AEROSPACE MAINTENANCE COMPETITION

PRESENTED BY Snap-on

Event Manual

REV 01 DATED 03/11/2024

The Aerospace Maintenance Council (AMC), a non-profit organization, promotes and supports the aerospace maintenance community. The council's flagstone event, the AMC Competition, recognizes and celebrates the aviation maintenance professional and raises awareness of the knowledge and skill required to maintain safe, airworthy aircraft worldwide.

The event will take place April 9-10, 2024, in conjunction with Aviation Week's MRO Americas at the McCormick Place Convention Center in Chicago.

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

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

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About

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

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

The competition is made possible through the generous contributions of the aerospace community. A special thank you to all our sponsors that host events, provide prizes, and make monetary contributions in celebration of aviation maintenance professionals.

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 Competition will take place at MRO Americas **Booth Number 5448.** The exhibit hall layout is available at https://mroamericas.aviationweek.com/en/exhibition/exhibitor-list.html.

Hotel Accommodation

Aviation Week has reserved room blocks at a discounted rate for all MRO Americas participants. Reserve accommodation at https://mroamericas.aviationweek.com/en/info/hotels.html.

Floor Access

Registration is free for Competition participants and visitors. Individuals must be 16 years and older to access the show floor.

To access the competition area, all Competition competitors, instructors/coaches, sponsors, visitors and volunteers must register for a floor pass at https://na.eventscloud.com/ereg/index.php?eventid=769856&categoryid=5065484&formType=Visitor%20Registration&formName=register&reportSuite=informamroamericas&utm_source=na.eventscloud.com&utm_medium=Referring%20Domains&utm_campaign=Unspecified.

Registration Hours

Badges may be picked up on site at the MRO Americas registration area, located in the S100 Ballroom. Participants are highly encouraged to pick up badges on Monday to avoid line delays the day of the competition.

- Monday, April 8 — 8:00 am - 5:30 pm
- Tuesday, April 9 — 8:00 am- 5:30 pm
- Wednesday, April 10 — 8:00 am- 5:30 pm
- Thursday, April 11 — 8:30 am - 1:00 pm

Exhibit Hall Hours

Only Competition competitors, instructors/coaches, sponsors, and volunteers will have early access to the show floor, starting at 8:00 am. Visitors and guests will only have access when the show floor is open to the public.

- Tuesday, April 9— 9:00 am- 5:30 pm
- Wednesday, April 10— 9:00 am- 5:30 pm
- Thursday, April 11— 9:00 am - 1:00 pm

Schedule of Events

Note: For the latest schedule, visit https://www.aerospacecompetition.com/schedule.html

Monday, April 8

- 8:00 AM – 5:30 PM: Registration/Badge Pick-Up for MRO Americas, S100 Ballroom (advanced registration required)
- 7:30 AM – 3:00 PM: Student and Military Competitor Tour (advanced registration required)
- 8:00 AM – 12:00 PM: Event Setup (no competitors please), Exhibit Hall Booth 5448
- 3:00 PM – 4:00 PM: Judge Briefing (judges only), Room N230
- 4:00 PM – 5:30 PM: Competitor Orientation (competitors, coaches, and judges only), Room N230

Tuesday, April 9

- 7:30 AM – 8:00 AM: Meet and Greet with American Airlines, Room N230 - *Student competitors and instructors are invited to explore opportunities at American, engage with TechOps leaders and team members, and enter for a chance to win a prize!*
- 8:00 AM – 9:00 AM: Event Setup and Competitor Walk-Through, Exhibit Hall Booth 5448
- 9:00 AM – 5:30 PM: Competition, Expo floor, Exhibit Hall Booth 5448

Wednesday, April 10

- 7:30 AM – 8:00 AM: Meet and Greet with American Airlines, Room N230 - *Military competitors are invited to explore opportunities at American, engage with TechOps leaders and team members, and enter for a chance to win a prize!*
- 8:30 AM – 5:30 PM: Competition, Expo floor, Exhibit Hall Booth 5448
- 5:30 PM – 7:30 PM: After Party, Fatpour Tap Works, 2206 S. Indiana Ave, Chicago

Thursday, April 11

- 9:00 AM – 12:00 PM: Award Ceremony, Room N230
- 1:00 PM – 9:00 PM: Exhibitor Breakdown, Exhibit Hall Booth 5448

Competition Rules

1) Each team consists of five team members.
2) Competitors must be either i) certificated by a national aviation authority (e.g., hold an FAA mechanic certificate), ii) employed by a certificated repair station or manufacturing facility, iii) a member of the armed forces, or iv) enrolled in a certificated aviation maintenance technician school. For schools, eligible competitors include students that graduated the institution within six months of the competition that are not currently employed by an aviation-related company, and/or individuals that are currently employed by an aviation-related company but were enrolled at the school as of April 1, 2024.
3) Each team member must sign a release of liability form to participate. Forms will be available for review and signature before the event, hard copies will be provided at orientation if needed. Competitors under the age of 18 must bring a liability release signed by a parent or guardian.
4) Competitors have 15 minutes to complete their assigned competitive event. All teams will compete in every event.
5) Each event has a designated number of team member(s) required to complete the task. The team will assign member(s) of their choice to compete in each event.
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) Event sponsors provide judges for each event. Judges may stop the clock for their particular event to remedy problems or answer a question at their discretion.
8) Scores are not official until properly recorded in the score dashboard.
9) Score appeals may be brought to the sergeant at arms during the competition and up to one half hour after its conclusion. The Competition Chairman reserves the right to modify final scores up until the awards ceremony.
10) The Chairman may remove any team member(s) from the competition for, but not limited to, unprofessional behavior, cheating, etc.
11) The AMC 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.
12) Participants are expected to observe personal protection equipment requirements throughout the competition. Failure to observe safety practices will result in penalties.
13) All required tooling and equipment are provided. Personal tools are not allowed.
14) Teams with the lowest score in each event and 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.

Team Alternates

Each team will consist of five team members. Each team is allowed, but not required, to designate alternate(s) in the event a member is not able to compete the day of the competition.

The five competing team members will receive identifying wristbands at orientation and are expected to wear the wristbands for the duration of the competition. In the event a team member is not able to compete during the event, the alternate must obtain a wristband from the Chairman before taking the place of a competing member.

Goodie bags provided at orientation are for competing team members only. Only five bags per team will be distributed. Materials contained in goodie bags *may* be offered to alternates and instructors upon availability.

In previous years, alternates had the chance to participate in an event at specified times. However, to maximize team participation in this year's competition, the opportunity for alternates to compete will not be available at the 2024 event.

Scoring

Judges will utilize the standard score sheet (Rev. 10) 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 and bonus points awarded. Standard penalties are assessed for—

- Failure to properly store tools and/or equipment;
- Incomplete or incorrect recordkeeping;
- Improper use of tools, materials, or safety equipment; and
- Failure to follow procedures or safety-related warnings or cautions.

Any additional penalties and bonus opportunities specific to a particular event are detailed in that event's criteria.

Teams and judges will have access to real time scores as they are entered by the scoring committee. Login instructions will be sent to teams prior to the start of the event.

Event Setup

Event move-in will take place on Monday, April 8 from 8:00 AM to 2:00 PM.

Event breakdown will take place when the exhibit floor closes on Thursday, April 11 from 1:00 to 9:00 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, 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 https://mroamericas.aviationweek.com/en/exhibition/exhibitor-resource-center.html.

Shipping Information

To ensure proper delivery, event sponsors and organizations with tables in Career Runway should identify the booth number and the designated event or table number (for example, 5448-01, 5448-02, 5448-D1, etc.) on all shipments.

There are two options for shipping advance freight — either to the warehouse or directly to show site. For more information, visit https://mroamericas.aviationweek.com/en/exhibition/exhibitor-resource-center.html.

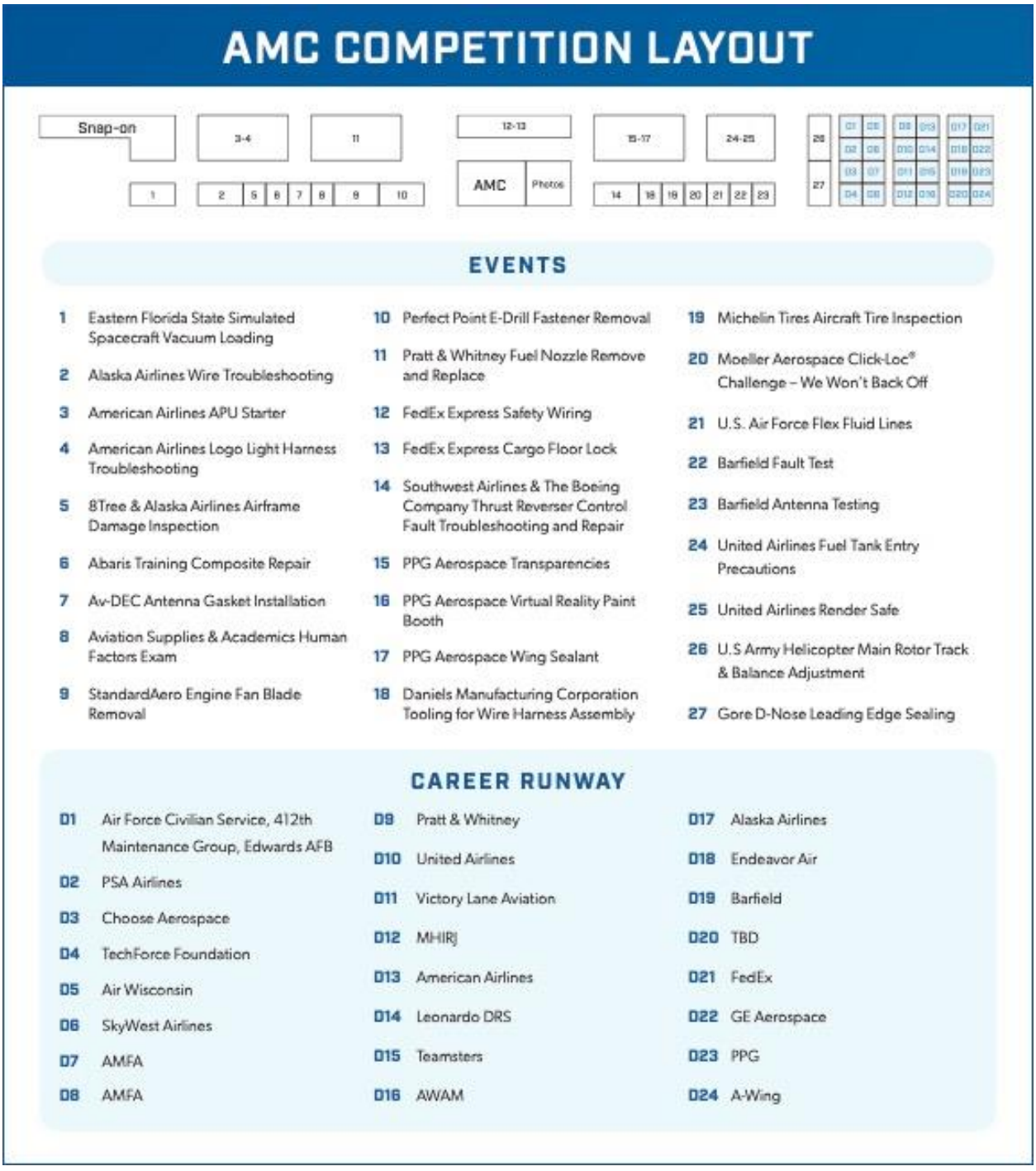
a) **Warehouse Shipping**
Freeman will accept crated, boxed or skidded materials beginning Thursday, March 7. Material arriving after April 1 will be received at the warehouse with an additional after deadline charge. Warehouse shipments are accepted Monday through Friday between the hours of 8:00 AM - 3:30 PM. Certified weight tickets must accompany all shipments. If required, provide your carrier with this phone number: (888) 508-5054.

Aerospace Maintenance Competition / Booth #5448-[Enter Event or Table Number]
AVIATION WEEK NETWORK / MRO Americas 2024
C/O Freeman
2500 W 35th St
Chicago, IL 60632 USA

b) **Show Site Shipping Address**
Freeman will receive shipments at the exhibit facility beginning April 6. Shipments arriving before this date may be refused by the facility. Any charges incurred for early freight accepted by the facility are the responsibility of the Exhibitor. Certified weight tickets must accompany all shipments. If required, provide your carrier with this phone number: (888) 508-5054.

Aerospace Maintenance Competition / Booth #5448-[Enter Event or Table Number]
AVIATION WEEK NETWORK / MRO Americas 2024
McCormick Place, South Building C/O Freeman
2301 S Lake Shore Dr
Chicago, IL 60616 USA

Competition Layout



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's discretion. Event sponsors and Career Runway participants may

bring company-branded table skirts and any floor and/or table signage that will fit within their designated space. Banners or flags that require hanging or rigging are prohibited.

Competitor Orientation

Orientation takes place the day before the competition begins (see schedule, above). Orientation is not mandatory for competitors, but it is strongly suggested that at least one team representative attend to pick up wrist bands, goodie bags, and submit any necessary liability forms. Guests are not permitted.

One hour before the competition begins, 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 and as time allows, that event's judge may offer tutorials to ensure all competitors understand the event criteria and requirements.

Teams

Ninety teams will compete in the event. Each team and their assigned team number—which is used as an identifier on the team schedule and to facilitate scoring—is as follows:

No.	Team Name	Category
1	American Airlines - Chicago	Commercial
2	Aviation Institute of Maintenance - Chicago	School
3	United Airlines - Chix Fix	Commercial
4	Aviation Institute of Maintenance - Chicago All Female	School
5	Alaska Airlines - Team Anchorage	Commercial
6	University of Alaska Anchorage	School
7	American Airlines - Women in Tech-Ops	Commercial
8	United States Air Force - 721 AMOG	Military
9	Cape Cod Community College - All Female Sharks	School
10	Southwest Airlines - Team Colleen	MRO/OEM
11	Pittsburgh Institute of Aeronautics - Myrtle Beach	School
12	WestJet Airlines	Commercial
13	Pittsburgh Institute of Aeronautics - Youngstown	School
14	NetJets	MRO/OEM
15	Elevate Aviation	General Aviation
16	Pratt & Whitney - Team 2	MRO/OEM
17	UPS	Commercial
18	Australian Licenced Aircraft Engineers Association	General Aviation
19	Aviation High School	School
20	FedEx Express	MRO/OEM
21	Portland Community College	School
22	Horizon Air	Commercial
23	United Airlines - Line	Commercial
24	Lewis University	School
25	United States Coast Guard - Aeronautical Engineering Team	Military
26	Cape Cod Community College - Blue Sharks	School
27	Cherry Creek Schools	School

No.	Team Name	Category
28	United States Army - 128th Aviation Brigade - Team Blackhawk	Military
29	Del Mar College	School
30	United States Air Force - 412 MXG, Edwards AFB	Military
31	JetBlue Tech Ops	Commercial
32	Pittsburgh Institute of Aeronautics - Pittsburgh	School
33	West Los Angeles College	School
34	American Airlines - LAX Crew	Commercial
35	Bombardier - Team 2	MRO/OEM
36	United States Air Force - 100 MXG "Bloody Hundredth"	Military
37	Victory Lane Aviation, LLC	General Aviation
38	WSU Tech	School
39	Alaska Airlines - Team Seattle	Commercial
40	South Seattle College	School
41	Aircraft Engineers International	General Aviation
42	Southwest Airlines - Team Herb	Commercial
43	Eastern Florida State College	School
44	United States Air Force - 725 AMS	Military
45	Royal Canadian Air Force - 443 (MH) Squadron	Military
46	Pittsburgh Institute of Aeronautics - Hagerstown	School
47	American Airlines - Team Tulsa	MRO/OEM
48	Tulsa Tech - Aerospace Academy	School
49	Spirit Airlines	Commercial
50	Embry-Riddle University - Team 2	School
51	American Airlines - DWH Air Raiders	Commercial
52	Tulsa Tech - Adult Students	School
53	Utah State University	School
54	Aviation NETWorX	General Aviation
55	AVIANCA	Commercial
56	Society of Aircraft Engineers of Pakistan	Commercial
57	Salt Lake Community College	School
58	AzulTec Line	Commercial
59	Liberty University	School
60	United States Air Force - 621 Contingency Response Wing	Military
61	Tarrant County College	School
62	American Airlines - MCT Tech Warriors	Commercial
63	Aviation Institute of Maintenance - Kansas City	School
64	United States Air Force - 86th MXG, Ramstein AB Germany - Team 2	Military
65	Broward College	School
66	United States Air Force - 76 AMXG/EDMX	Military
67	Bombardier - Team 1	MRO/OEM
68	United States Air Force - 402 EDMX	Military
69	Cape Cod Community College - Gray Sharks	School
70	United States Air Force - 309 AMXG/EDMX	Military

No.	Team Name	Category
71	Embry-Riddle University - Team 1	School
72	Textron Aviation	MRO/OEM
73	United Airlines - Base	MRO/OEM
74	MIAT College of Technology	School
75	Mohawk Valley Community College	School
76	Royal Canadian Air Force - 12 Air Maintenance Squadron	Military
77	Puerto Rico Aviation Maintenance Institute	School
78	Pratt & Whitney - Team 1	MRO/OEM
79	San Bernardino Valley College	School
80	Lufthansa Technik Puerto Rico	MRO/OEM
81	Leonardo DRS Advanced Program Support	MRO/OEM
82	United States Air Force - 86th MXG, Ramstein AB Germany - Team 1	Military
83	United States Army - 128th Aviation Brigade - Team Chinook	Military
84	Indian Hills Community College	School
85	George T. Baker Aviation Technical College	School
86	United States Army - Dominator Aviation, Inc.	Military
87	Ethiopian Airline Technician Association	MRO/OEM
88	United States Air Force - 354 AMXS Grizzlies	Military
89	United States Air Force - 437th MXG JB Charleston	Military
90	Vaughn College of Aeronautics and Technology	School

Events

Teams are responsible for assigning individual competitors to each event. The number of competitors required to complete each event is provided in the event criteria. 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.

Team Schedule

The competition consists of 15-minute stages where teams will compete in a group of events simultaneously. The event schedule provides the start and end time for each stage, and the team numbers assigned to each event for each stage. Numbers within the table indicate team numbers. *EVENTS WILL BEGIN PROMPTLY AT THE DESIGNATED START TIME AND END AT THE DESIGNATED END TIME. TEAMS ARRIVING LATE WILL NOT RECEIVE DISPENSATION*.

Tuesday, April 9, 2024

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	BREAK	Stage 6	Stage 7	Stage 8	Stage 9	LUNCH	Stage 10
Start Time	9:00 AM	9:20 AM	9:40 AM	10:00 AM	10:20 AM	10:40 AM	11:00 AM	11:20 AM	11:40 AM	12:00 PM	12:15 PM	1:00 PM
End Time	9:15 AM	9:35 AM	9:55 AM	10:15 AM	10:35 AM	10:55 AM	11:15 AM	11:35 AM	11:55 AM	12:15 PM	1:00 PM	1:15 PM
Group 1: Events 1, 2, 5	1 & 46	9 & 54	17 & 62	25 & 70	33 & 78		41 & 86	4 & 49	12 & 57	20 & 65		28 & 73
Group 2: Events 3, 4, 6, 7	2 & 47	10 & 55	18 & 63	26 & 71	34 & 79		42 & 87	5 & 50	13 & 58	21 & 66		29 & 74
Group 3: Events 8, 9, 10, 11	3 & 48	11 & 56	19 & 64	27 & 72	35 & 80		43 & 88	6 & 51	14 & 59	22 & 67		30 & 75
Group 4: Events 12, 13, 21	4 & 49	12 & 57	20 & 65	28 & 73	36 & 81		44 & 89	7 & 52	15 & 60	23 & 68		31 & 76
Group 5: Events 15, 16, 17	5 & 50	13 & 58	21 & 66	29 & 74	37 & 82		45 & 90	8 & 53	16 & 61	24 & 69		32 & 77
Group 6: Events 14, 18, 19, 20, 26	6 & 51	14 & 59	22 & 67	30 & 75	38 & 83		1 & 46	9 & 54	17 & 62	25 & 70		33 & 78
Group 7: Events 22, 23, 27	7 & 52	15 & 60	23 & 68	31 & 76	39 & 84		2 & 47	10 & 55	18 & 63	26 & 71		34 & 79
Group 8: Events 24, 25	8 & 53	16 & 61	24 & 69	32 & 77	40 & 85		3 & 48	11 & 56	19 & 64	27 & 72		35 & 80

	Stage 11	Stage 12	Stage 13	Stage 14	Stage 15	BREAK	Stage 16	Stage 17	Stage 18	Stage 19	Stage 20	Stage 21
Start Time	1:20 PM	1:40 PM	2:00 PM	2:20 PM	2:40 PM	3:00 PM	3:20 PM	3:40 PM	4:00 PM	4:20 PM	4:40 PM	5:00 PM
End Time	1:35 PM	1:55 PM	2:15 PM	2:35 PM	2:55 PM	3:15 PM	3:35 PM	3:55 PM	4:15 PM	4:35 PM	4:55 PM	5:15 PM
Group 1: Events 1, 2, 5	36 & 81	44 & 89	7 & 52	15 & 60	23 & 68		31 & 76	39 & 84	2 & 47	10 & 55	18 & 63	26 & 71
Group 2: Events 3, 4, 6, 7	37 & 82	45 & 90	8 & 53	16 & 61	24 & 69		32 & 77	40 & 85	3 & 48	11 & 56	19 & 64	27 & 72
Group 3: Events 8, 9, 10, 11	38 & 83	1 & 46	9 & 54	17 & 62	25 & 70		33 & 78	41 & 86	4 & 49	12 & 57	20 & 65	28 & 73
Group 4: Events 12, 13, 21	39 & 84	2 & 47	10 & 55	18 & 63	26 & 71		34 & 79	42 & 87	5 & 50	13 & 58	21 & 66	29 & 74
Group 5: Events 15, 16, 17	40 & 85	3 & 48	11 & 56	19 & 64	27 & 72		35 & 80	43 & 88	6 & 51	14 & 59	22 & 67	30 & 75
Group 6: Events 14, 18, 19, 20, 26	41 & 86	4 & 49	12 & 57	20 & 65	28 & 73		36 & 81	44 & 89	7 & 52	15 & 60	23 & 68	31 & 76
Group 7: Events 22, 23, 27	42 & 87	5 & 50	13 & 58	21 & 66	29 & 74		37 & 82	45 & 90	8 & 53	16 & 61	24 & 69	32 & 77
Group 8: Events 24, 25	43 & 88	6 & 51	14 & 59	22 & 67	30 & 75		38 & 83	1 & 46	9 & 54	17 & 62	25 & 70	33 & 78

Wednesday, April 10, 2024

	Stage 22	Stage 23	Stage 24	Stage 25	Stage 26	Stage 27	Stage 28	Stage 29	Stage 30	Stage 31	LUNCH	Stage 32	Stage 33
Start Time	8:30 AM	8:50 AM	9:10 AM	9:30 AM	9:50 AM	10:10 AM	10:30 AM	10:50 AM	11:10 AM	11:30 AM	11:45 AM	12:30 PM	12:50 PM
End Time	8:45 AM	9:05 AM	9:25 AM	9:45 AM	10:05 AM	10:25 AM	10:45 AM	11:05 AM	11:25 AM	11:45 AM	12:30 PM	12:45 PM	1:05 PM
Group 1: Events 1, 2, 5	34 & 79	42 & 87	5 & 50	13 & 58	21 & 66	29 & 74	37 & 82	45 & 90	8 & 53	16 & 61		24 & 69	32 & 77
Group 2: Events 3, 4, 6, 7	35 & 80	43 & 88	6 & 51	14 & 59	22 & 67	30 & 75	38 & 83	1 & 46	9 & 54	17 & 62		25 & 70	33 & 78
Group 3: Events 8, 9, 10, 11	36 & 81	44 & 89	7 & 52	15 & 60	23 & 68	31 & 76	39 & 84	2 & 47	10 & 55	18 & 63		26 & 71	34 & 79
Group 4: Events 12, 13, 21	37 & 82	45 & 90	8 & 53	16 & 61	24 & 69	32 & 77	40 & 85	3 & 48	11 & 56	19 & 64		27 & 72	35 & 80
Group 5: Events 15, 16, 17	38 & 83	1 & 46	9 & 54	17 & 62	25 & 70	33 & 78	41 & 86	4 & 49	12 & 57	20 & 65		28 & 73	36 & 81
Group 6: Events 14, 18, 19, 20, 26	39 & 84	2 & 47	10 & 55	18 & 63	26 & 71	34 & 79	42 & 87	5 & 50	13 & 58	21 & 66		29 & 74	37 & 82
Group 7: Events 22, 23, 27	40 & 85	3 & 48	11 & 56	19 & 64	27 & 72	35 & 80	43 & 88	6 & 51	14 & 59	22 & 67		30 & 75	38 & 83
Group 8: Events 24, 25	41 & 86	4 & 49	12 & 57	20 & 65	28 & 73	36 & 81	44 & 89	7 & 52	15 & 60	23 & 68		31 & 76	39 & 84

	Stage 34	Stage 35	Stage 36	Stage 37	Stage 38	Stage 39	BREAK	Stage 40	Stage 41	Stage 42	Stage 43	Stage 44	Stage 45
Start Time	1:10 PM	1:30 PM	1:50 PM	2:10 PM	2:30 PM	2:50 PM	3:10 PM	3:30 PM	3:50 PM	4:10 PM	4:30 PM	4:50 PM	5:10 PM
End Time	1:25 PM	1:45 PM	2:05 PM	2:25 PM	2:45 PM	3:05 PM	3:25 PM	3:45 PM	4:05 PM	4:25 PM	4:45 PM	5:05 PM	5:25 PM
Group 1: Events 1, 2, 5	40 & 85	3 & 48	11 & 56	19 & 64	27 & 72	35 & 80		43 & 88	6 & 51	14 & 59	22 & 67	30 & 75	38 & 83
Group 2: Events 3, 4, 6, 7	41 & 86	4 & 49	12 & 57	20 & 65	28 & 73	36 & 81		44 & 89	7 & 52	15 & 60	23 & 68	31 & 76	39 & 84
Group 3: Events 8, 9, 10, 11	42 & 87	5 & 50	13 & 58	21 & 66	29 & 74	37 & 82		45 & 90	8 & 53	16 & 61	24 & 69	32 & 77	40 & 85
Group 4: Events 12, 13, 21	43 & 88	6 & 51	14 & 59	22 & 67	30 & 75	38 & 83		1 & 46	9 & 54	17 & 62	25 & 70	33 & 78	41 & 86
Group 5: Events 15, 16, 17	44 & 89	7 & 52	15 & 60	23 & 68	31 & 76	39 & 84		2 & 47	10 & 55	18 & 63	26 & 71	34 & 79	42 & 87
Group 6: Events 14, 18, 19, 20, 26	45 & 90	8 & 53	16 & 61	24 & 69	32 & 77	40 & 85		3 & 48	11 & 56	19 & 64	27 & 72	35 & 80	43 & 88
Group 7: Events 22, 23, 27	1 & 46	9 & 54	17 & 62	25 & 70	33 & 78	41 & 86		4 & 49	12 & 57	20 & 65	28 & 73	36 & 81	44 & 89
Group 8: Events 24, 25	2 & 47	10 & 55	18 & 63	26 & 71	34 & 79	42 & 87		5 & 50	13 & 58	21 & 66	29 & 74	37 & 82	45 & 90

Revision Number: 01
Original Issue Date: 01/26/2024
Revision Date: 03/11/2024

Event	#1 Eastern Florida State Simulated Spacecraft Vacuum Loading
Provided by	Eastern Florida State College
Team members required	Two
Point of Contact	E.J. Mango, mangoe@easternflorida.edu
Description	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 150 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). 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	Video Tutorial

Event	#1 Eastern Florida State Simulated Spacecraft Vacuum Loading
Tools and equipment list	• PE provided for the individual performing the procedure ○ Tyvek suit (simulates SCAPE Suit) ○ Disposable Polypropylene Coveralls with Hood and Booties ○ Neoprene gloves ○ Face Shields ○ Disposable Respirator ○ Painters Tape • Equipment provided ○ Control Box – 3 (plus 3 AC to DC adapters) ○ Vacuum Pump w/gauge ○ Air compressor plus one 3 way adapter and 2 hoses ○ Compressed air-pressure regulator ○ Supply tank ○ Flight tanks ○ Vacuum & Fluid Lines (6 Tygon tubes cut to 4 foot lengths each) ○ Digital Scale ○ Poly-Temp PTFE Thread Tape • Tool Bag and Tools ○ 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
Instructions	A) Preparation and protocol 1) The operator (team member 1) will dress out in appropriate PPE to simulate the protective equipment used during such an 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

Event	#1 Eastern Florida State Simulated Spacecraft Vacuum Loading

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 (Reference Figure 1)
   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 (Figure 1)
      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 (Figure 1)
   7) Verify Flight Tank is on digital scale.

C) Evacuate Tank
   1) Turn on power to Control Box
   2) Open MV 4
   3) Start Vacuum Pump
   4) Open Vacuum Valve
   5) Open Flight Valve
   6) Open MV2
   7) Evacuate system until vacuum gage reads at least 22 Hg +/- 5
   8) Close Vacuum Valve
   9) Close Flight Valve
   10) Close MV 4
   11) 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 150 grams of fluid into Flight Tank – NOTIFY JUDGE WHEN COMPLETE
   5) Close all valves (manual and electric)

   Note: If Vacuum load was unsuccessful, Step E-System Drain must be completed before restarting step C- Evacuate tank

Event	#1 Eastern Florida State Simulated Spacecraft Vacuum Loading

E) System Drain
1) Verify all valves closed (manual and electric)
2) Adjust and 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 off power 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

Event	#1 Eastern Florida State Simulated Spacecraft Vacuum Loading

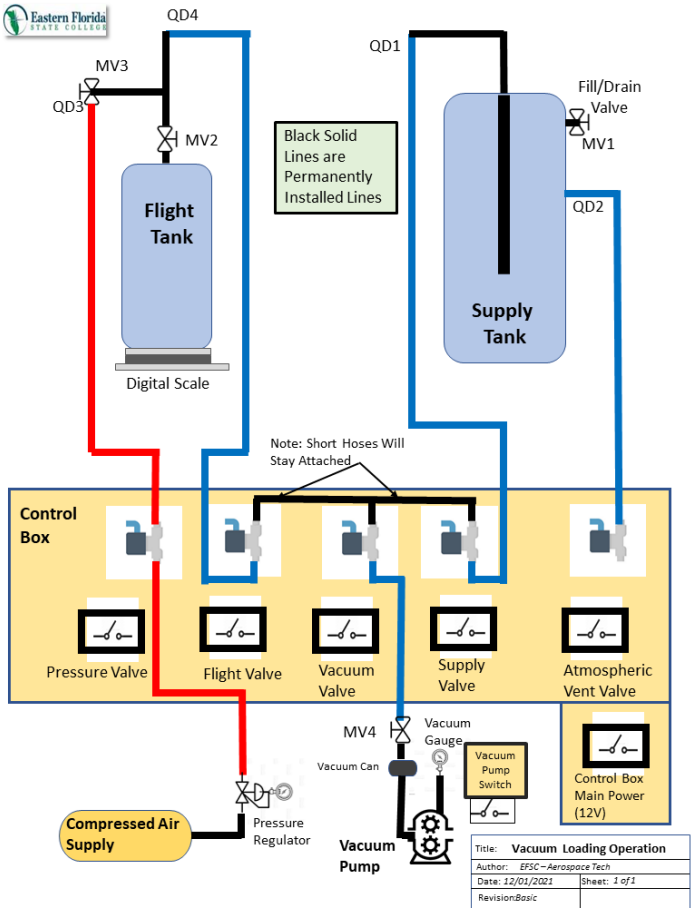


Figure 1 : Space Vehicle – Vacuum Loading Operation

Scoring	Scores will be calculated according to the standard score sheet. Bonus of 30 seconds for proper use of command & response. Bonus of 60 seconds for exact loading to 150 grams. Penalty of 60 seconds for each step not completed. Penalty of 15 seconds for each gram over or under required load of 150 grams.

Event	#2 Alaska Airlines Wire Troubleshooting
Provided by	Alaska AIRLINES
Team members required	One
Point of Contact	Justin Evans justin.evans@alaskaair.com
Description	Competitors will troubleshoot and repair wiring in a lighting system.
References	737 Simulator Standard Wiring Practices Manual (SSWPM 20-30-11)
Tools and equipment list	1/4 Deep socket 5/16 Deep socket 3/8 Deep socket 1 /4 size ratchet Wire cutters Wire strippers 16-26 gauge 0-30 inch LBS torque wrench AMP 59250 Crimp tool MS 1969/14-02 MS 1696-14-03 Screwdriver
Instructions	Task card T/C MAX-33EO-5863 will be provided at the event.
Scoring	Scores will be calculated according to the standard score sheet.

Event	#3 American Airlines APU Starter
Provided by	
Team members required	One
Point of Contact	Lyle Becnel lyle.becnel@aa.com
Description	Remove and replace MD80 APU starter O-ring packing per instructions. Competitors will show judge torques and return to zero after usage.
References	MD80 Figure 201
Tools and equipment list	7/16” Deep socket 6 pt ¼ Dr (STM14) 7/16” Std. socket 6 pt ¼ Dr (TM14) 11" Extension ¼ Dr (TMXK110) 11" Wobble extension ¼ Dr (TMXWK110) 6” Diagonal cutters (86ACF) Seal removal tool (SGSR3AR) Ratchet handle ¼ Dr (T72) Torque wrench 40-200in lbs ¼ Dr (QD1R200A) Inspection mirror (UIM225) Magnetic pickup tool (UPT35)
Instructions	Remove and Replace MD80 APU Starter Instructions
Scoring	Scores will be calculated according to the standard score sheet.

Event	#4 American Airlines Logo Light Harness Troubleshooting
Provided by	
Team members required	One
Point of Contact	Aaron Klippel mtnbikeaj@yahoo.com
Description	Competitors will troubleshoot electrical of an inoperable logo light
References	Fluke 77/75/23/21 Series III Multimeter Instruction Sheet Electrical schematic (provided at the event)
Tools and equipment list	Digital Fluke Multimeter with leads Cannon plug pliers with grips (ATI508KG)
Instructions	A) Deactivate logo light system Select LOGO LIGHT SWITCH TO OFF, PULL AND COLLAR LOGO LIGHT CIRCUIT BREAKER. B) Remove electrical wiring harness. C) With electrical schematic and multimeter provided, perform the following wire checks to determine the status of each wire of the electrical logo light harness (These are the possible condition resistance, continuity, short, mis wire, Open.) **1) Wire Continuity Check** a) Find the wire termination data. Refer to the WDM. b) Disconnect each connector on the circuit that must have a wire continuity check. WARNING: EACH CONNECTOR ON THE CIRCUIT THAT MUST HAVE A TEST MUST BE DISCONNECTED. IF THE CONNECTORS ARE NOT DISCONNECTED, UNSATISFACTORY RESISTANCE INDICATIONS OR DAMAGE TO THE CONNECTOR CAN OCCUR. c) Measure the resistance on all wires. Make sure that each circuit has continuity from one end of the wire to the

Event	#4 American Airlines Logo Light Harness Troubleshooting

other end of the wire. Record your findings on the work sheet.

WARNING: DO NOT BEND OR PUT STRESS ON THE CONTACTS. DAMAGE TO THE CONNECTOR OR THE CONTACTS CAN OCCUR.

2) Insulation Resistance Check

a) Select multimeter.
WARNING: DO NOT USE A MEGOHMETER FOR THE INSULATION RESISTANCE TEST OF THE ON-WING WIRING REPAIR. INJURY TO PERSONNEL OR DAMAGE TO THE AIRPLANE CAN OCCUR.

b) Set the meter to the proper selection.

c) Attach one meter test lead to a WIRE PIN assembly on the connector plug.
WARNING: DO NOT BEND OR PUT STRESS ON THE CONTACTS. DAMAGE TO THE CONNECTOR OR THE CONTACTS CAN OCCUR.

d) Attach the other meter test lead to a WIRE PIN assembly on a wire that does not connect to the same WIRE PIN circuit.
WARNING: DO NOT BEND OR PUT STRESS ON THE CONTACTS. DAMAGE TO THE CONNECTOR OR THE CONTACTS CAN OCCUR.

e) Read the meter. Make sure that the resistance shown on the meter is open or 100 megohms.

f) Repeat steps c) through e) for each WIRE PIN contact in the connector. Record your findings on the work sheet.

3) **Back shell Check**

a) Attach the one meter test lead to the back shell.

b) Attach the other meter test lead to the contact assembly on the wire that must have a test on the same back shell.
WARNING: DO NOT BEND OR PUT STRESS ON THE CONTACTS. DAMAGE TO THE CONNECTOR OR THE CONTACTS CAN OCCUR.

c) Read the meter. Make sure that the resistance shown on the meter is open or 100 megohms.

d) Repeat steps a)-c) for each wire that must have a test.

4) Record your findings for each wire to INCLUDE: CONDITION and METER READING on the work sheet.

D) Replace harness with new one provided BY THE JUDGE

E) Reactivate Logo light system.

Event	#4 American Airlines Logo Light Harness Troubleshooting
	F) Verify Logo light operates.
Scoring	Scores will be calculated according to the standard score sheet. Additional penalties may be assessed for any incorrect recordings of wire status.

Event	#5 8Tree and Alaska Airlines Airframe Damage Inspection
Provided by	
Team members required	Two
Point of Contact	Howard Chung, howard@8-tree.com
Description	Competitors will measure dent damages on an airframe panel using traditional methods and with the dentCHECK inspection tool. Competitors should follow the prescribed steps to produce accurate measurements and complete tasks as fast as possible. Time penalties will be prescribed to competitors who fail to follow instructions and/or produce inaccurate measurement.
References	Task Instructions
Tools and equipment list	Depth gauge, six-inch ruler, marker, flashlight, calculator, calibration block, camera, dentCHECK inspection tool
Instructions	Within the allocated 15 minutes, complete tasks in order: 1. Evaluate dent as per Task #1 Manual (Dent Evaluation using Traditional Method) 2. Repeat dent evaluation as per Task #2 Manual (Dent Evaluation using dentCHECK)
Scoring	Scores will be calculated according to the standard score sheet. These actions are considered “failure to follow procedures” and will be penalized as such: • Straight edge or depth gauge not along direction of zero curvature • Fail to draw straight line showing length or width • Fail to zero out micrometer • Fail to draw shortest distance between dents

Event	#6 Abaris Training Composite Repair
Provided by	ABARIS TRAINING
Team members required	Two
Point of Contact	Corrie Volinkaty, Technical Instructor, corrie@abaris.com
Description	This skills event is based on an elevated high temperature, vacuum bagged, composite repair scenario.
References	Essentials of Advanced Composite Fabrication and Repair
Tools and equipment list	Each team will be provided a work packet which includes a job card, repair ply material, solid/separator and vacuum bag.
Instructions	A) Since no grinding of fiberglass is allowed in the competition area, your repair panel is assumed to be ready for layup. B) Mixing of resin in the competition area is also not allowed, repair plies will be laid up dry. Note: A typical ½" minimum per ply overlap will be required. C) A typical vacuum source will be available along with all needed hoses/ports/fittings etc. D) A HEATCON single zone hot bonder will be pre-programmed but teams will need to start the cure cycle per the job card and may need to perform basic troubleshooting techniques. E) This skill event ends with the start of the printer on the bonder. F) Successful completion will require competitors to be knowledgeable about ply orientation, bleeder/breather materials, and testing and proper placement of heater blanket and thermocouples G) Competitors should be able to: 1) Identify the warp direction on repair material 2) Calculate resin mix ratios 3) Vacuum down repair area & perform a leak check

Event	#6 Abaris Training Composite Repair
Scoring	Scores will be calculated according to the standard score sheet. Additional penalties may be assessed for steps missed or a block not signed off on a job card.

Event	#7 Av-DEC® Antenna Gasket Installation Test
Provided by	
Team members required	One
Point of Contact	Sean Long sean.long@avdec.com
Description	Removal and installation of aircraft antenna using Av-DEC HI-TAK® Conductive Polyurethane Gasket and Av-DEC HI-TAK® StretchSeal® Polyurethane Rolled Sealant (PRS®). This specification describes the method for removing antenna, aircraft surface preparation, and antenna installation using the Av-DEC HI-TAK® Conductive Polyurethane Gasket and HI-TAK® StretchSeal® PRS®. This method is to be used only for antenna gasket installations between an antenna and aluminum aircraft skin or ground plane.
References	None
Tools and equipment list	Screwdriver and bits Plastic/wooden/phenolic scrappers Cotton wipers Isopropyl alcohol Torque screwdriver (05-40inch lbs.) Av-DEC HI-TAK® Polyurethane Conductive Gasket (AG247000-01) Av-DEC HI-TAK® StretchSeal® Kit (EN110589-02) Milli ohm meter Scissors
Instructions	A) Removal 1) Remove fasteners from antenna.

Event	#7 Av-DEC® Antenna Gasket Installation Test

2) Use a phenolic, wooden, or plastic tool as a wedge between the antenna and the aircraft surface to separate antenna from the aircraft if needed.
3) Once antenna is separated, cut the cable ties from the connector wrap and remove the StretchSeal® PRS®.
4) Disconnect aircraft coax cable and peel antenna gasket from antenna/fuselage. Use isopropyl alcohol to remove any remaining residue. *(Figure 1)*

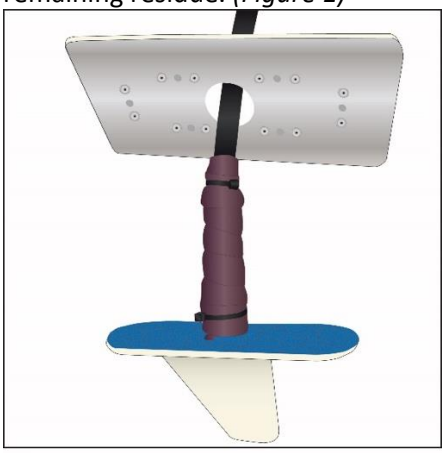


Figure 1

B) Surface Preparation
   1) Inspect faying surface areas that will contact the Av-DEC gasket materials for corrosion.
   2) Surfaces that will come in contact with Av-DEC materials shall be wiped with a clean solvent-dampened cotton wiper, followed immediately by wiping with a clean dry cotton wiper to remove any remaining paint, dust, grease, fingerprints, and/or any other contamination prior to the Av-DEC material installation.

C) Gasket Installation
   1) Av-DEC HI-TAK® Conductive Polyurethane Gaskets are supplied with protective release film on both sides of the gasket.
   2) Remove the gasket from the protective packaging, taking care not to fold or bend it. Leave release film in place until ready to install gasket.
   3) Verify that fastener holes and connector cutouts in the gaskets will align with the antenna when positioned for installation.

Event	#7 Av-DEC® Antenna Gasket Installation Test

4) Remove release film from the side of the gasket marked “antenna side” and position over the antenna.
5) Beginning at one side or corner of the antenna, place gasket into position, carefully aligning gasket fastener holes with antenna fastener holes. Release film should remain on the exposed “aircraft side” of gasket until immediately prior to antenna installation.
6) Connect aircraft coax cable to antenna. *(Figure 2)*

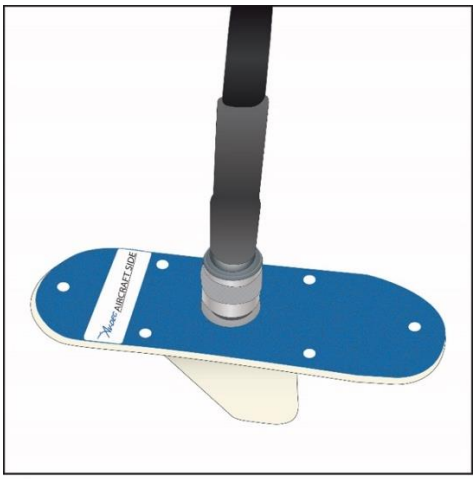


Figure 2

D) Sealing Aircraft Harness/Antenna Connector
1) To apply the StretchSeal® PRS®, remove the PRS® from the package and unroll a small amount.
2) Wrap the StretchSeal® PRS® clockwise around the mated connector with a 50% overlap while stretching the PRS® 25% to 50% to ensure a tight wrap. A tight wrap is necessary to ensure a proper seal. *(Figure 3)*

Event	#7 Av-DEC® Antenna Gasket Installation Test

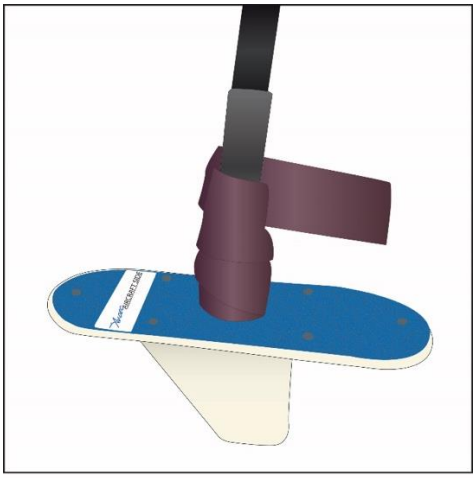


Figure 3

3) Coverage shall be from the base of the antenna to at least ½" beyond the connector and onto the insulation jacket of the coax cable. Trim excess StretchSeal® if necessary. *(Figure 4)*

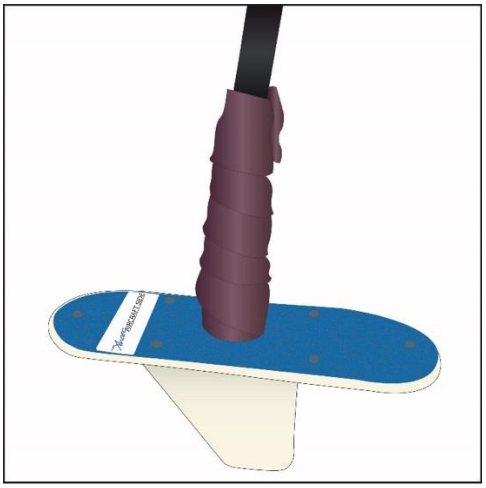


Figure 4

4) Apply cable ties at the beginning and end of the StretchSeal® wrap around the connector and coax cable. Dress cable ties.

NOTE: Aircraft cutout hole must be at least ¼" greater in diameter than the connector outer diameter when using StretchSeal® PRS®.

E) Antenna Installation:

Event	#7 Av-DEC® Antenna Gasket Installation Test

1) Remove the release film from the “aircraft side” of the HI-TAK® Conductive Polyurethane Gasket.
2) Using existing fasteners, pre-position at least two fasteners through the antenna and gasket.
3) Align fasteners at the correct locations on the aircraft surface. *(Figure 5)*

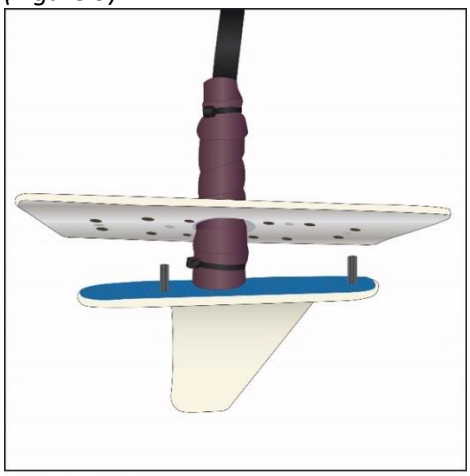


Figure 5

4) Tighten each fastener 1-2 turns to hold the antenna in place on the aircraft.
5) Install all remaining fasteners except one. *(Figure 6)*

Figure 6

Event	#7 Av-DEC® Antenna Gasket Installation Test

6) Manually tighten fasteners to 10 in-lb. (Bonding check can be done at any time after initial torque of fasteners.) Wait at least 30 seconds and re-tighten fasteners as necessary.

F) Bonding Check:

1) 1. Measure the resistance between the antenna baseplate and the airplane skin with a milli ohm meter. Make sure that the resistance is 2.5 milli ohms or less, and, if not, retighten fasteners until the desired resistance is achieved. *(Figures 7 & 8)*

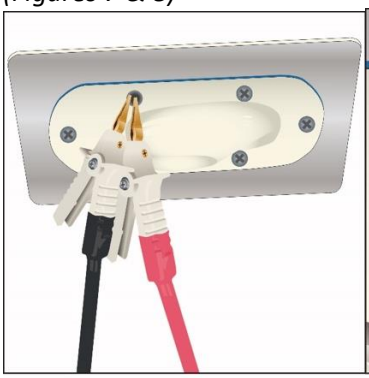


Figure 7

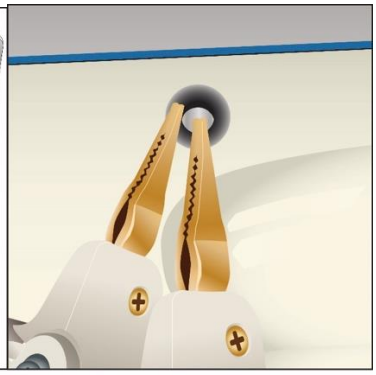


Figure 8

2) Install the remaining fastener and manually tighten to 10 in-lb.

Scoring	Scores will be calculated according to the standard score sheet.

Event	#8 Aviation Supplies & Academics Human Factors Exam
Provided by	asa — Since 1940 —
Team members required	One
Point of Contact	Greg Robbins greg@asa2fly.com
Description	This event will consist of multiple-choice questions relating to human factors.
References	FAA Aviation Maintenance Technician General Handbook Chapter 14 (Human Factors) ASA Aviation Mechanic Series: General, Fifth Edition, Chapter 16 (Human Factors)
Tools and equipment list	Tablet
Instructions	Each designated team member will sit for a timed exam, proctored on a tablet.
Scoring	Scores will be calculated based on the number of incorrect answers and unanswered questions, and the time it takes to complete the test.

Event	#9 StandardAero Engine Fan Blade Removal
Provided by	StandardAero
Team members required	Two
Point of Contact	Joe Capra, Program Director jCapra@dallasairmotive.com
Description	The pilot reported a bird strike on landing rollout with power lever at idle. You and your team have already borescoped the high-pressure compressor (HPC) verifying no damage to the core of the engine. This event will test your ability to remove the fan blades from a Honeywell TFE731 turbofan engine and then replace it. This event will require technicians to remove the fan blades in a uniform manner to prevent shingling of the mid span dampeners and then reassembly the engine with a replacement fan blade. INSTEAD OF THE STANDARD 15 MINUTES, EACH TEAM WILL ONLY HAVE SIX MINUTES TO COMPLETE THIS EVENT.
References	Light Maintenance Manual Removal of Fan Blades (steps D.(1)(b)-(e)) Light Maintenance Manual Installation of Fan Blades (steps C.(1)(e)-(j)) *Note: these are references only that explain the steps of removing and reinstalling fan blades, each team will be briefed on the procedures immediately before competing.*
Tools and equipment list	Hand tools and silver pencil will be provided.
Instructions	A) Number fan blades & remove each fan blade from fan hub B) Reassemble with replacement blade
Scoring	Scores will be calculated according to the standard score sheet. A one-minute bonus will be given to teams that reassemble the fan blade.

Event	#10 Perfect Point E-Drill Fastener Removal
Provided by	PERFECT POINT AEROSPACE MAINTENANCE TECHNOLOGY
Team Members Required	One
Point of Contact	Nils Besvold, Sales and Marketing Associate, nils@ppedm.com
Description	This event will test the technician's ability and speed when removing titanium fasteners from an aircraft structure. This will require technicians to remove 5 fasteners using an E-drill from a wing flap. The Fasteners will be of a blind-bolt configuration and exact part numbers will be presented at the competition.
References	E-drill Training Videos Full E-drill User Guide Test article photos
Tools and equipment list	Eye protection required. The E-drill hand tool, locating devices, punches, hammers, and consumables will be provided.
Instructions	Event Detailed Instructions
Scoring	Scores will be calculated according to the standard score sheet. Additional penalties may be assessed for improperly using the tooling or damaging the work piece.

Event	#11 Pratt & Whitney Fuel Nozzle Remove and Replace
Provided by	
Team members required	One
Point of Contact	Kyle Ray kyle.ray@prattwhitney.com
Description	This task involves replacement of either A) the #4 fuel nozzle and gasket installed on the PW1100G-JM engine, or B) the #16 fuel nozzle and gasket installed on the V2500 engine. NOTE: Odd numbered teams will compete on the PW1100G-JM engine, even numbered teams will compete on the V2500 engine.
References	AC 43.13-1B – Acceptable Methods, Techniques, and Practices – Aircraft Inspection and Repair
Tools and equipment list	¼" Drive Ratchet ¼" 12 Point Deep Socket – ¼" Drive 5/16" 12 Point Deep Socket – ¼" Drive 6" Extension - ¼" Drive 12" Extension - ¼" Drive 6" Extension – 3/8" Drive 12" Extension – 3/8" Drive Torque Wrench 0-200 lbf-in. – ¼" Drive Torque Wrench 200-1000 in-lb. – 3/8" Drive Diagonal Cutters

Event	#11 Pratt & Whitney Fuel Nozzle Remove and Replace
	Safety Cable Kit Safety Cable Gun 3/8” drive, 7/8” crows-foot 3/8” drive, 11/16” crows-foot Lint-Free cotton cloth
	For PW1100 Only: 3/4” Crowfoot Wrench – 3/8” Drive 3/4” Angle Wrench
	For V2500 only: 7/8” Crowfoot Wrench – 3/8” Drive 7/8” Angle Wrench
Instructions	A) PW1100 Fuel Nozzle Remove and Replace Instructions B) V2500 Fuel Nozzle Remove & Replace Instructions
Scoring	Scores will be calculated according to the standard score sheet.

Event	#12 FedEx Safety Wiring
Provided by	
Team members required	Two
Point of Contact	Christopher Hart, christopher.hart@fedex.com
Description	This event will test each participant's skill and speed while accomplishing a series of safety wire patterns and safeties.
References	AC 43.13-1B - Acceptable Methods, Techniques, and Practices Aircraft Inspection and Repair (w/Change 1) (faa.gov) MD-11 Aircraft Maintenance Manual
Tools and equipment list	Safety wire pliers (WTG8A) (qty 2) Cannon plug pliers (ATI508KG) (qty 2) Flat head screwdriver (SGD2BO) (qty 2) 0.020 safety wire (WT105-2016) (qty 2) 0.032 safety wire (WT105-3216) (qty 2) Diagonal cutters (808CF) (qty 2) Needle nose pliers (96ACF) (qty 2)
Instructions	Two team members will safety wire 11 different areas and 2 bonus areas inside of a box within the 15-minute time limit. Competitors will remove 1 or 2 side panels. The top panel is not to be removed during the event. After the panel(s) are removed, the team may approach the safety areas in the order they choose. Once the 11 safety wires are

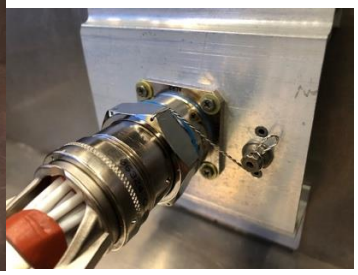
Event	#12 FedEx Safety Wiring

complete, the team must notify the judge and time will stop. Team members may now use the remaining time from the 15 minutes to safety the bonus section. The time used to safety the bonus section will not be counted towards your total time. Each safety wire correctly completed in the bonus section will deduct 30 seconds from the team's initial time. Removed side panels will not be required to be reinstalled to complete the event.

Two additional safety wires may be completed as a bonus once the designated 11 areas are complete. Safety areas include:

1) MD-11 flap bus cable turnbuckle (qty 1)

2) Cannon plugs (qty 2) NOTE: cannon plugs must be connected correctly to their receptacles and torqued with the cannon plug pliers. Safety wire size for all cannon plugs is 0.020”

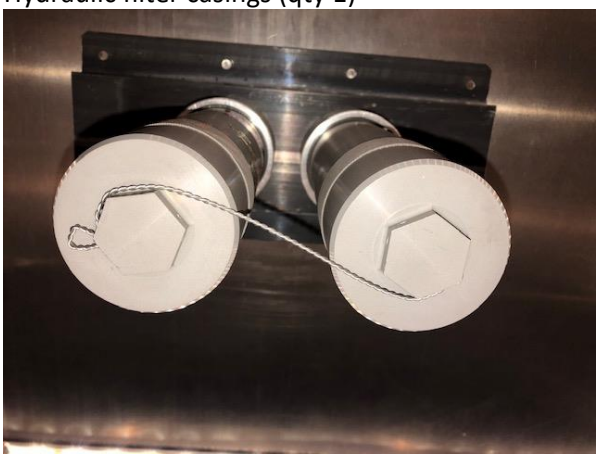


3) MD-11 spoiler actuator push rod (qty 1)

4) MD-11 brake bleed ports (qty 3)

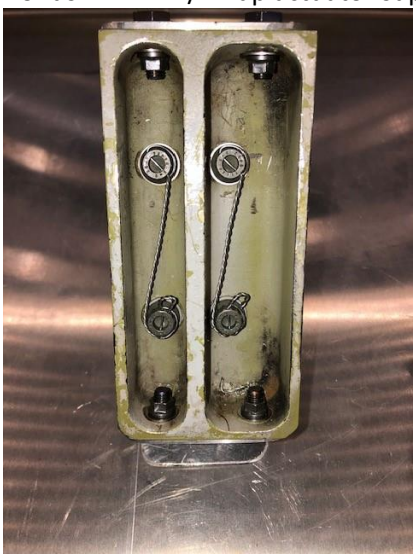
5) MD-10 core cowl U-bolts (qty 3)

6) Hydraulic filter casings (qty 1)



Event	#12 FedEx Safety Wiring

7) Bonus: MD-11 I/B flap actuator support structure (qty 2)



Scoring	Scores will be calculated according to the standard score sheet. Thirty second penalties will be assessed for incorrect size, routing or twist-per-inch, which will be graded based on AC 43.13-1B and pictures provided above. If any section is not completed before starting the bonus section, or if the top access lid is removed, the team shall be scored at the maximum 15-minute time limit.

Event	#13 FedEx Express Cargo Floor Lock
Provided by	
Team members required	One
Point of Contact	Christopher Hart, christopher.hart@fedex.com
Description	This event will test the technician's ability to remove, disassemble, inspect, repair, reassemble, and install a cargo floor lock that is found on the freighter aircraft.
References	None
Tools and equipment list	Telescoping Magnet (UPT35) 8 Ounce Ballpeen Hammer (BP8B) 8 Inch Duckbill Pliers (61CFO) 8" Talon Grip™ Combination Slip-Joint Pliers (47ACFO) 9" Talon Grip™ Needle Nose Pliers (97ACFO) 7" VectorEdge Diagonal Cutter (87ACFO) Soft Grip Cotter Pin Puller (SGCP1BO) 8 Inch Hook Scribe (YA338A) 8 Inch 90 Degree Scribe (YA339A) ¼ Inch 40-200 In LB Torque Wrench (QE1R200) 3/8 12 Point Offset Ratchet Wrench (OXR12A) 5/16 12 Point Offset Ratchet Wrench (OXR10)

Event	#13 FedEx Express Cargo Floor Lock
	1/4in Drive 12 Point Shallow Socket sizes 5/16, 3/8, and 7/16 (TMD10, TMD12, TMD14) ¼ Inch Drive 4 Inch Extension Knurled (TMXK4) ¼ Inch Drive 2 Inch Extension Knurled (TMXK2) ¼ Inch Drive 6 Inch Ratchet (THL72)
Instructions	Floor Lock Instructions
Scoring	Scores will be calculated according to the standard score sheet. Additional penalties may be assessed for failure to show judge torque on wrench before proceeding, failure to install or secure mount bolts, failure to install, torsion spring properly or installing the lock on the seat track incorrectly.

Event	#14 Southwest Airlines & The Boeing Company Thrust Reverser Control Fault Troubleshooting and Repair
Provided by	 
Team members required	One
Point of Contact	Gordon Carlson gordon.carlson@wnco.com Matt Couture matthew.a.couture@boeing.com
Description	This is a skill event involving electrical troubleshooting and adjustment of a switch within the Thrust Reverser Control System.
References	Fluke 289 True-RMS Multimeter Thrust Reverser System Description and Operation
Tools and equipment list	Phillips #1 screw driver (SGDP31IRB) Phillips #2 screw driver (SGDP42IRB) 7 flat tip screw driver (SGD2B) 9’ flat tip screw driver (SGD4B) Cannon plug pliers (ATI508KG) Inspection mirror (GA295) Magnifying glass Telescoping magnetic pick up tool (UPT35) Fluke 289 Multimeter with test leads Protractor Kit (G76002) Circuit breaker collars and safety tags Screw retention tray Flashlight 5/32 Allen Screwdriver (SGA10BR)

Event	#14 Southwest Airlines & The Boeing Company Thrust Reverser Control Fault Troubleshooting and Repair
Instructions	Thrust Reverser Control Switch Troubleshooting and Replacement (Rev 01)
Scoring	Scores will be calculated according to the standard score sheet. Additional penalties will be assessed for lost hardware, FOD, damaging simulator, failure of verbal verifications, or failure to complete documentation. There will be an optional bonus question sheet provided upon request at the end of the task. Every question answered correctly will receive a 30 second bonus for each correct answer. There will be no penalty time added for incorrect answers. The optional bonus questions will test the competitor's knowledge of the event.

Event	#15 PPG Transparencies
Provided by	
Team members required	Two
Point of Contact	Connie Little connie.little@ppg.com
Description	The transparencies section will require a framing assembly repair and a Surface Seal application. One competitor will conduct a framing assembly repair, and the other must prepare glass and apply Surface Seal coating solution.
References	None
Tools and equipment list	See procedures, linked below
Instructions	Glass Plug Replacement Procedure Surface Seal® Procedure
Scoring	Scores will be calculated according to the standard score sheet. Additional penalties may be assessed for any process errors and/or quality concerns.

Event	#16 PPG Virtual Reality Paint Booth
Provided by	
Team members required	One
Point of Contact	Connie Little connie.little@ppg.com
Description	The competitor will use a Virtual Reality (VR) paint booth to simulate painting.
References	None
Tools and equipment list	None
Instructions	A) When it's your turn, announce your team name/number, as well as your name, and disinfect your hands using the provided alcohol gel dispenser. B) Approach the flat screen display and accept the VR paint gun from the PPG operator. C) Spray the panel on the VR display using good painting techniques to achieve a consistent target film thickness of 3 – 7 wet mils while minimizing overspray. D) Each participant will be allowed 7.5 total minutes to spray one panel for practice, receive the evaluation of that panel, and then spray a second panel to earn a score. E) The scored test panel can be reattempted from scratch up to two times, but each retry subtracts 2 points from your score, and you MUST use the final retry score. You do not get to choose the highest score of all your attempts. F) Tell the operator when you are finished.

Event	#16 PPG Virtual Reality Paint Booth
Scoring	Performance results are calculated using a weighted average of 90% target film coverage and 10% transfer efficiency (“Coverage Result”). Scores are calculated according to the following formula: Score = (100 – Coverage Result)*30 seconds (less any penalties for reattempt) Example: Where the competitor had a Coverage Result of 86% (which was the average Performance Result in 2023), with no reattempts: (100 – 86.0)*30 sec = final score of 420

Event	#17 PPG Wing Sealant
Provided by	
Team members required	Two
Point of Contact	Connie Little connie.little@ppg.com
Description	Competitors will perform a sealant repair in an inaccessible area. Selection of correct tooling and equipment to perform the job, safety/PPE, quality and cleanliness of job performed will be considered.
References	None
Tools and equipment list	Provided on site
Instructions	Sealants Procedure
Scoring	Scores will be calculated according to the standard score sheet. Additional penalties may be assessed for any process errors and /or quality concerns.

Event	#18 Daniels Manufacturing Corporation Tooling for Harness Assembly
Provided by	DANIELS MANUFACTURING CORPORATION®
Team members required	One
Point of Contact	Irene Montanaro at Irenem@dmctools.com
Description	This event will test each participant's skill in repairing and securing a wire harness. Contestants will remove one wire and properly terminate contacts on a new pre-stripped wire. They will be responsible for assembling the turret head onto the crimp tool and adjusting the tool and accessory to the correct setting. Next, they will insert the new wire into both connectors and test if they are properly inserted. Contestants will then secure the wire bundle using the LaceLok® tool. Finally, contestants will verify the calibration of the Safe-T-Cable® tool using the verification block and apply Safe-T-Cable to secure the jam nut on one connector.
References	https://dmctools.com/amc
Tools and equipment list	AF8 Crimp Tool TH1A Turret Head DAK16B Insertion Tool DRK16B Removal Tool DLT-1100 LaceLok Application Tool LF2-10NA1 LaceLok SCTR327 Safe-T-Cable® Tool A10-218 Cable (.032 x 18" safety cables) F10-04PKG Elongated Ferrules

Event	#18 Daniels Manufacturing Corporation Tooling for Harness Assembly
	SCT-TB1 Verification Block SCTD0001 Torque Wrench SCTD013 Push Force Tester HT210-16 Contact Retention Tester 28” Pre-stripped Wire M39029/32-247 Contacts MS3124F20-16S Connectors
Instructions	A) Use the removal tool to remove a wire and contact from each connector. B) Terminate a contact onto each end of a new piece of wire. Ensure the crimp tool and turret are set to the appropriate settings. C) Use the insertion tool to insert the newly terminated wire into the connectors. D) Use the contact retention tester to check that both contacts are properly seated in the connectors. E) Starting 2 inches away from the connectors, apply (5) LaceLok at even intervals. F) Check the calibration of the Safe-T-Cable tool with the provided verification equipment (verification block, torque wrench, and push force tester). G) Use the Safe-T-Cable tool to secure the jam nut on one connector. Teams will receive a bonus for a second correctly installed piece of Safe-T-Cable. H) Dispose of FOD in the white tray and finish the competition by returning all tools to their original position, including zeroing out the torque wrench.
Scoring	Scores will be calculated according to the standard score sheet. Additional penalties may be assessed for incorrect Safe-T-Cable/LaceLok applications and improperly seated contacts. Bonus points will be given for an additional installation of Safe-T-Cable.

Event	#19 Michelin Aircraft Tire Inspection
Provided by	
Team members required	One
Point of Contact	Randy Hedrick randy.hedrick@michelin.com
Description	Competitors will answer inspection requirement questions and perform an airworthiness inspection of an aircraft tire including visual inspection, tire pressure reading, inspection record, and required maintenance actions.
References	CYGNUS X1 Aircraft Maintenance Manual, Task 32-0000001 CYGNUS X1 Aircraft Maintenance Manual, Task 32-0000002 Tire Inspection Form Michelin Care and Service Manual
Tools and equipment list	Proper Tire Pressure Gauge Tread Depth Gauge Tire Inspection Form Appropriate PSE Flashlight
Instructions	Competitors will be presented with a mounted and inflated aircraft tire with visible worn conditions and damages. Tire is assumed to be on-wing and stationery for 4 hours. A) Answer the following questions: 1) How does altitude and air temperature affect landing performance of aircraft tires? 2) How often should on-wing aircraft tire pressures be verified? 3) How much is the pressure of an aircraft wheel/tire assembly allowed to decrease in 24 hours? 4) What is the cause of Chevron Cutting? 5) What is the purpose of the Sidewall Vents? B) Perform visual inspection of wheel/tire assembly per job card including tread depth.

Event	#19 Michelin Aircraft Tire Inspection
	C) Record the following on the Cygnus X-1 Tire Inspection Form: 1) Tire Part Number and Size including Ply, Load and Speed Rating 2) Tire Serial Number 3) Retread Level 4) Remaining Tire Skid Depth D) Record any noted conditions and damages on inspection form. Determine tire disposition and required actions. E) Perform Tire Pressure Check and record readings. Determine tire disposition and required actions. F) Determine what corrective actions may be required and make appropriate maintenance log entries.
Scoring	Scores will be calculated according to the standard score sheet. Additional penalties may be assessed for incorrect answers/log entries.

Event	#20 Moeller Aerospace Click-Loc® Challenge – We Won't Back Off
Provided by	MOELLER AEROSPACE CLICK-LOC SELF-LOCKING TECHNOLOGY
Team members required	One
Point of Contact	Katie Feser, feserk@click-loc.com
Description	This is a skill event that compares the installation of Safety Wire to Click-Loc® Self-Locking Technology
References	Safety Wire Specification AS567 Click-Loc® Installation Instructions
Tools and Equipment List	Station #1: A) 11/16" combination box end wrench (OEX22B) B) 3/4" Crowfoot wrench with 3/8" drive (FCO24A) C) 1-150 lb/in torque wrench with 3/8" drive (QD2R200A) Station #2: D) 11/16" combination box end wrench (OEX22B) E) 3/4" Crowfoot wrench with 3/8" drive (FCO24A) F) 1-150 lb/in torque wrench with 3/8" drive (QD2R200A) G) Safety wire pliers (WTG8A) H) Safety wire .032 CS (WT105-3216) I) Wire cutters (86ACF) Station #3: J) 3/8" drive ratchet (F80) K) 2" - 3/8" drive extension (FX2) L) 1-150 lb/in torque wrench with 3/8" drive (QD2R200A)

Event	#20 Moeller Aerospace Click-Loc® Challenge – We Won't Back Off

Station #4:

M) 3/8" drive ratchet (F80)
N) 2" - 3/8" drive extension (FX2)
O) 1-150 lb/in torque wrench with 3/8" drive (QD2R200A)
P) 3/4" socket (SF241)
Q) Safety wire pliers (WTG8A)
R) Safety wire .032 CS (WT105-3216)
S) Wire cutters (86ACF)

Station #5:

T) 9/16" combination box end wrench (OEX18B)
U) 9/16" Crowfoot wrench (FCO18A)
V) 1-150 lb/in torque wrench with 3/8" drive (QD2R200A)

Station #6:

W) 9/16" combination box end wrench (OEX18B)
X) 9/16" Crowfoot wrench (FCO18A)
Y) 1-150 lb/in torque wrench with 3/8" drive (QD2R200A)
Z) Safety wire pliers (WTG8A)
AA) Safety wire .032 CS (WT105-3216)
BB) Wire cutters (86ACF)

Event	#20 Moeller Aerospace Click-Loc® Challenge – We Won't Back Off
Instructions	A) Station 1 – Upper left corner of panel (Click-Loc™ turnbuckle) 1) Rotate and adjust the Heim joint to fit over the stud. 2) Torque the jam nut to 100 lb/in +/- 5 lb/in. B) Station 2 – Upper right corner of panel (safety wire turnbuckle) 1) Rotate and adjust the Heim joint to fit over the stud. 2) Safety wire the jam nut to the turnbuckle body per AS567. C) Station 3 – Middle left side of panel (Click-Loc™ borescope plug) 1) Install Click-Loc™ borescope plug into the fixture and hand tighten. 2) Torque the borescope plug to 100 lb/in +/- 5 lb/in. D) Station 4 – Middle right side of panel (safety wire borescope plug) 1) Install generic borescope plug into the fixture and hand tighten. 2) Torque the borescope plug to 100 lb/in +/- 5 lb/in. 3) Safety wire the borescope plug to the fixture per AS567. E) Station 5 – Lower Left side of panel (Click-Loc™ -06 fluid fitting) 1) Slide the B-Nut down the fluid tube and connect to the nipple of the bulkhead fitting and hand thread together. 2) Torque the B-nut to 70 lb/in +/- 10 lb/in. F) Station 6 – Lower right side of panel (safety wire -06 fluid fitting) 1) Slide the B-nut down the fluid tube and connect to the nipple of the bulkhead fitting and hand thread together. 2) Torque the B-nut to 70 lb/in +/- 10 lb/in. 3) Safety Wire the B-nut to the bulkhead fitting per AS567.
Scoring	Scores will be calculated according to the standard score sheet. Additional penalties may be assessed for failure to validate torque wrench settings with judge before use.

Event	#21 U.S. Air Force Flex Fluid Lines
Provided by	U.S. AIR FORCE
Team members required	Two
Point of Contact	Connor Loeffler connor.loeffler@us.af.mil
Description	Hose assembly length is 11.5 inches (“A”). Assembly length is measured from middle of b-nut flat to middle of b-nut flat. Cutoff factor for each hose end fitting is .75 inches (“C”) (See figure 6)
References	None
Tools and equipment list	Qty 2, 11/16 combination wrench (OEX22B) Qty 1, 13/16 combination wrench (OEX26B) Qty 1, tape measure (TPMA12) Qty 1, feeler gauge (0.23 - .046) (FB335) Qty 1, 3/8" dr torque wrench able to torque 190-215 in lbs. (QD2R200) Qty 1, 3/8" dr 11/16" crow foot (FCO22A) Qty 1, hacksaw and blade (32 TPI) (HSG319, HSBM1232B) Qty, 1 diagonal cutters (86ACF) Qty 1, brass pick Qty 2, leather gloves
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

Event	#21 U.S. Air Force Flex Fluid Lines

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

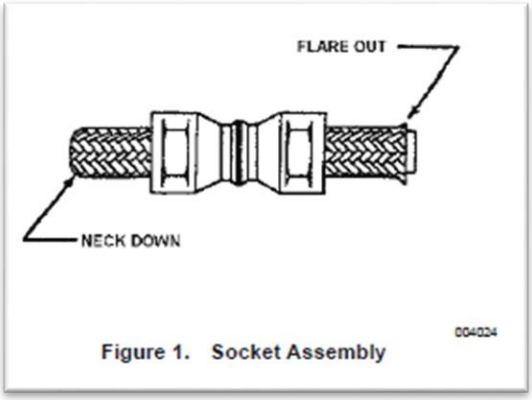


Figure 1. Socket Assembly

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).

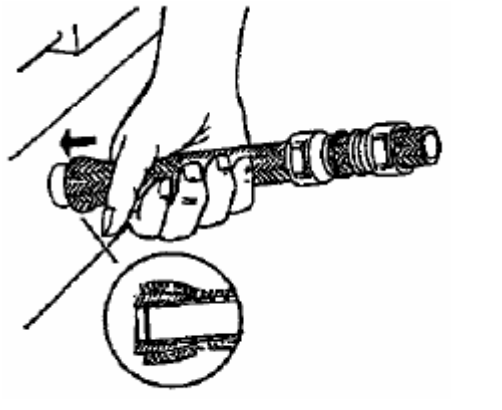


Figure 3. Positioning Sleeve

Event	#21 U.S. Air Force Flex Fluid Lines

9) Check tube end to make sure it is bottomed against sleeve and wires are not trapped under sleeve. Trim excess wires as needed.
10) Clamp Nipple in vise (Note: Do not lubricate hose or nipple before insertion. Fitting components are dry film 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

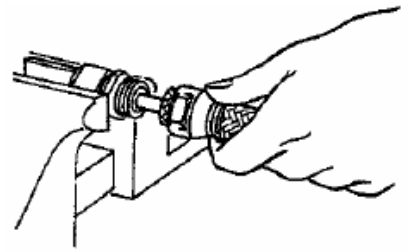


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Figure 4. Positioning Socket and Nipple

14) Reposition assembly by placing socket flats in vise.

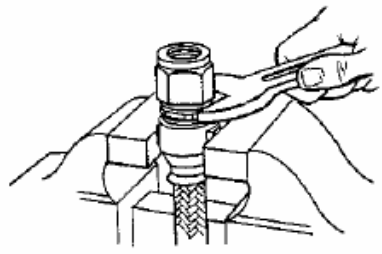

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Figure 5. High-Pressure Hose Tightening Assembly

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.

Event	#21 U.S. Air Force Flex Fluid Lines

1) Place hose into fixture assembly, threading coupling nuts on by hand.
2) Torque coupling nuts 190-215 in lbs. utilizing backup wrenchs. **NOTE** A back-up wrench should be used on nipple hex and on union inside fixture assembly to prevent kinking of hose and damage to aircraft.

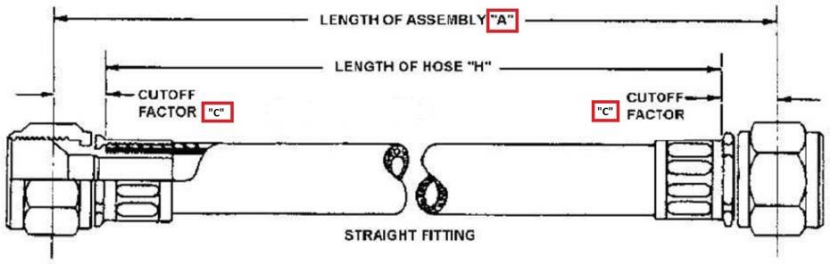


Figure 6.

Scoring	Scores will be calculated according to the standard score sheet.

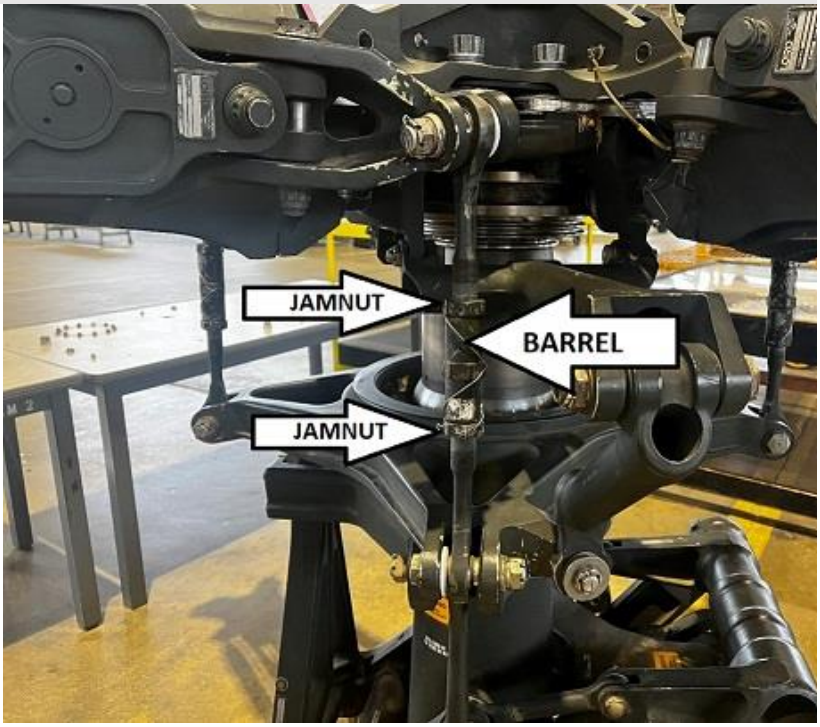
Event	#22 Barfield Fault Test
Provided by	
Team members required	Two
Point of Contact	Victor Bontorno, Victor.bontorno@barfieldinc.com
Description	This competition is designed to test the skills of each participating team in their understanding of and ability to troubleshoot intermittent failures and wiring integrity. Barfield recommends participants fully understand aircraft electrical systems and wiring with potential issues that could be found. The faults found during this procedure will test this knowledge.
References	Intermittent Fault Detection Technology from Universal Synaptics Intermittent Fault Detection User Guide IFD Sample Process Guide
Tools and equipment list	None
Instructions	Portable Intermittent Fault Detector Instructions
Scoring	Scores will be calculated according to the standard score sheet.

Event	#23 Barfield Antenna Testing
Provided by	
Team members required	One
Point of Contact	Victor Bontorno, Victor.bontorno@barfieldinc.com
Description	Coaxial Cable & Antenna System Inspection with a Frequency Domain Reflectometer
References	FlightHawk Aviation RF Cable & Antenna Analyzer Product Information FlightHawk RF Test Set Operational Manual
Tools and equipment list	FlightHawk FH-AV-KIT (7003A001-4) RF Aviation & Cable Analyzer – Aviation Test Kit
Instructions	Barfield Competition TECHNICAL TIP Procedure
Scoring	Scores will be calculated according to the standard score sheet.

Event	#24 United Fuel Tank Entry Precautions
Provided by	UNITED
Team members required	Two
Point of Contact	Fred Glau, fred.glau@united.com
Description	Competitors will defuel and refuel a 747-400 fuel tank.
References	Fuel Tank Diagram Fuel Tank SIM Photos Grounding lug photo
Tools and equipment list	1/4" Speed Handle (F4LB) 1/4" Speed Handle (F4LBK) # 3 Apex Bit (SDM223C) 1/4" adaptor (FBS8) Flashlight Inspection Mirror (GA295) Ratcheting Screwdriver (SSDMR4B) Torque Screwdriver (QDRIVER4) Grease pencil
Instructions	Fuel tank procedures
Scoring	Scores will be calculated according to the standard score sheet.

Event	#25 United Render Safe
Provided by	UNITED
Team members required	Three
Point of Contact	Fred Glau, fred.glau@united.com
Description	This event will simulate the removal and installation of the BOEING 767-322 L1/R1 door escape slide pack. The event will focus on safety and following the procedure. The technicians will be judged on their ability to follow the checklist and manual procedure to safety remove and reinstall the slide.
References	None
Tools and equipment list	(2) 9/16" Slimline Open-End Wrench (1) 6" Rule (1) Flashlight (1) Diagonal Cutters (1) Wire Twist Plier
Instructions	Instructions
Scoring	Scores will be calculated according to the standard score sheet.

Event	#26 U.S Army Helicopter Main Rotor Track & Balance Adjustment
Provided by	U.S. ARMY
Team members required	One
Point of Contact	SSG Charles Hayworth, charles.c.hayworth.mil@army.mil
Description	The event simulates the task of adjusting the main rotor pitch change links which occurs during a helicopter main rotor track and balance task.
References	None
Tools and equipment list	Diagonal Cutters (1ea) Duck bill Pliers (1ea) Needle Nose Pliers (1ea) Ratchet (1ea) Wrench (2ea) Crows foot Attachment (1ea) Torque Wrench (1ea)
Instructions	A) Remove safety wire from 2 main rotor pitch change links. B) Dispose safety wire using provided FOD bucket. C) Break torque and loosen 4 jam nuts on main rotor pitch change links while holding pitch change link barrel to prevent damage to the link. D) Adjust (turn) pitch change link barrel 2 full rotations in the direction indicated by the event judge. E) Tighten and torque 4 jam nuts to 45-inch lbs. while holding pitch change link barrel to prevent damage to the link. F) Install safety wire (.032 inch) on both main rotor pitch change links. G) Return tools to table – timer stops when all tools are accounted for.

Event	#26 U.S Army Helicopter Main Rotor Track & Balance Adjustment
	
Scoring	Scores will be calculated according to the standard score sheet. Competitors who are able to verbally demonstrate an understanding of the importance of rotor track and balance in helicopter operations will receive a 60-second bonus.

Event	#27 Gore D-Nose Leading Edge Sealing

Provided by

Team members required	Two
Point of Contact	Jack Penick jpenick@wlgore.com
Description	D-Nose installation using GORE® SKYFLEX® Aerospace Materials
References	Installation Guide Tapes Video Surface Protection - D-Nose
Tools and equipment list	Scissors Nylon Awl for punching holes Torque Wrench – One per team Speed Handle – Two per team Screwdriver and bits – Two per team Rags

Instructions

A) Find 700 Series GORE® SKYFLEX® Aerospace Tapes- Part Number GSC-21-95159-024 and ensure within shelf life – Figure 1
B) Ensure Spar and D-Nose clean and free of debris – use provided rags to wipe faying surfaces down.
C) 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 2.

Event	#27 Gore D-Nose Leading Edge Sealing

D) See Installation Guide for Tapes and watch video in References.
E) Poke holes for each fastener in tape material with Nylon or Wood Hole Awl
F) Install Leading Edge Profile over Spar
G) Use provided speed handle / screwdriver to seat each of the 18 fasteners using a staggered pattern.
H) Use provided torque wrench to tighten each fastener to 15 in·lbs using a staggered pattern.

Figure 1 - Rig - D-Nose Installation Areas

Event	#27 Gore D-Nose Leading Edge Sealing

Figure 2 - Teams installing GORE® SKYFLEX® Aerospace Tapes on D-Nose Structure

Scoring	Scores will be calculated according to the standard score sheet. Application of GORE® SKYFLEX® Aerospace Materials will be judged on time, quality, and adherence to the installation instructions in the Installation Guides and video links provided.

Record of Revisions

Revision Number	Revision Date	Page(s) Affected	Revision Description
00	01/26/2024	ALL	Initial Release
01	03/11/2024	9	Updated competition layout
01	03/11/2024	10-12	Updated team list and added team numbers
01	03/11/2024	15	Event #1: Added video tutorial link to references
01	03/11/2024	20	Event #2: Added link to wiring practices manual, list of equipment, and note that task card will be provided at the event
01	03/11/2024	21	Event #3: Removed and replaced MD80 AMM 49-40-03-201 Figure 201 reference
01	03/11/2024	22	Event #4: Added “Harness” to title, revised instructions
01	03/11/2024	46-47	Event #14: Added tool part numbers to equipment list, removed and replaced link to instructions with revised instructions, and added clarity to scoring mechanism
01	03/11/2024	49-50	Event #16: Updated point of contact, added item E) to instructions, and added methodology for calculating scores
01	03/11/2024	54	Event #19: Added services manual to list of references
01	03/11/2024	66	Event #25: Added description, instructions, and tool and equipment list