorter pieces to the radius and ensure 3-5mm overlap on top and bottom pieces – Figure 1.
 - 4) See Installation Guide for Tapes and watch video in References.
 - 5) Poke holes for each fastener in tape material with Nylon Hole Awl
 - 6) Install Leading Edge Profile over Spar
 - 7) Use provided drill (set to lowest torque setting) to seat each of the 18 fasteners using a staggered pattern.
 - 8) Use provided torque wrench to tighten each fastener to 25 in-lbs using a staggered pattern

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event #22 W.L. Gore & Associates, Inc. Dry Sealant Panel Installation

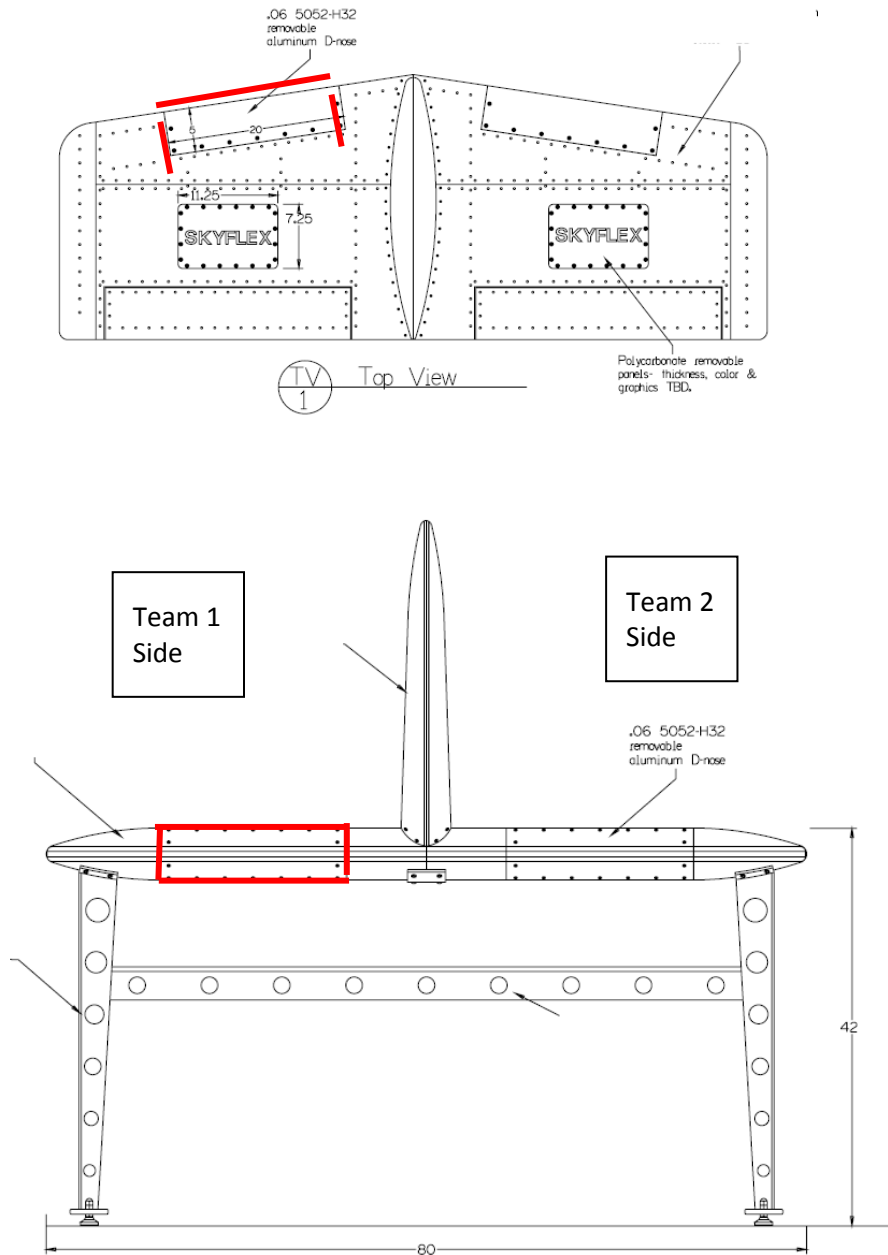


Figure 1 - D-Nose Tape Application Area

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event

#22 W.L. Gore & Associates, Inc. Dry Sealant Panel Installation

B) ACCESS PANEL:

- 1) Find 720 Series GORE™ SKYFLEX™ Aerospace Gaskets Part Number GSC-21-96704-027 and ensure within shelf life.
- 2) Ensure Access Panel and Frame clean and free of debris
- 3) Apply GORE™ SKYFLEX™ Aerospace Gaskets on Polycarbonate Panel 1 shown in Figure 2 – Carefully Align fastener holes in gasket with those on panel.
- 4) See Installation Guide for Gaskets and watch video link in References.
- 5) Install Panel in Opening
- 6) Use provided drill (set to lowest torque setting) to seat each of the 20 fasteners using a staggered pattern.
- 7) Use provided torque wrench to tighten each fastener to 25 in-lbs using a staggered pattern

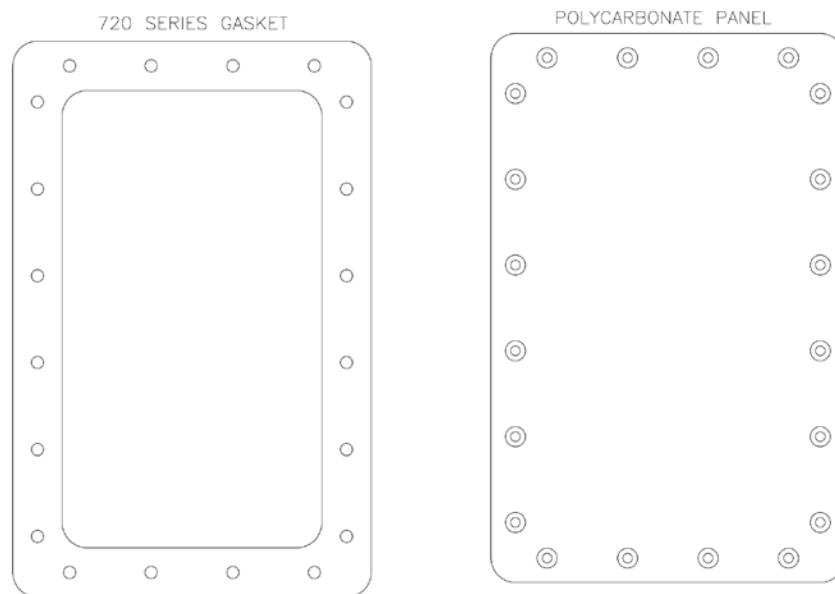


Figure 2 - Gasket and Polycarbonate Access Panel

Scoring

Scores will be calculated according to the [AMC score sheet](#). Additional penalties may be assessed for improper tape or gasket alignment.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#23 Alaska Airlines External Power Receptacle Event
-------	---

Provided by



Contact(s)/Judge(s)

Robert A. Long, Line/Shop Aircraft Technician,
boblong57@comcast.net
Ernest Yeun, Senior Engineer/AOG Engineer,
ernest.yeun@alaskaair.com
Duane Bailey, Senior Technical Service Specialist
Ken Pitt, Engineer

Description

Competitors will evaluate a discrepancy provided on a logbook sheet and determine steps for corrective action. Competitors will utilize tools to complete the task the complete appropriate paperwork.

References

[Task Summary](#)
[Simulator Aircraft Maintenance Manual](#)

Equipment

Inspection flashlight, screw driver, wrench – hex 1/8 inch and 3/16 inch, wear gage, safety tags

Team members required

Two

Instructions

- A) Identify the aircraft and aircraft type you are tasked to work on
- B) Understand the discrepancy provided on the logbook sheet and determine planned action for corrective action

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#23 Alaska Airlines External Power Receptacle Event
-------	---


- C) Identify the appropriate sections of the Simulated Aircraft Structure (SAS) Maintenance Manual to accomplish corrective maintenance action and associated Task Cards
- D) Identify components, determine effectivities, utilize tools, hardware, technical data and standard aircraft maintenance practices to complete tasks
- E) Complete logbook entry filling in required areas with appropriate information
- F) Consider completed task on SAS Simulator same as completed task on live aircraft
- G) Tool collection and accountability
- H) Foreign object debris (FOD) survey within work location
- I) Document completion and task card completion

Scoring Scores will be calculated according to the [AMC score sheet](#). Additional penalties may be assessed as provided for in the Alaska [Skills Time Sheet](#).

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#24 Nida Corporation Power Troubleshooting
Provided by	 Nida Corporation Excellence in Technical Training EST. 1972 www.nida.com
Contact(s)/Judge(s)	Kevin Gulliver, keving@nida.com
Description	This event challenges the aircraft maintenance technician's ability to troubleshoot basic aircraft power distribution systems. Contestants will be provided schematics, system descriptions and operational procedures to troubleshoot generic single engine and multi-engine power distribution systems. Scores will be based on the speed and accuracy of finding the system faults.
References	Detailed contest material will be available March 1 at www.nida.com/amc and will also be provided at the orientation.
Tools and equipment list	Multi-meters will be provided; however, personal multi-meters are authorized for use during the event.
Team members required	Two
Instructions	<p>A) Single Engine Power Distribution System Troubleshooting</p> <ol style="list-style-type: none"> 1) System will be operationally ready with no faults. 2) Review the pilot "write up" on the discrepancy sheet. 3) Request the first fault insertion from the judge. 4) Determine the most probable cause of the fault and the recommended repair. 5) Sign off the pilot "write up" with your conclusion. 6) Repeat Steps 2 through 5 until all single engine aircraft faults are completed. Only one fault will be inserted at a time. <p>B) Multi-Engine Aircraft Power Distribution System Troubleshooting</p> <ol style="list-style-type: none"> 1) Move to the multi-engine training panel

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018


Event Manual

Event	#24 Nida Corporation Power Troubleshooting
	<ul style="list-style-type: none">2) Repeat Steps 2 – 6 above until all multi-engine aircraft faults are completed3) Finish your paperwork and tell the judge to stop the clock.
Scoring	Scores will be calculated according to the AMC score sheet . Additional penalties may be assessed for incorrect answers or unfinished scenarios.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#25 Boeing Fiber Optics
Provided by	
Contact(s)/Judge(s)	Greg Steele, 737 Renton Preflight, gregory.l.steele@boeing.com Donald M. Rogerson
Description	The MULTIMODE FIBER OPTIC LIGHT LOSS EVENT has two parts: 1) complete a practical light loss test on a fiber optic bundle and 2) answer test questions.
References	570XL 850/1300nm LED Source Brochure 560XL Fiber Optic Power Meter Datasheet
Tools and equipment list	None
Team members required	Two
Instructions	A) PART 1: On your board you will have two reference cables that need to be mated to the light source and power meter. The ends with the ST connectors are to be mated to the meters. The other end of these cables are the LC connectors which is a push-pull connector that utilizes a retaining tab latch mechanism. There will be a fiber optic duplex bundle (cable under test) with LC connector adaptors as well as a dust cap container. Channel A can be identified with its RED heat shrink. Channel B can be identified by its BLUE heat shrink. All measurements for this event will be required to be performed at the 850nm wavelength only. Whenever link loss tests are performed on fiber optic networks or cables under test, the results will be displayed on the meter with a readout in "db". The following picture shows the initial setup that you will find on you table for this fiber optic light loss event.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event

#25 Boeing Fiber Optics



- 1) Turn on power to both the 570XL LED source and the 560XL power meter and remove dust caps. Ensure the 570XL LED light source and the 560XL power meter are both set to **850nm** wavelength. On the 560XL power meter, verify **dbm** is displayed. Remove dust caps from one end of each of the (2) reference cables. Place the caps in the cap storage container. Clean and mate the (2) reference cables to the 570XL LED source (850nm interface) and the 560XL power meter.
- 2) Take one of your LC duplex adapters, remove all of the dust caps and place them in the dust cap storage container. Remove the dust cap from one of the reference cables and place it in the storage container. Next clean the reference cable LC connector with the green cartridge cleaner and immediately insert it into one half of the LC duplex adapter until you hear an audible click.
- 3) Remove dust caps from the second reference cable and place it in the cap storage container. Clean this LC connector and then insert it into the LC duplex adaptor so that the LC connectors are mated end face to end face.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event

#25 Boeing Fiber Optics

- 4) **Record the displayed output power of the 560XL optic power meter: _____ dbm**
- 5) Now that you have recorded the power received in step 4, the reference cable loss can now be recorded as a reference measurement (optional) or it may be “zeroed out”(preferred). To zero out the meter, press and hold the (db/dbm) key on the 560XL power meter for approximately 3 seconds until the small “r” annunciator appears in the bottom R/H corner and the display reads **0.00db.**
- 6) Remove all the dust caps from the second LC duplex adapter and place them in the dust cap container. Now you are ready to perform optical measurements on the “cable under test”. With power still applied to the 560XL power meter and the 570XL LED light source, remove one of the reference cable LC connectors from the LC duplex adaptor and clean with the green cartridge cleaner. Once clean, insert it into the LC duplex adaptor until you hear an audible click.
- 7) Remove both dust caps off of the channel A (**RED**) LC connectors of the cable under test and place them in the dust cap container. Clean both the LC connectors and then insert them into the LC duplex adaptors so that both LC connectors of the reference cables and the cable under test are mated end face to end face.
- 8) Repeat the above procedure for channel B (**BLUE**) of the cable under test by cleaning the LC connectors and inserting them next to channel A (**RED**) in the same half of the duplex adaptors. Use the cap container and clean when necessary to avoid any penalties.

METER PASS/FAIL CRITERIA:**-2db OR LESS FOR A PASS/ACCEPTABLE****GREATER than -2db IS A FAIL/REJECT****For example, a reading of -1.95db would be a pass/accept and a reading of -2.1db would be a fail/reject.**

Event Manual

Event	#25 Boeing Fiber Optics
-------	-------------------------

- 9) Read and record the optical performance/light loss of channel A (**RED**) _____ db.
ACCEPT _____ REJECT _____
 - 10) Remove both reference cable LC connectors from the test adaptors, clean, and mate them with channel B (**BLUE**) in both test adaptors.
 - 11) Read and record the optical performance/light loss of channel b (**BLUE**) _____ db.
ACCEPT _____ REJECT _____
 - 12) **MUST BE COMPLETED:** Remove ALL LC connectors from test adaptors and clean them, place ALL dust caps back on ALL connections. Put ALL dust caps back in both your test adaptors and place them neatly in there storage area. Turn off both meters, then clean and cap ALL cables and cap the meters also.
 - 13) Once finished with step 12, **tell your judge "I AM FINISHED" to stop the clock.**
- B) When you are complete with the PART 1 PRACTICAL you may now begin the PART 2 QUESTIONS that will be provided at the competition.

Scoring

Scores will be calculated according to the [AMC score sheet](#). Additional penalties may be assessed for damaging a fiber optic cable or connector, for each time a fiber optic connector is not cleaned on the green reel cleaner after a dust cap is removed or when an LC connector is removed from the test adapter, when a judge provides assistance, or for incorrect answers.

Event Manual

Event	#26 Aircraft Maintenance Technicians Association Charles E. Taylor Exam
Provided by	Aircraft Maintenance Technicians Association
Contact(s)/Judge(s)	Ken MacTiernan, jetdoctor69@gmail.com
Description	This event will consist of multiple choice questions relating to Charles E. Taylor's life and pioneers of aviation maintenance.
References	<p>"Charles E. Taylor 1868 – 1956 The Wright Brothers Mechanician" written by Howard R. DuFour with Peter J. Unitt, available on Amazon or at http://www.lulu.com/shop/howard-dufour-and-peter-unitt/charles-e-taylor-1868-1956-the-wright-brothers-mechanician/paperback/product-21047239.html.</p> <p>"Pioneer Mechanics in Aviation" written by Giacinta Bradley Koontz, print version available at https://www.lulu.com/shop/view-cart.ep. Electronic version available at https://www.amazon.com/dp/B079FN8P7C/ref=sr_1_1?s=digital-text&ie=UTF8&qid=1517327320&sr=1-1&keywords=pioneer+mechanics+in+aviation</p>
Tools and equipment list	None
Team members required	One
Instructions	Each designated team member will sit for a timed, written exam.
Scoring	Scores will be calculated according to the AMC score sheet . Additional penalties will be assessed for each wrong answer.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Event	#27 Aerospace Maintenance Competition Safety Wiring
-------	---

Provided by



Contact(s)/Judge(s)

TBD

Description

This event will test each participant's skill and speed while accomplishing a series of safety wire patterns.

References

None

Tools and equipment list

Safety wire pliers, wire cutters, needle nose/duck bill pliers, and 32/1000 safety wire

Team members required

One


Instructions

Competitors will complete as many patterns as they can in the allotted time.

Scoring

Scores will be calculated according to the [AMC score sheet](#). Additional penalties may be assessed related to tautness of the safety wire, closeness and tightness of the pigtail to the securing hardware, and negative safety


Event Manual

Event	#28 Advanced Torque Products Accurate Torqueing
Provided by	
Contact(s)/Judge(s)	Ed Liss, eliss@advancedtorque.com Anthony Scalise
Description	This event will test the competitor's speed and accuracy while accomplishing a series of assembly, fastening, and breakaway procedures at specified torque values and angles of rotation.
References	ATP Digital Torque Multpliers Manual ATP 1200 Specs ATP 1200 Product Sheet Step by step procedures
Tools and equipment list	Socket, Nut & washer, Controller & cable, Ratchet, Digital Torque Multiplier, Reaction Stand Advanced Torque Products model ATP1200 with demo stand (product information can be found at: http://advancedtorque.com/atp1200 . Product videos can be found at: https://advancedtorque.com/videos .
Team members required	One
Instructions	Each competitor will assemble an engine component, measure and record the torque applied, then measure and record the breakaway torque with the goal of achieving precise torque values within the allotted time. See procedures, linked above.
Scoring	Scores will be calculated according to the AMC score sheet . Additional penalties may be assessed for damage to parts, misuse of alarm, or final torque values falling outside of +/-1% accuracy.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

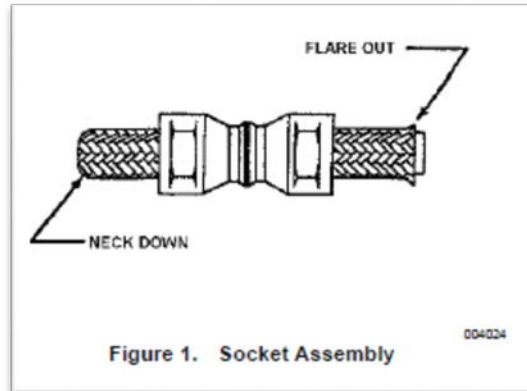
Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

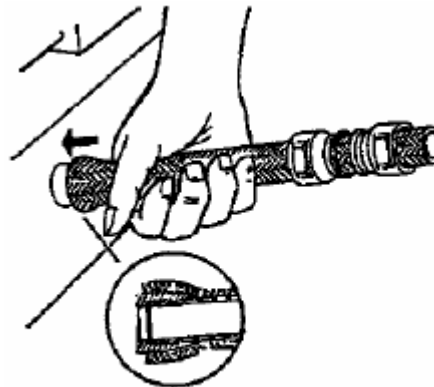
Event	#29 U.S. Air Force Flex Fluid Lines
Provided by	
Contact(s)/Judge(s)	MSgt Anthony Vigil, anthony.vigil.1@us.af.mil , or vigilanthony@gmail.com SSgt Matthew Cuthrell, matthew.cuthrell@us.af.mil or mattcuthrell@gmail.com
Description	Overall hose assembly requirement is 12 inches. Cutoff factor for hose end fittings is .90 inches
References	None
Tools and equipment list	None
Team members required	Two
Instructions	A) Medium pressure PTFE hose buildup 1) Measure hose to required length 2) Wrap circumference of hose with masking tape at cutoff to prevent flare out of braid **CAUTION** Do not overwrap tape 3) Cut off hose square using hack saw 4) Clamp sockets in vise. **CAUTION** Do not overtighten vice on thin walled fittings 5) Insert neck-down end of hose into sockets using a twisting, pushing motion until hose is through the sockets, ensuring the ends are skirt to skirt. (Figure 1). Remove tape from hose and assembly from vise

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018



- 6) Separate wire braid from tube. Seal pick is provided to aide in separation.
- 7) Insert sleeve between braid and outer diameter of the inner tube ****CAUTION**** Do not allow wire braid to be caught between sleeve and inner tube. Do not pinch inner tube with sleeve
- 8) Complete positioning of sleeve by pushing sleeve against a flat surface until tube bottoms against inside sleeve diameter (Figure 3).



- 9) Check tube end to make sure it is bottomed against sleeve and wires are not trapped under sleeve. Trim excess wires as needed.

Event

#29 U.S. Air Force Flex Fluid Lines

- 10) Clamp Nipple in vise (Note: Do not lubricate hose or nipple before insertion. Fitting components are dryfilm lubricated at time of manufacture.)
- 11) Size tube to sleeve by pushing hose over nipple until sleeve bottoms against nipple chamfer.
- 12) Check end to make sure sleeve is positioned properly.
- 13) Slide socket forward and thread onto nipple by hand

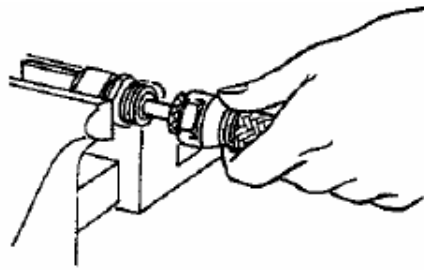


Figure 4. Positioning Socket and Nipple 004027

- 14) Reposition assembly by placing socket flats in vise.

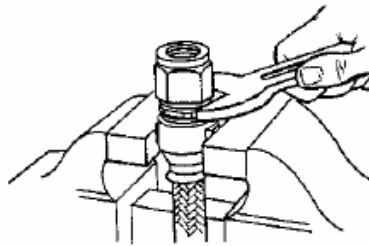


Figure 5. High-Pressure Hose Tightening Assembly 004028

- 15) Tighten assembly by using a wrench on the nipple hex until gap between socket hex and nipple hex is 1/32 inch. Gap may vary from .023 to .046 inch.
 - 16) Repeat steps 6 through 15 for fitting on the other end.
 - 17) Inspect hose.
- B) Medium pressure PTFE hose install
- 1) Place hose into fixture assembly, threading coupling nuts on by hand.

Event Manual

Event	#29 U.S. Air Force Flex Fluid Lines
-------	-------------------------------------

- 2) Torque coupling nuts 190-215 in lbs. utilizing a backup wrench.

Scoring Scores will be calculated according to the [AMC score sheet](#).

Event	#30 Alberth Aviation Wheel and Brake Removal and Installation
-------	---

Provided by



Contact(s)/Judge(s) Ken MacTiernan, jetdoctor69@gmail.com

Description This event will task the technician’s ability to remove and reinstall a mock G-IV wheel and brake assembly.

References [G-IV Maintenance Manual, Chapter 32, Main Wheel Removal/Installation, Sections: 32-10-10, 32-20-10, 32-30-10 and 32-40-10](#)
[Maintenance Manual Placard](#)
[FAA Form 8130-3](#)

Tools and equipment list None

Team members required Three

Instructions A) Main Wheel Removal
 1) Ensure that Maintenance Manual Placard is on display in cockpit before removing main wheel assembly.
 2) Ensure brakes are set and Parking Brake Handle is set.
 3) Ensure that nose wheels are chocked.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event

#30 Alberth Aviation Wheel and Brake Removal and Installation

- 4) Ensure that landing gear opposite of the main gear which main wheel assembly is to be removed from is chocked. NOTE: ONLY ONE MAIN GEAR MAY BE JACKED AT ONE TIME.
 - 5) Install Down-Lock Pins in both main gear assemblies. Jack main gear which main wheel assembly is to be removed from. Ensure there is sufficient clearance between main wheel assembly and ramp for removal of main wheel assembly being removed. NOTE: TAKE PROPER PRECAUTIONS THAT EQUIPMENT IS CLEAR OF AIRCRAFT WHILE JACKING. DAMAGE TO EQUIPMENT MAY OCCUR IF PRECAUTIONS ARE NOT TAKEN.
 - 6) Remove hub cap bolts and hub cap. Loosen main wheel main nut to finger tight. Do not remove main nut.
 - 7) Place tire/brake dolly under main wheel assembly and raise dolly to sufficiently hold main wheel assembly. Remove main wheel nut. Slowly pull dolly away from main gear till main wheel is completely off axle.
 - 8) Inspect axle and visible main gear assembly for any obvious damage or defects.
 - 9) Remove main wheel assembly from dolly and fill out appropriate 8130 Tag if main wheel is to be replaced.
- B) Main Wheel Installation
- 1) Place main wheel assembly securely on main wheel/brake dolly and position in front of axle.
 - 2) Slowly position main wheel assembly onto axle. Install main wheel nut finger tight.
 - 3) Release brakes and ensure Parking Brake Handle is not set.
 - 4) While rotating main wheel assembly tighten main wheel nut to a torque value of 200 In./Lbs. (+/- 10 In./Lbs.).
 - 5) Loosen main wheel nut finger tight. Then while slowly rotating main wheel assembly re-torque main wheel nut to a final torque of 130 In./Lbs. (+/- 10 In./Lbs.). Remove main wheel/brake dolly away from aircraft. Install hub cap and torque hub cap bolts to 10 In./Lbs (+/- 0) and safety hub cap bolts.
 - 6) Set brakes and ensure Parking Brake Handle is set.
 - 7) Lower main gear jack. Remove and stow Down- Lock Pins from both main gear assemblies. Chock main gear. NOTE: TAKE PROPER PRECAUTIONS THAT EQUIPMENT IS CLEAR OF

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event

#30 Alberth Aviation Wheel and Brake Removal and Installation

AIRCRAFT WHILE LOWERING AIRCRAFT. DAMAGE TO EQUIPMENT MAY OCCUR IF PRECAUTIONS ARE NOT TAKEN.

- 8) Remove and stow Maintenance Manual Placard. Return aircraft to normal configuration.
- C) Brake Assembly Removal
- 1) Remove main wheel assembly from brake position to be removed. Reference G-IV Maintenance Manual Chapter 32 Section 32-10-10.
 - 2) Release brakes and ensure Parking Brake Handle is not set.
 - 3) Disconnect hydraulic lines from brake assembly.
 - 4) Place main wheel/brake dolly underneath brake assembly and jack till dolly firmly supports brake assembly. Remove brake support bolts.
 - 5) Slowly pull brake assembly away from main gear till brake assembly is completely off axle.
 - 6) Inspect axle and visible main gear assembly for any obvious damage or defects.
 - 7) Remove brake assembly from dolly and fill out appropriate 8130 Tag if brake assembly is to be replaced.
- D) Brake Assembly Installation
- 1) Place brake assembly onto main wheel/brake dolly and jack till brake assembly is at sufficient height to slide onto axle.
 - 2) Slowly slide brake assembly till seated properly on axle. Install brake support bolts and torque to 30 In./Lbs. (+/- 5 In./Lbs.) Lower main wheel/brake dolly till clear of brake assembly and remove dolly from aircraft.
 - 3) Connect hydraulic lines and safety.
 - 4) Operate hydraulics and leak check brake assembly. Ensure there are no leaks.
 - 5) Install Main Wheel Assembly reference Maintenance Manual Section: 32—20-10.
- E) Complete an 8130 tag with the following information:
- 1) Part Removed:
 - 2) Part Number Removed:
 - 3) Part Number Installed:
 - 4) Serial Number Removed:
 - 5) Serial Number Installed:
 - 6) Aircraft Tail Number Removed From:
 - 7) Aircraft Tail Number Installed On:

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
 Original Issue Date: 01/25/2018
 Revision Date: 04/01/2018

Event Manual

Event	#30 Alberth Aviation Wheel and Brake Removal and Installation
-------	---

- 8) Date Removed:
- 9) Removed By:
- 10) Installed By:
- 11) Station:
- 12) Reason for Removal:

Scoring Scores will be calculated according to the [AMC score sheet](#).

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

Record of Revisions

REVISION NUMBER	REVISION DATE	PAGE(S) AFFECTED	REVISION DESCRIPTION
00	01/15/2018	ALL	Original Issue
01	01/30/2018	42	Added reference links to Embry-Riddle Precision Measurement event, updated the number of persons required to one (to match the grouping schedule)
01	01/30/2018	16	Added link to Pioneers Mechanics in Aviation e-book
01	01/30/2018	37	Updated description and instructions for Safe-T-Cable event
01	01/30/2018	24	Corrected American Airlines & Ather AiR Augmented Reality Pedestal criteria to require two competitors
02	02/20/2018	65	Added reference manual to United Fuel Tank Entry Precautions event
02	02/20/2018	15	Added references to Advanced Torque Products Accurate Torqueing event, added tools and equipment list, linked step-by-step procedures
02	02/20/2018	44	Revised ERAU reference to FAA general handbook with revised 2018 publication, added user manual reference to tooling list, corrected typo in tooling list
02	02/20/2018	30	Judge replacement for Boeing Fiber Optics event
02	02/20/2018	71	Added Airbus event
02	02/20/2018	59	Updated Air Force event criteria, added judge contact information
02	02/20/2018	56	Updates to PPG Sealant event criteria, including addition of referenced procedures
02	02/20/2018	All	Revised standard score sheet according to competitor and judge feedback. Revised penalties to emphasize safety-related infractions and provided differing levels of event-specific penalties. Updated links to standard score sheet throughout.
03	02/20/2018	9-10	Corrected numbering for events 2, 3 and 4 in event grouping.
04	03/09/2018	35	Revised PPG event description, from four-part to three-part event
04	03/09/2018	9, 26	Removed event criteria for Boroscope event and event grouping, event has been cancelled.
04	03/09/2018	53	Added reference identifier language

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

REVISION NUMBER	REVISION DATE	PAGE(S) AFFECTED	REVISION DESCRIPTION
04	03/09/2018	38	Changed Embry Riddle event referenced links to comprehensive versions of the IPC and overhaul manual.
04	03/09/2018	4	Added Monday start to schedule
04	03/09/2018	8	Added revised event layout
04	03/09/2018	All	Renumbered events to coincide with layout; events are no longer listed according to alphabetical order, instead according to where they fall in the layout, from north to south.
04	03/09/2018	14	Added language to event section to clarify that all teams will compete in all events.
04	03/09/2018	19	Added photos to Daniels Manufacturing Electrical Troubleshooting event
04	03/09/2018	23	Removed event criteria for NDT event and event grouping, event has been cancelled.
04	03/09/2018	11-14	Added team list
04	03/09/2018	15	Added competition schedule
05	03/25/2018	11-12	Modified Alaska Airlines team names from Team 1 and Team 2 to Team ANC and Team SEA
05	03/25/2018	12	Updated Flybe team name (Team #39)
05	03/25/2018	21	Revised Safe-T-Cable instructions
05	03/25/2018	19	Added wiring diagram and updated DMC electrical troubleshooting description, tooling list and instructions.
05	03/25/2018	11	Added United States Air Force - Ogden Air Logistics Complex team #15
05	03/25/2018	14	Added United States Marine Corp - MALS 39 team # 69
05	03/25/2018	9 & 46	Changed number of competitors for FedEx event to three, to make up for the previously-cancelled boroscope event in that same event group.
05	03/25/2018	9 & 57	Changed the number of competitors for W.L. Gore & Associates, Inc. Dry Sealant Panel Installation to three, to make up for the previously-cancelled NDT event in that same event group.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018

Event Manual

REVISION NUMBER	REVISION DATE	PAGE(S) AFFECTED	REVISION DESCRIPTION
05	03/25/2018	9 & 50	Changed the number of competitors for the Indian Hills Community College Magneto event to two, to make up for the previously-cancelled NDF event in that same event group. Note that only one competitor will begin the event, with assistance from the second competitor at the judge's signal.
05	03/25/2018	71	Corrected typo in Advanced Torque Products Accurate Torqueing event judge's email address, replaced instructions with revision 2 (added missing page).
05	03/25/2018	56	Revised tasks for P&W event
05	03/25/2018	16	Adjusted lunch end time to coincide with the following event start time.
05	03/25/2018	4	Adjusted competition times to coincide with event schedule
06	04/02/2018	38	Removed one of two Utrax judges from contact list.
06	04/02/2018	12	Revised United team name from SFO to Chix Fix.
06	04/02/2018	28	Added additional information to Eastern Florida State Space Vehicle - Vacuum Loading Operation event instructions, with supplemental instruction on "call and response" protocol.
06	04/02/2018	23	Added simulation guide and replaced task card for Airbus event.
06	04/02/2018	41	Corrected link to bore gauge in Embry-Riddle event tooling list, was previously incorrectly linked to ADS-B manual.
06	04/02/2018	39	Added instructions to Atheer AiR & American Airlines Augmented Reality Pedestal.
06	04/02/2018	74	Revised U.S. Air Force Flex Fluid Lines judge contact email, hose end fitting description and instructions.
06	04/02/2018	33	Added reference to Spectro Scientific Oil Test Analysis: linked to "how to run a sample" YouTube video.
06	04/02/2018	8	Replaced floorplan with final competition layout.
06	04/02/2018	5	Added additional language notifying participants that only those with designated AMC badges (identifying the individual as a competitor, instructor/coach, sponsor, or volunteer/staff) are permitted to access the competition floor prior to official show opening times.

This document is the property of the Aerospace Maintenance Council, it may not be reproduced without express written consent. Uncontrolled printed versions of this document are for reference only, users are responsible for verifying its currency against the master electronic version available on the AMC website.

Revision Number: 06
Original Issue Date: 01/25/2018
Revision Date: 04/01/2018