

# **ACC**

# **AERIAL EVENTS**

## **2021 Demo Team and Heritage Flight**

## **SUPPORT MANUAL**

**Compliance with this support manual is mandatory**



**ACC/A3TA**

As of 1 Feb 21

## CHANGES

### Changes from 2020 Support Manual

1. General: Wordsmithing has been accomplished throughout the Support Manual, but in most cases it does not change the context. Significant changes are listed below.
2. Introduction: Added a caveat that not all shows with a Demo Team will receive a Heritage Flight.
3. Chap 1: POC names and/or contact information have been updated.
4. Chap 1: Removed the ACC Aerospace Ground Equipment (AGE) Program Manager from the POC list. AGE and Temporary Arresting Gear questions can now be directed to the POC listed under the HQ ACC Aerial Events Office.
5. Chap 5: Adjusted the type vehicles required for the A-10.
6. Chap 6: Added show line exception for the A-10 for a CAT 2 air show box.
7. Chap 6: Updated the types of arresting gear that are compatible for each demo aircraft.
8. Chap 6: Updated runway length requirements for arresting gear for the F-16.
9. Chap 6: Added arresting gear requirements/considerations for Heritage Flight only performances (i.e. no demo).
10. Chap 6: Added the maximum distance from show site that an ACC Demo Team can stage from is 50 NM.
11. Chap 6: Added the ability for F-16, A-10 and F-35 Demo Pilots to dispense flares at overwater air shows.
12. Chap 6: Added requirement for a sanitized aerobatic box except for essential personnel.
13. Chap 6: Added Air Boss requirement for all shows and Air Bosses at US and Canadian Air Shows must have an ICAS Letter of Authorization to act as an Air Boss.
14. Chap 6: Added additional restriction on how far a parachute landing zone must be from our aircraft if our engines are running or warbird props are turning.
15. Chap 6: Added an exception to the requirement for a 3,000-foot wide aerobatic box, if FAA waives the show line to closer than 1,500 feet (but no closer than 1,200 feet).
16. Chap 9: Updated types of Hydraulic Servicing Carts for the F-35.
17. Chap 9: Added requirement for Gaseous Oxygen for the F-35.
18. Chap 14: Updated music licensing fees for BMI, ASCAP, and SESAC for 2021.
19. Atch 1: Updated the checklist to match updates in Chaps 1-15.
20. Atch 6: Inserted this Attachment adding procedures for A-10/F-16/F-35 Demo Pilots dispensing flares at overwater air shows and renumbered the previous Atchs 6 and 7 as Atchs 7 and 8.
21. Atch 7: Amended the procedures for requesting Military AGE and the memo from ACC/A3 to the military installation(s) from which the air show is requesting AGE support. **(NOTE: The signed memo will be added as soon as it is signed).**

22. Atch 8: Added a few acronyms to the Glossary of Terms

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9.....	Maintenance
10.....	Security
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<b>Attachments</b>	
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3.....	Confirmation of Insurance Coverage
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Dispensing Flares at Overwater Air Shows

7.....Request for Military Aerospace Ground  
Equipment (AGE)

8.....Glossary

## INTRODUCTION

### PURPOSE

1. Congratulations on receiving an Air Combat Command (ACC) F-35, F-22, F-16 and/or A-10 Single-Ship Demonstration Team and/or United States Air Force (USAF) Heritage Flight (HF) provided by ACC and the Air Force Heritage Flight Foundation (AFHFF), also referred to as the Heritage Flight Foundation (HFF), to support your event. The purpose of this manual is to help ensure your event is a resounding success. We look forward to working with you in this endeavor.
2. This manual provides support requirements for both the Single-Ship Demonstration Teams and the AFHFF Warbird Pilots. Requirements unique to one Demo Team or unique to the AFHFF Warbird Pilots will be listed separately.
3. The USAF Heritage Flight Program (USAFHFP) is a coordinated USAF and AFHFF aerial performance, which **will more often than not** be scheduled as a package for air shows and open houses where an ACC F-35, F-22, F-16 or A-10 Single-Ship Demo Team is scheduled to perform. **The AFHFF is contracted to perform less shows than the Demo Teams are authorized to support, so not all shows will receive a HF.** Several factors will be taken into account when deciding which shows will or will not receive a HF, including warbird pilot and aircraft availability.

**NOTE: The USAF Heritage Flight Team consists of the ACC Single-Ship Demo Teams and AFHFF civilian pilots, maintenance, etc. Unless stated otherwise, any reference to “THE TEAM” includes all of these folks.**

### HISTORY OF THE USAFHFP

1. In 1997, the Air Force celebrated its 50th Anniversary as a separate branch of the military. In support of the celebration, ACC started flying dissimilar formation flights consisting of ACC Single-Ship Demonstration Pilots flying F-15, F-16, and A-10 aircraft in formation with approved civilian warbird pilots flying A-1's, A-36's, P-40's, P-51's, P-47's, P-38's, and F-86's. The response was an overwhelming favorite during air shows, so ACC designed and approved a formal program, the USAFHFP to continue these flights throughout future air show seasons.
2. Over the years, the program has included the A-10, F-16, F-15C, F-15E, F-4, F-22 and the F-35 active duty aircraft. In 2010, the AFHFF was formed to keep this popular program flying. In 2013, due to funding concerns, the USAF cancelled all support for the program, so the AFHFF increased its commitment to the program and kept it alive by flying HFs with warbirds only. In 2015, ACC resumed funding and began rebuilding the program by adding our fighter aircraft to the USAFHFP once again. Currently, the F-35, F-22, F-16 and A-10 Single-Ship Demonstration Teams are the only active duty participants of the USAFHFP.

- 3.** USAF HFs may only be conducted by ACC Single-Ship Demonstration Pilots and trained and approved AFHFF Warbird Pilots. This program and these pilots are also endorsed by the Federal Aviation Administration (FAA).

## CHAPTER 1 – GETTING STARTED

### PURPOSE

1. The mission of THE TEAM is to connect with the American public and veterans, recruit and retain personnel, display USAF airpower to the public, and enhance community and international relations for the United States of America. Your assistance is vital for mission accomplishment.
2. Our support for your air show/open house is directly related to how effective we are in accomplishing our mission. Public outreach, *specifically, firm interviews and community events, as well as children's hospital visits, school visits, etc.*, is central to our mission accomplishment. We appreciate your diligent efforts in supporting THE TEAM and its mission.
3. This support manual is applicable to all air shows/open houses; however, for OCONUS air shows and Trade Shows, if ACC is directed to support one at a location where our ACC team has to deploy with additional support equipment / personnel, or where they will be flying another Major Command's (MAJCOM's) aircraft, expect additional requirements, such as additional people/lodging/rental cars, airlift and air refueling support, passports and visas, etc. Also, for these shows, some of the requirements in this Support Manual are not applicable, such as Trade Shows not having to fund lodging and other costs associated with the lodging facility, or possibly no JOAP lab requirement, if the team can deploy with a portable lab and a technician, etc. The ACC Overseas Scheduler will discuss these requirements with you prior to committing a demo and/or HF team to your show. (See Mailing Addresses/Contact Information later in this chapter for contact information.)

### REQUEST PROCEDURES

You are required to fill out a digital DD Form 2535 via the SAF/PA Website at: <https://www.airshows.pa.hq.af.mil/PublicSite/Index.cfm?fwa=home>. You should then print it out, have it signed by FAA/local Flight Standards District Office (FSDO) (or your country's equivalent agency), and mail a copy or e-mail a scanned copy to SAF/PA. (Note: Until further notice, SAF/PA cannot receive Fax's).

ACC plans to announce the 2022 Demo/Heritage Flight Schedules at the International Council of Air Shows (ICAS) Convention in Dec 2021, so all requests must be received by 1 Jul 21. We will follow this same schedule for the oncoming years.

### OPEN HOUSE/AIR SHOW COMMITTEE MEMBERS

1. **Air Show Director** – The Air Show Director must read every section of this support manual and fully understand the contents and requirements. *He/she will also sign the agreement forms at Attachments 1 and 3 and send them, along with a completed*

*Attachment 2, to the appropriate ACC Demo/HF Team no later than (NLT) 45 days prior to your event.* Lack of signed forms may jeopardize ACC's ability to support your event. If you are missing one or two items from Attachment 1, please send it anyway. You can call the scheduled team later and pass on the additional information. Failure to fulfill the requirements outlined in this support manual may limit your chances to receive ACC and AFHFF support in the future and could cause cancellation of the currently scheduled support.

- a. If you are scheduled for an ACC F-35, F-22, F-16 and/or A-10 Single-Ship Demonstration and/or a HF but cannot meet some of the requirements in this support manual, coordinate with the applicable team's Superintendent or Team Chief 45 days prior to show start date (60 days for the F-35 Demo Team). The Demo Pilot will determine if the event can still be supported.
  - b. For a HF warbird, if you are unable to meet any requirements, you must also coordinate with the AFHFF NLT 30 days prior to show start date.
- 2. Host-Site Single-Ship Demonstration/Heritage Flight Project Officer –** We recommend naming one individual as your Host-Site Demo/HF Project Officer and allowing him/her to be the Demo Team's, ACC Aerial Events', and the USAFHFF's sole source of contact with your air show / open house staff. Experience has shown that having one focal point for funneling information between the show site, HQ ACC, and THE TEAM reduces the chances of miscommunication. Your POC must be in contact with THE TEAM when building the air show/event flying schedule and before making changes to it.
- a. **Your Demo/HF Project Officer must read this manual** and be acquainted with the respective areas of responsibility. He/she should be able to discuss all details of your air show/open house and THE TEAM's operational requirements. Details will include, but are not limited to, your schedule of events, FAA waivers, airfield/show site diagrams, housing and transportation requirements, public relations (PR) requests, maintenance equipment requirements, etc.
  - b. **Your Demo/HF Project Officer** must be readily available for direct coordination with the Demo Team and the AFHFF at least *45 days prior* to the air show (60 days for the F-35 Demo Team).
- 3. Air Force Recruiter –** We recommend you put an Air Force Recruiter on your air show/open house committee. Recruiting quality candidates for military service is the primary mission of THE TEAM. It is essential that local recruiters take an active role in coordinating activities to enhance recruiting efforts, and we highly recommend they be part of your air show committee. Recruiters must work closely with the host-site Public Relations (PR)/Publicity Representative to gain maximum benefit from THE TEAM's visit. The ACC Aerial Events, Demo Teams and AFHFF POCs are listed below. Please keep them in the loop during your planning. You can find a



local recruiting squadron by contacting the ACC Aerial Events Recruiting Liaison listed below or by going to [www.Airforce.com](http://www.Airforce.com).

- 4. Host-Site PR/Publicity Representatives** – He or she is responsible for coordinating THE TEAM's participation at all receptions, dinners, public relations visits, and media interviews. Coordination with the ACC Aerial Events Media Coordinator listed below and local USAF Recruiting Representatives will greatly facilitate Air Force recruiting and retention support. An effective publicity campaign is crucial to a successful air show/open house. The Host-Site PR/Publicity Representatives should write and/or distribute, as applicable, all pre-show publicity, and arrange for media interviews, PR commitments, and live coverage of the air show/open house.

### **MAILING ADDRESSES/CONTACT INFORMATION**

When corresponding with ACC Aerial Events, the ACC Demo Team scheduled to support your air show/open house, the AFHFF, or the AFHFF Warbird Pilot(s) scheduled to support your show/open house, send all letters, e-mails and packages to the applicable POC listed below. Due to the possibility of mail delays, send important information by priority mail, in sufficient time to reach the recipient before the suspense date. In lieu of priority mail, you may fax or e-mail the information. Do not use FEDEX for on-base deliveries. The applicable mailing addresses, phone and fax numbers, and e-mail addresses are:

**ACC Aerial Events Website:** <https://www.acc.af.mil/Home/Aerial-Events/>

#### **HQ ACC Aerial Events Office (Mail)**

HQ ACC/A3TA Aerial Events Branch  
205 Dodd Blvd, Ste. 121  
Joint Base Langley-Eustis, VA  
23665-2789

#### **HQ ACC Aerial Events Office (Packages)**

HQ ACC/A3TA Aerial Events Branch  
205 Dodd Blvd, Bldg 693, Room 220  
Joint Base Langley-Eustis, VA  
23665-2789

If your event falls in or begins in an even month, contact:  
Mr. Steve Bultman at Comm: (757) 225-9274 or DSN: 575-9274  
E-mail: [steve.bultman.1.ctr@us.af.mil](mailto:steve.bultman.1.ctr@us.af.mil)

If your event falls in or begins in an odd month or is overseas, contact:  
Mr. Larry Schleser at Comm: (757) 764-8175 or DSN: 574-8175  
E-mail: [lawrence.schleser.ctr@us.af.mil](mailto:lawrence.schleser.ctr@us.af.mil)

If you have questions regarding recruiter support, contact:  
MSgt Christopher Arthur, ACC/A3TA Events Marketing Recruiting Liaison, at  
Comm: (757) 764-8346 or DSN: 574-8346  
E-mail: [christopher.arthur.1@us.af.mil](mailto:christopher.arthur.1@us.af.mil)

If you have questions regarding the temporary arresting gear schedule or AGE, contact:

Mr. Dan Young at Comm: (757) 225-9275 or DSN: 575-9275

E-Mail: [daniel.young.53.ctr@us.af.mil](mailto:daniel.young.53.ctr@us.af.mil)

Back-up is Mr. Larry Schleser at Comm: (757) 764-8175 or DSN: 574-8175

E-mail: [lawrence.schleser.ctr@us.af.mil](mailto:lawrence.schleser.ctr@us.af.mil)

If you have questions regarding media or public relations, contact the ACC Aerial Events Media /PR Coordinator or one of the ACC/Public Affairs Representatives listed below:

ACC Aerial Events Media/ Public Relations Coordinator:

Mr. Steve Bultman at Comm: (757) 225-9274 or DSN: 575-9274

E-mail: [steve.bultman.1.ctr@us.af.mil](mailto:steve.bultman.1.ctr@us.af.mil)

ACC Public Affairs, contact:

Ms. Michelle Clougher (ACC/PAI) at Comm: (757) 764-5936 or DSN: 574-5936

E-mail: [michelle.clougher@us.af.mil](mailto:michelle.clougher@us.af.mil), or her alternate,

Ms. Dana Lineback (ACC/PAC), at Comm: (757) 764-5994 or DSN: 574-5994,

E-mail: [dana.lineback@us.af.mil](mailto:dana.lineback@us.af.mil).

For all other issues or if unable to contact one of the POCs listed above, contact ACC/A3TA at Comm: (757) 764-8346 or DSN: 574-8346.

E-mail: [acc.a3ta@us.af.mil](mailto:acc.a3ta@us.af.mil)

## **F-22 Single-Ship Demonstration Team Contact Information:**

1st OG Demo Team

160 East Flight Line Road, Ste 104

Joint Base Langley-Eustis, VA 23665-2297

Comm: (757) 764-5028 or DSN 574-5028

Maj Joshua "Cabo" Gunderson

Comm: (757) 764-1926 or DSN: 574-1926

Cell: (757) 755-1252

E-mail: [joshua.gunderson.2@us.af.mil](mailto:joshua.gunderson.2@us.af.mil)

MSgt George Fagan (Team Superintendent)

Comm: (757) 225-9972 or DSN: 575-9972

Cell: (757) 381-9176

E-mail: [george.fagan@us.af.mil](mailto:george.fagan@us.af.mil)

TSgt Kevin DeWeese (Team Chief)

Comm: (757) 225-9963 or DSN: 575-9963

Cell: (805) 610-5604

E-mail: [kevin.deweese@us.af.mil](mailto:kevin.deweese@us.af.mil)

SSgt Don Hudson (Team Public Affairs Officer)  
Comm: (757) 764-5701 or DSN: 574-5701  
Cell: (435)-374-3979  
E-mail: [donald.hudson.10@us.af.mil](mailto:donald.hudson.10@us.af.mil)

**F-16 Single-Ship Demonstration Team Contact Information:**

F-16 Viper Demo Team  
530 Houston Ave, Bldg 106  
Shaw AFB, SC 29152

Maj Garret "Toro" Schmitz  
Comm: (803) 895-9342 or DSN: 965-9342  
Cell: (803) 468-5409  
E-mail: [garret.schmitz@us.af.mil](mailto:garret.schmitz@us.af.mil)

MSgt Brandon Baden (Team Superintendent)  
Comm: (803) 895-5440/5436 or DSN: 965-5440/5436  
Cell: (803) 468-4746  
E-mail: [brandon.baden@us.af.mil](mailto:brandon.baden@us.af.mil)

TSgt Ryan Hutchison (Team Chief)  
Comm: (803) 895-5440 or DSN: 965-5440  
Cell: (803) 607-6069  
E-mail: [ryan.hutchison.2@us.af.mil](mailto:ryan.hutchison.2@us.af.mil)

SSgt Robert Harper (Team Public Affairs Representative)  
Comm: (803) 895-5440 or DSN: 965-5440  
Cell: (803) 607-5781  
E-mail: [robert.harper.8@us.af.mil](mailto:robert.harper.8@us.af.mil)

**A-10 Single-Ship Demonstration Team Contact Information:**

355 FG/A-10C Thunderbolt Demonstration Team  
4225 S. Flightline Rd  
Davis-Monthan AFB, AZ 85707  
Email: [355fw.demo.a-10@us.af.mil](mailto:355fw.demo.a-10@us.af.mil)

Capt Haden "Gator" Fullam  
Comm: (520) 228-1935 or DSN: 228-1935  
Cell: (423) 593-3129  
E-mail: Primary: [haden.fullam.1@us.af.mil](mailto:haden.fullam.1@us.af.mil)  
Secondary: [355fw.demo.a-10@us.af.mil](mailto:355fw.demo.a-10@us.af.mil)

MSgt Andrew Ringquist (Team Superintendent)  
Comm: (520) 228-1953 or DSN: 228-1953

Cell: (530) 845-8882  
E-mail: Primary: [andrew.ringquist@us.af.mil](mailto:andrew.ringquist@us.af.mil)  
Secondary: [355fw.demo.a-10@us.af.mil](mailto:355fw.demo.a-10@us.af.mil)

TSgt Brian Pontes (Team Chief)  
Comm: (520) 228-2427 or DSN: 228-2427  
Cell: (623) 238-0218  
E-mail: Primary: [brian.pontes@us.af.mil](mailto:brian.pontes@us.af.mil)  
Secondary: [355fw.demo.a-10@us.af.mil](mailto:355fw.demo.a-10@us.af.mil)

SSgt Sergio Gamboa (Team Public Affairs Representative)  
Comm: (520) 228-3406 or DSN: 228-3406  
Cell: (420) 461-0512  
E-mail: Primary is [sergio.gamboa@us.af.mil](mailto:sergio.gamboa@us.af.mil)  
Secondary is [355fw.demo.a-10@us.af.mil](mailto:355fw.demo.a-10@us.af.mil)

**F-35 Single-Ship Demonstration Team Contact Information:**

F-35 Demonstration Team  
7403 Canberra Dr.  
Bldg 36, Room 212  
Hill AFB, UT 84056  
E-mail: [388FW.F35.Demo@us.af.mil](mailto:388FW.F35.Demo@us.af.mil)

Capt Kristin "BEO" Wolfe  
WK Cell: (801) 564-8673  
PSN Cell: (334) 590-0702  
E-mail: [kristin.wolfe.3@us.af.mil](mailto:kristin.wolfe.3@us.af.mil)  
[388FW.F35.Demo@us.af.mil](mailto:388FW.F35.Demo@us.af.mil)

MSgt Lance Murphy (Team Superintendent)  
Comm: (801) 777-2551 or DSN: 777-2551  
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E-mail: [lance.murphy.1@us.af.mil](mailto:lance.murphy.1@us.af.mil)  
[388FW.F35.Demo@us.af.mil](mailto:388FW.F35.Demo@us.af.mil)

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Comm: (801) 777-2556 or DSN: 777-2556  
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[388FW.F35.Demo@us.af.mil](mailto:388FW.F35.Demo@us.af.mil)

Capt Kippun Sumner (F-35 Demo Team Public Affairs Representative)  
388 FW Public Affairs  
Hill AFB, UT 84056  
Comm: (801) 777-7617 or DSN: 777-7617

Cell: (801) 867-1636  
E-mail: [kippun.sumner.1@us.af.mil](mailto:kippun.sumner.1@us.af.mil)  
[F35demopa@gmail.com](mailto:F35demopa@gmail.com)

**ACC Red Horse Scheduler:**

Mr. Gerard "Jerry" Wasserbauer  
AFMC AFIMSC/Det 8 (ACC)  
Joint Base Langley-Eustis, VA  
Comm: (757) 764-4185 or DSN: 574-4185  
E-mail: [gerard.wasserbauer@us.af.mil](mailto:gerard.wasserbauer@us.af.mil)

**ACC AGE POC:** See ACC Aerial Events AGE POC listed earlier in this chapter.

**Civilian Heritage Flight Pilots Schedulers / Coordinators:**

**Air Force Heritage Flight Foundation**

Ms. Allie Mount  
1663 18th St. 1st Fl.  
Santa Monica, CA 90404  
Work: (310) 651-7040  
Cell: (720) 363-5917  
E-mail: [allie@pursuitproductions.com](mailto:allie@pursuitproductions.com)

Mr. Tommy Williams  
Cell: (817) 913-0702  
E-mail: [t.williamsf16@verizon.net](mailto:t.williamsf16@verizon.net)

**Civilian Heritage Flight Pilots**

Contact Ms. Allie Mount or Mr. Tommy Williams at the AFHFF (see above), for civilian HF pilots' contact information. The following is a list of the current civilian AFHFF pilots who are ACC approved and qualified.

Greg Anders  
James Beasley, Jr.  
Kevin Eldridge  
Dan Friedkin  
Charles Hainline  
Steve Hinton  
Andrew McKenna  
Stuart Milson  
Tommy Williams

## CHAPTER 2 – THINGS WE NEED TO KNOW

### AIR SHOW/OPEN HOUSE INFORMATION SHEET

1. The Air Show/Open House Information Sheet (Attachment 2) contains essential information needed by the Demo Team scheduled for your show. Please send it to the applicable team, as soon as possible, but not later than **45 days prior** to your air show (60 days for the F-35 Demo Team).
2. When filling out the information sheet, be sure to include the **full name and rank** (if applicable) of all individuals and commercial and DSN (if applicable) phone numbers. If you are missing one or two items from the information sheet, please send it anyway. You can call the team later to pass on the remaining information.
3. Please verify all telephone numbers and notify the applicable Demo Team immediately of changes.
4. If unable to meet any of the warbird requirements in this Support Manual, Air Show Directors/Organizers must coordinate with the AFHFF **NLT 30 days prior** to show start.

### SCHEDULE OF EVENTS

1. Thirty days prior to your air show / open house, send a draft flying schedule to the Demo Team and the AFHFF Warbird Pilot(s) participating in your show.
2. Thirty days prior to your air show /open house, send the Demo Team and the AFHFF Warbird Pilot(s) participating in your show their lodging location to help them with their recruiting efforts in lining up school visits, etc.
3. No later than one week out from the air show/open house start date, please provide the applicable ACC Single-Ship Demonstration Team and the AFHFF POC or Warbird Pilot a detailed schedule of your air show. It should include the following.
  - a. All scheduled events and the times they will perform (from gates open to gates closed).
  - b. Scheduled or proposed public relations appearances (e.g. high school visits, hospital visits, etc.).
  - c. Names and positions held of all VIPs attending the air show.
4. Please ensure all ACC Demo Team members and AFHFF Warbird Pilots/Crew Chiefs are included on all access lists, in particular, those used to access the flight line, VIP area, etc. Flight line badges, along with any other locally required documentation, may be used in lieu of an access list. Also, ensure all vehicles

utilized by The Team have flight line access for the purpose of driving to and from their aircraft during the show and the rehearsal.

## **CHAPTER 3 – MAINTENANCE PERSONNEL ARRIVAL**

### **ACC DEMO TEAM MAINTENANCE PERSONNEL ARRIVAL**

The ACC Demonstration Team maintenance support personnel will usually arrive at your air show/open house site one day before the pilots/jets. Only in extenuating circumstances will other arrangements be made. Upon arrival, all Demo Team maintenance personnel will require show-provided transportation to pick them up from the airport, if they fly in via commercial air, unless the air show has coordinated for them to pick up rental cars at the airport. A full size van or 2 minivans will be required to transport THE TEAM's luggage and maintenance equipment to and from the airport. (For the F-35 Demo Team an SUV or full size van and 2 minivans will be required)

### **WARBIRD MAINTENANCE PERSONNEL ARRIVAL**

If the civilian AFHFF Warbird Pilot brings maintenance support personnel, they may arrive via commercial air or via the backseat (if applicable) of the warbird. If they arrive via commercial air, they will require show-provided transportation to pick them up from the airport.

### **MEETING**

The senior team maintenance representative and the warbird maintenance representative, if there is one, will meet with the air show/open house director/coordinator or Host–Site Demo Team Project Officer at a pre-arranged time and location to discuss the team's schedule and review requirements of this manual. Please ensure there is a representative(s) present for each area covered in the support manual who can answer questions and has the authority to fix all problems that may arise. Agenda items will include the items listed below.

- a. Air show schedule
- b. Public relations/media commitments
- c. Hangar space / Security for aircraft
- d. Maintenance equipment
- e. Recruiting support
- f. Transportation
- g. Flight line access
- h. Fire/disaster/emergency response
- i. Lodging
- j. Fuel
- k. Music Licenses
- l. Free parking space for the AFHFF RV, if applicable
- m. Force Protection/Antiterrorism. For a civilian air show, contact a local law enforcement, Transportation Security Administration (TSA), or Homeland Security representative, as appropriate, to discuss local force protection.



**GROUND SURVEY OF AIR SHOW SITE**

After the meeting, air show representatives will provide maintenance personnel a complete tour of the air show/open house site and flight line.

**INVENTORY OF MAINTENANCE SUPPORT EQUIPMENT**

Maintenance personnel will inventory maintenance support equipment after ground survey of the air show/open house site.

## CHAPTER 4 – HOUSING

### GENERAL

1. The air show/open house will provide lodging for THE TEAM at no expense to THE TEAM. Coordinate with the applicable Demo Team and the AFHFF POC or the AFHFF Warbird Pilot before making billeting arrangements. If attending a military air show (Navy, Marine, or Army), the team will not book lodging through DTS, as this is the responsibility of the air show.
2. **Room Reservations:** The following number of rooms will be reserved for each team. Please contact the applicable Demo Team and AFHFF POC or AFHFF Warbird Pilot for further details:
  - a. F-22 Demo Team – at least ten non-smoking rooms. The team may require two additional rooms for pilots who bring aircraft to the air show/open house from other bases to support the team.
  - b. F-16 Demo Team – at least nine non-smoking rooms.
  - c. A-10 Demo Team – at least eight non-smoking rooms.
  - d. F-35 Demo Team – at least eleven non-smoking rooms. The team may require two additional rooms for pilots who bring aircraft to the air show/open house from other bases to support the team.
  - e. Civilian HF Pilot – at least two non-smoking rooms per warbird, unless otherwise coordinated with the AFHFF Warbird Pilot that he only needs one or no rooms (i.e., when he doesn't bring a crew chief or when he stages from his home base or another air show site).
  - f. If marijuana is legal in your state, lodge the team in a non-smoking hotel or ensure that marijuana is not used in the hotel by other patrons during the time THE TEAM is lodged there.
3. On occasion, THE TEAM may require up to four additional rooms due to other circumstances/requirements for your show, such as staging from other than show site or when other pilots are bringing jets to the show for the Demo Pilot to fly, etc. If so, THE TEAM will inform the air show of the additional requirement. Room reservations and funding are the host billeting representative's responsibility. *Demo Team personnel cannot sign any billeting contracts, and everyone must have their own room.*
4. Provide one non-smoking room for each HQ ACC representative and/or wing leadership representative (from the wing that owns the Demonstration Team) who

attends the show for official air show business only. Normally this is no more than one person from HQ ACC and/or one person from the Demo Team's wing leadership.

5. Ensure the hotel is clean and in a quiet location, i.e., not near railroad tracks, heavily traveled thoroughfares, or heavy construction.
6. Hotel rooms for the Demo Pilot, Safety Observer, Maintenance Team Chief, and civilian AFHFF Pilot must have a telephone and high-speed data connections for computer equipment. Arrangements **MUST** be made beforehand with lodging locations to ensure the team will not be charged for the high speed data connections (e.g., internet) or telephone calls used for official/authorized purposes. All rooms must have air conditioning.
7. Crew integrity is required. All personnel on THE TEAM will be billeted at the same hotel/on-base quarters. THE TEAM **will not** split into enlisted/officer quarters on a military installation. A crew is defined as the Demo Pilot, Safety Observer, Narrator, Demo Team Maintainers, civilian HFF Pilot/Maintainer, and any ACC Headquarters or Wing Leadership personnel.
8. Billet the Demo Team members and the civilian AFHFF Pilot/Maintainers with other air show participants to the maximum extent practical.
9. Reserve rooms for all ACC and civilian AFHFF personnel under the applicable ACC Single-Ship Demonstration Team (i.e., F-35, F-22, F-16, or A-10 Demo Team). Team members may change at the last minute, causing confusion, if rooms are reserved under individual names.
10. Billet THE TEAM a convenient distance from the show site (30-minute maximum driving time--police escort required if longer drive). If THE TEAM is staging from a deployed location, billet THE TEAM near the air show rather than the staging location, unless coordinated otherwise with THE TEAM.
11. *Should THE TEAM experience delays in departing the air show/open house due to aircraft malfunction, weather, or other reasons, they may be forced to stay longer than planned. If that is the case, THE TEAM will require the rooms for as long as needed at the air show's/open house's expense for only those individuals required to remain behind. Rooms may also be required for specialized maintenance personnel who may have to report to fix a broken aircraft. In any event, the team will make every effort to depart as soon as possible to minimize the expense to the air show/open house.*

### **ADDITIONAL REQUIREMENTS**

1. Credit Cards: The hotel THE TEAM stays at must accept VISA credit cards for incidentals; Air Force regulations mandate their use for official business.

**2. Parking:**

- a.** If the hotel charges for parking, arrangements must be made to have the charges waived. If the hotel will not waive the charges, the air show/open house will be required to cover the cost.
- b.** Due to the amount of gear the team has to carry, if using other than hotel parking lot/garage, the parking facility must be within one city block of the lodging facility.

**3. Other:**

- a.** Dining facilities, decent fitness facilities, and laundry/dry cleaners should be located nearby.
- b.** For civilian air shows: If the hotel fitness center doesn't offer a variety of exercise equipment, the air show must provide a temporary membership to a 24-hour fitness facility within 10 miles of the hotel at no cost to THE TEAM for the duration of their stay.
- c.** For military air shows/open houses: If the fitness center on base is closed during the air show, then the base must provide a temporary membership to a 24-hour off-base fitness facility within 10 miles of the lodging facility at no cost to THE TEAM, for the duration of their stay.

## CHAPTER 5 – TRANSPORTATION

### GENERAL

1. The host-site transportation representative must ensure vehicle requirements are met. If attending a military air show (Navy, Marine, or Army), the team will not book rental through DTS, as this is the responsibility of the air show.
2. Funding for vehicles and vehicle fuel for the Demo Team and the civilian AFHFF personnel is the air show's/open house's responsibility. Please ensure the vehicles have a full tank of gas upon pickup. Should extensive driving be required to support the show and vehicles need to be re-fueled, host-site transportation representatives must provide a method to refuel vehicles at no expense to the Demo Team or the civilian AFHFF personnel.
3. Demo Team personnel, HQ ACC personnel and wing leadership do not provide rental contract information to show sites. It is the air show's/open house's responsibility to provide vehicles for THE TEAM.
4. All toll fees are the responsibility of the air show. All vehicles should come equipped with E-Toll or equivalent to ensure THE TEAM is not billed for any tolls.

### ACC TEAM REQUIREMENTS

Each Demo Team and the AFHFF will ensure all team members are qualified to operate rental or courtesy vehicles. The air show/open house is responsible for providing insurance for vehicles. (Use Attachment 3). Vehicle requirements are as follows:

- a. **F-22 Demo Team:** Unless the Demo Team tells you otherwise, provide six vehicles as follows: two full-size vans/SUVs to carry maintenance tool boxes and equipment, and four mid-size sedans. The Demo Team may require one additional vehicle for F-22 pilots who bring aircraft to the air show/open house from other bases to support the team.
- b. **F-16 Demo Team:** Unless the Demo Team tells you otherwise, provide five vehicles as follows: two full-size vans/SUVs to carry maintenance tool boxes and equipment, and three mid-size sedans.
- c. **A-10 Demo Team:** Unless the Demo Team tells you otherwise, provide five vehicles as follows: two full-size vans/SUVs to carry maintenance tool boxes and equipment, and three mid-size sedans.
- d. **F-35 Demo Team:** Unless the Demo Team tells you otherwise, provide six vehicles as follows: three full sized minivans/SUVs to carry maintenance tool boxes and equipment, and three mid-size sedans. The Demo Team may require

one to two additional vehicles for F-35 pilots who bring aircraft to the air show/open house from other bases to support the team.

- e. Civilian HF Pilots:** Provide one vehicle per warbird.
- f. HQ ACC and/or Demo Team Wing Leadership Representative:** Provide one sedan for each ACC or Demo Team wing leadership who attends the air show/open house for official air show business only.
- g.** *Should THE TEAM experience delays in departing the air show/open house due to aircraft malfunction, weather or other reasons, they may be forced to stay longer than planned. If that is the case, THE TEAM will require the vehicles for as long as needed at the air show's/open house's expense for only those individuals required to remain behind. Additional vehicles may also be required for specialized maintenance personnel who may have to report to fix a broken aircraft. In any event, THE TEAM will make every effort to depart as soon as possible to minimize the expense to the air show/open house.*

### **HOST TRANSPORTATION REQUIREMENTS**

The host-site transportation representative shall ensure the items below have been accomplished.

- a.** Host-site personnel are briefed to release all required vehicles to THE TEAM.
- b.** All vehicles assigned for team use are available for the duration of their stay, including a continued stay due to aircraft maintenance problems, weather, or other reasons, at the air show's/open house's expense.
- c.** Where government cars/vehicles are available, they should generally be used. These vehicles will be available for off base official use.
- d.** All vehicles are in place, fully serviced and fueled.
- e.** All vehicles are in good mechanical condition and dependable.
- f.** All vehicles are authorized unrestricted flight line and parking ramp access.

### **COURTESY CARS**

If courtesy cars are used, it is essential the dealer/provider understand the limitations on advertisements. Dealers/providers may not in any way, before, during or after the team's visit, advertise that the courtesy cars were provided for use by a Demo Team or the civilian AFHFF pilot. Dealer/Air Show will provide insurance for courtesy cars at no cost to the team. Please return signed Attachment 3, Confirmation of Insurance Coverage, to the Demo Team.

## **MAPS**

Please provide all vehicles with a map of the base and/or local community.

## **GOLF CARTS**

Due to congestion in the Priority Level 3 (PL 3) parking areas (secured aircraft parking area) and show center, the Demo Team requires the use of a golf cart at the show site and at the staged location, if staging. If a golf cart is not available, please provide another independent mode of travel for the team while on the flight line.

## **AFHFF Recreational Vehicle (RV)**

Occasionally AFHFF Warbird Pilots will bring an RV to an air show/open house. They will require parking space on the ramp and approval to cook at the RV without paying a vendor fee.

## CHAPTER 6 – OPERATIONS

### AIRFIELD DIAGRAM

Air Show organizers must provide the participating F-35, F-22, F-16, and/or A-10 Demo Team and AFHFF POC (or AFHFF Warbird Pilot) with a diagram of their airfield/show site. The team should receive the airfield diagram NLT **30 days before** the date of the air show. As a minimum, your airfield diagram should depict the items listed below.

- a. Show center location and coordinates.
- b. The complete aerobatic box.
- c. The entire show line and crowd line (with distance between them), and any secondary crowd lines/Demo and HF aircraft parking area.
- d. Parking locations and coordinates for arrival and the air show. Any changes to parking locations once teams have arrived need to be coordinated with the Demo or HF Pilot or Team Chief before a change is made.
- e. Magnetic (MAG) bearing of the runway, depiction of Magnetic North, and the scale of the diagram.
- f. Access routes to show center and aircraft parking.
- g. For deployed shows, THE TEAM must have a diagram of the show site, as well as the airfield from which the aircraft will deploy.
- h. Provide the pilots with a sectional chart and advise on any hazards in the local area which may not be readily known to transient aircrew.

### SHOW LINE

1. The show line should normally be a straight path over the ground, located 1,500 feet in front of the crowd. If the crowd line is other than a straight line, the show line must be 1,500 feet from the closest spectator area. This line will be used as a primary reference during the ACC Single-ship Demonstration and/or HF.  
**Exception:** The A-10 is certified as a Cat 2 aircraft and can perform aerobatic maneuvers on the 1,000 foot show line. In the absence of a 1,000 foot show line aerobatic maneuvers will be performed on the 1,500 foot show line.  
**NOTE:** Show line for non-aerobatic maneuvers (HF performance, high speed pass, etc.) must be a minimum of 500 feet from the closest spectator area.
2. All markers used to define the show line must be large, highly visible, easily identifiable, and with a stark color contrast to the surrounding terrain. For military



show sites, if the markers are to be placed within 1,000' of an active runway or taxiway, check with airfield management to confirm whether the markers must be frangible to comply with airfield obstruction clearance policies. Markers must be in place prior to the first practice performance. Furthermore, ensure you have clearly visible corner markers 500' outside the end of the crowd lines on both sides.

3. **Overwater Show Line** – For performances flown over water, an artificial show line must be defined by markers, as described above. In addition to being large and highly visible, the markers must also be anchored to ensure they remain in the same position throughout the air show. You will need the assistance of the Coast Guard or Lake Patrol to ensure boats do not enter the aerobatic box during the single-ship demonstration and/or HF.

### **SHOW CENTER**

1. Show center is the location on which the Demonstration/HFF Pilot uses to center each maneuver during the demonstration and/or the HF. If possible, locate show center in a highly visible area such as a taxiway or intersection of a runway centered along the length of the crowd line. Show center should also be aligned, if possible, with a building, road, or other identifiable object, to allow the pilot to accurately annotate any aerial photographs.
2. Show center must be marked by a large, highly visible, easily identifiable object with a stark color contrast to the surrounding terrain. It must also be easily distinguishable from all other markers on the show line. If the show line is on the runway, the marker should be placed at least 100 feet off the runway so as not to interfere with takeoff or landing.

### **CROWD LINE**

1. The crowd line is a physical barrier, preferably **snow fencing or FOD fencing**, to separate the spectators from the aerobatic box and prevent them from moving forward during an air show. For military open houses, this is usually the responsibility of Civil Engineers, in coordination with Airfield Management. Civilian air shows will operate under local policy.
2. **FOD Fencing:** The use of FOD fencing is highly encouraged to prevent FOD from blowing onto the taxiways and runways.
3. The FAA requires the aerobatic box to be void of all people not specifically required for preparation of the demonstration and/or HF.

### **CONGESTED AREAS**

The airfield diagram must reflect the FAA Inspector-in-Charge's (IIC) determination of congested areas.

## AIRCRAFT PARKING (SHOW)

1. Please coordinate parking with the senior maintenance representative when he/she arrives to discuss jet blast safety and parking.
2. The Demo/HF Teams prefer to park their aircraft as close as safety permits to the crowd line, preferably at show center, so the crowd can see the pilots and maintenance team at work.
3. Warbirds must be parked near the ACC aircraft, unless otherwise coordinated with the ACC and AFHFF pilots.  
**NOTE:** If the F-22, F-16, A-10 or the F-35 are required to stage from an airfield other than the show site and the warbirds are not, we request you park the warbird(s) at the show site. If the F-22, F-16 or F-35 is required to stage and you also have an A-10 in the HF, which is not required to stage, we request you park the A-10 and the warbird(s) at the show site.
4. THE TEAMS requires their aircraft to be parked on a taxiway or ramp which is at least 75 feet wide. You must select an area where the pilot and maintenance personnel have unrestricted access and movement. Select an area on the spectators' side of the runway. This will preclude them from frequently crossing active runways. Ensure the parking area and taxiway have proper single-wheel weight-bearing capacity. If you are in doubt, contact THE TEAM representatives.
5. The ACC Demo Teams will normally bring two aircraft to your event. One aircraft will be the primary ACC Demo/HF aircraft and the other will be a spare. The primary and the spare aircraft will be parked together and the Demo Team will preflight both, so either aircraft may be used for the demo. The AFHFF may bring more than one warbird for the HF, but they will all be primary aircraft. They do not normally bring a spare. **NOTE: SPARE AIRCRAFT ARE NOT TO BE PARKED IN THE STATIC DISPLAY AREA, AND THE GENERAL PUBLIC WILL NOT BE PERMITTED TO ACCESS THE AREA WHERE THE SPARE AIRCRAFT ARE PARKED WITHOUT THE EXPRESS PERMISSION OF THE DEMO TEAM.**

## HANGARING OF AIRCRAFT

Provide hangar space for all ACC Demo/HF aircraft in the event of severe weather (hail, lightning, etc.), maintenance of aircraft, or security concerns. Provide hangar space for warbird aircraft during periods of actual and forecast precipitation, in addition to the conditions noted above for the ACC Demo/HF aircraft. Also, provide a tow bar and equipment to expeditiously move the warbird to the hangar. A TR-6 tow bar or similar will work for most warbirds. Contact the AFHFF Pilot for detailed information about his specific aircraft's towing requirements. ***Should THE TEAM experience delays in departing the air show/open house due to aircraft malfunction, weather, or other reasons, they may be forced to stay longer than planned. If that is the case, THE***

***TEAM will require the hangar space for as long as needed at the air show's/open house's expense.***

### **F-35 LIFE SUPPORT GEAR**

The F-35 Demo Team requires secured indoor space for pilot life support equipment near the aircraft parking location. This space must be able to be secured and only F-35 Demo Team members will be allowed access.

### **RUNWAY WEIGHT BEARING REQUIREMENTS**

The minimum single wheel weight bearing (SWWB) requirement for the runway is:

- a. 65,000 pounds or ACN of 28 for the **F-22**.
- b. 30,000 pounds or ACN of 11.5 for the **F-16**.
- c. 35,000 pounds or ACN of 16 for the **A-10**
- d. 48,000 pounds or ACN of 20.5 for the **F-35**.

### **RUNWAY LENGTH, WIDTH AND ARRESTING GEAR REQUIREMENTS**

1. **F-22 and F-35 Demo Aircraft:** The minimum runway length and width for the F-22 and F-35 Demo aircraft is 7,000 feet by 75 feet. All show sites (regardless of runway length), must have the following:
  - a. A suitable arresting gear (BAK-12A; BAK-12B, otherwise known as a BAK-12ER (Extended Runout); E-28 (BAK-13) or BAK-15NI, or BAK-12 equivalent) on site or on a 7000 foot or greater runway, with an operational control tower and crash, fire and rescue (CFR) available. The runway must be within 80 NM of the staging location and within 80 NM of the show site.
  - b. If the above requirement cannot be met, the air show will need to have a temporary arresting gear installed on site or on a 7,000 foot or greater runway, with an operational control tower and CFR available. The runway must be within 80 NM of staging location and within 80 NM of show site. Funding of the installation will be the responsibility of the air show.
  - c. For the **F-22**, the temporary arresting gear may be either an ACC or ANG-installed BAK-12 Mobile Aircraft Arresting System (MAAS) or a Marine-installed M-31 MAAS.
  - d. For the **F-35**, until further notice, the temporary arresting gear must be an ACC or ANG-installed BAK-12 MAAS. Currently, the F-35 is not certified to use the Marine-installed M-31.
  - e. Also, see the NOTE under Paragraph 9 of this section below.

2. **F-16 Demo Aircraft:** The minimum runway length and width for the F-16 is 7,000 by 75 feet. If the runway is 7,000 feet or greater but less than 10,000 feet, one of the following must be available.
  - a. There must be a suitable arresting gear (BAK-6, BAK-9, BAK-12A; BAK-12B, otherwise known as a BAK-12ER (Extended Runout); E-28 (BAK-13) or BAK-15NI, or BAK-12 equivalent) on site or on a 7,000 foot or greater runway, with an operational control tower and CFR available. The runway must be within 80 NM of the staging location and within 80 NM of the show site, OR
  - b. There must be a runway at least 10,000 feet in length, with an operational control tower and CFR within 80 NM of the staging location and within 80 NM of the show site.
  - c. If neither of the above requirements can be met, the air show will need to have a temporary arresting gear (either the ACC or ANG installed BAK-12 Mobile Aircraft Arresting System (MAAS) or the Marine M-31 mobile system) installed on site or on a 7,000 foot or greater runway, with an operational control tower and CFR available. The runway must be within 80 NM of staging location and within 80 NM of show site. Funding of the installation will be the responsibility of the air show.
  - d. Also, see the NOTE under Paragraph 9 of this section below.
3. **A-10 Demo Aircraft:** The minimum runway length and width for the A-10 is 5,000 feet by 75 feet. The airfield must have an operational tower and CFR available.
4. **Warbirds:** The minimum runway length and width for all AFHFF warbirds is 5,000 feet by 75 feet. The airfield must have an operational tower and CFR available.
5. **Heritage Flight Only Arresting Gear Requirement:** If we are only conducting a Heritage Flight without a demo, each situation will be evaluated separately by the demo pilot and ACC to determine arresting gear requirements. Because fuel may not be as much of an issue as it is with a demo and HF, distance to an arresting gear may be different than what's listed above for each aircraft.
6. **Arresting Gear Locations:**
  - a. If the F-35, F-22 or F-16 Demo Pilot is using a permanent or temporary arresting gear that is located at a location other than where the Demo Pilot is operating from, it is the air show's responsibility to coordinate with the base or airfield where the arresting gear is located to make sure it will be operational (control tower in operation, personnel in place to ensure the arresting gear is hooked up, fire department and crash and rescue personnel available and able to meet the same requirements that the air show site is required to meet with regard to response time).

- b. The air show is also responsible for providing the Demo Pilot with radio frequencies for the location of the arresting gear for the pilot to use when contacting that airfield to let them know he/she is inbound and needs to engage the arresting gear.

**7. Temporary Arresting Gear:** This is a mobile arresting gear that can be installed on a temporary basis (i.e., for an air show) to provide hook-equipped aircraft with an arresting gear to use in case of emergency. ACC Aerial Events builds an annual schedule for air shows that require a temporary arresting gear to host the USAF, USN, or USMC hook-equipped aircraft at their show and are required to have a temporary arresting gear installed. For questions on scheduling temporary arresting gear for an air show or to ask about the status of the schedule, contact the ACC Aerial Events temporary arresting gear scheduler listed in Chapter 1. For technical questions on temporary arresting gear installations for an air show or to schedule a specific ACC or ANG Red Horse Team for your installation, contact the ACC Red Horse Scheduler listed in Chapter 1.

#### **8. Temporary Arresting Gear Schedule:**

- a. ACC/A3TA will put together a list of air shows that will require a temporary arresting gear to be installed for the ACC Single-ship Demo Teams, as well as the Thunderbirds and the Blue Angels, and will forward it to the ACC and ANG Red Horse Squadrons and the Marine Expeditionary Teams to sign up for the various installations.
- b. Once all the applicable shows have been assigned a Red Horse Squadron or a Marine Expeditionary Team to install the temporary arresting gear for their air show, ACC/A3TA will inform the applicable shows which Red Horse or Marine Team will be installing the temporary arresting gear for their show.

**9. ACC/ANG versus Marine Temporary Arresting Gear:** ACC and the ANG Red Horse Squadrons install different temporary arresting gear than the Marine Teams install. All military hook-equipped aircraft are certified to use Red Horse systems, but the F-35 is the only military hook-equipped aircraft that is not currently certified to use the Marines' M-31 temporary arresting gear. Any installation required for the F-35 Demo Team will need to be installed by a Red Horse Squadron. Until further notice, funding the installation will be the responsibility of the air show.

#### **10. Certifying a Temporary Arresting Gear**

- a. While the Marine temporary arresting gear (M-31) is self-certifying and does not need an aircraft to perform a certification engagement once it's been installed (although the Blue Angels and other aircraft elect to certify it), the ACC/ANG Red Horse Squadrons' temporary arresting gear requires a tail hook equipped aircraft to perform a certification engagement to bring the arresting system into service.

- b. The Blue Angels will normally certify any of the temporary arresting gear that are installed for their use. As a last resort, the Thunderbirds will certify the temporary arresting gear that is installed for their use, if it is installed at the show site, but they will normally not send an aircraft to another location to certify it. ACC's F-35, F-22 and F-16 Demo Teams will not certify a temporary arresting gear, due to the potential for damage to the aircraft, the cost involved in repairing it, and the potential to lose the spare aircraft for their demo.
- c. Until further notice, it is the air show's responsibility to find a tail hook equipped aircraft to certify the temporary arresting gear installed by an ACC or ANG Red Horse Squadron after it's been installed. Aircraft with low tails are not inclined to do the certification, due to potential damage. The best aircraft for certification is the F-18, F-15 or F-15E.

**NOTE:** If you install a temporary arresting gear on a runway less than 8,000 feet, you will limit which aircraft can land on it to certify it, because most USAF and ANG Wings will not allow their pilots to land on runways less than 8,000 feet, unless a certified arresting gear is already in place.

### **STAGING REQUIREMENTS**

1. When ACC Demo or HFF aircraft have to stage from a location other than where the air show is located, it is the air show's responsibility to coordinate with the staging location and make sure all the requirements in this Support Manual can and will be met (i.e., runway length, width, and weight bearing; arresting gear; ground support equipment; hangars; transportation to/from the air show; crash, fire and rescue; control tower in operation; runway sweeping; etc.).
2. ACC aircraft cannot stage more than 50 NM from the show site.
3. The air show needs to ensure the aircraft are approved to operate from that staging location and have the wing, base or post commander (military staging location) or airport manager (civilian staging location) sign off on the checklist (Attachment 1) in the applicable block under Chapter 6 or provide a signed letter indicating they have approved of the aircraft staging from their base/airport.
4. The air show also needs to provide a name and contact information for a POC at the staging location and enter the POC's information in Attachment 2.

### **RUNWAY/TAXIWAY SWEEPERS**

1. The parking area and all taxiways and runways THE TEAM uses must be absolutely free of foreign objects which could damage our aircraft engines. **It is mandatory for all surfaces (runways, taxiways, and ramps) to be thoroughly swept before THE TEAM's arrival.**

2. If your airport maintenance facilities do not possess a vacuum sweeper, it will be necessary to make arrangements to obtain one for all ACC Demo/HFF aircraft. We **cannot emphasize the importance of this requirement enough.**
3. If a brush-style sweeper is used, ensure the **bristles are not steel**, and a thorough **foreign object damage (FOD) check of the runway is accomplished after its use.**
4. **Restrict helicopters, Harriers, and any other aircraft capable of hovering** from hovering over taxiways, ramps, and runways intended for THE TEAM's use, unless you have a good plan for cleaning up the area afterward. **It is absolutely essential that hovering not be performed over or near our parked aircraft.**

### **PYROTECHNICS**

1. F-22, F-16, A-10 and F-35: Pyro can only be used in conjunction with the "Wall of Fire" and only during the High-Speed Pass (F-22, F-16 and F-35) or Strafe Passes (A-10). Only ICAS-approved personnel will be permitted to utilize pyro in association with the F-22, F-16, A-10 and F-35 Demonstration Teams. Each year ICAS posts an approved Shooters-in-Charge (SIC) list. This list will be available on the ACC Aerial Events Website. Specific procedures for using pyro with the F-22, F-16, A-10 and F-35 Demo Teams are at Attachment 5 to this Support Manual.
2. If you plan to use pyrotechnics anytime during the air show, ensure they are exploded far enough away to prevent blowing foreign objects on THE TEAM's aircraft or the runways and taxiways intended for THE TEAMS. Pyrotechnic performances closer than 500 feet to the team's parked aircraft are forbidden.

### **FLARES**

F-16, A-10 and F-35: F-16, A-10 and F-35 Demo Pilots can now dispense flares at overwater air shows only. Procedures for dispensing flares are at Attachment 6.

### **AIRSPACE REQUIREMENTS**

1. Each show must provide airspace and time for the practice demo / HF performances and aerial site survey (normally accomplished as the demo aircraft arrive at the air show location). The practice show will last the same amount of time as the actual show and will require the same FAA restricted airspace.
2. Air shows must have a CAT 1 aerobatic box for the F-35, F-22, and F-16 Demos and a CAT 1 or CAT 2 box for the A-10 Demo. Aerobatic boxes must be sanitized, except for essential personnel, such as pyro performers.

3. F-22: As a minimum, the F-22 Single-ship Demonstration aerobatic maneuvers need the following airspace: five-mile radius from show center, up to 15,000 feet AGL, and an aerobatic box of 3,000 feet wide by 4,500 feet long.
4. F-16: As a minimum, the F-16 Single-ship Demonstration aerobatic maneuvers need the following airspace: five-mile radius from show center, up to 15,000 feet AGL, and an aerobatic box of 3,000 feet wide by 6,000 feet long.
5. A-10: As a minimum, the A-10 Single-ship Demonstration aerobatic maneuvers need the following airspace: five-mile radius from show center, up to 8,000 feet AGL, and an aerobatic box 3,000 feet wide by 4,000 feet long.
6. F-35: As a minimum, the F-35 Single-ship Demonstration aerobatic maneuvers need the following airspace: five-mile radius from show center, up to 15,000 feet AGL, and an aerobatic box of 3,000 feet wide by 6,000 feet long.
7. HF: As a minimum, the HF requires airspace up to a five-mile radius from show center, up to 1,500 feet AGL, and an aerobatic box of 3,000 feet wide by 3,000 feet long. If you have the F-35, F-22, F-16, or A-10 Demo scheduled for your show, the Temporary Flight Restriction (TFR) required for the demo will more than suffice for the HF.
8. If the FAA has waived a show line to closer than 1,500 feet, the aerobatic box may be less than 3,000 feet wide for all the demos and HF, provided there is at least 1,200 feet from either the primary or secondary show line.

**NOTE: Coordinate the ACC Demo/HFF aircraft arrival time and obtain 5 minutes of arrival airspace allotted for an aerial site survey of the area to observe local obstacles, run-ins, show lines, etc., from the air.**

### **AIR BOSS REQUIREMENTS**

All air shows that ACC Demo Teams perform at must have an Air Boss. US and Canadian air shows that ACC Demo Teams perform at must have an Air Boss present who has an ICAS Letter of Authorization (LOA) to act as an Air Boss.

### **AIR SHOW PERFORMANCE SPECIFICS**

1. It is critical for the Air Boss to understand there will be no takeoff or landing activity permitted during the aerial demonstration or the HF, except for those aircraft directly involved in the HF. This includes any time during takeoff, rejoin, formation passes and the landing phase of the demo aircraft or the HF. The Air Boss should not make any requests over the radio to the Demo or AFHFF Pilots to allow such takeoffs or landings. The Air Boss will release the show container / takeoff clearance to the HF in its entirety, including the ACC Single-Ship Demo Team, if applicable. Actual single-ship takeoffs will be coordinated intra-flight, based on show profile. Takeoffs



and landings by other aircraft, as well as excess radio chatter to make such requests, only distract the pilots and may pose an unnecessary risk to their flight profiles.

2. **Demonstration Profile:** The single-ship demonstration portion of your air show, ground and flying, lasts approximately 20 minutes (30 minutes if an HF is added). It is imperative no other events be scheduled during this time, except the HF activity. There should be NO OTHER GROUND MOVEMENT during the demo or HF!
3. **Heritage Flight Profile Only:** Each performance lasts between 10 and 15 minutes, depending on whether it's an air start staged from another location or it originates at the show site and taxi times and rejoins are included. It consists of 5 or more formation passes, ranging from a 2 to 4-ship formation, depending on how many ACC Demo Pilots and AFHFF Warbird Pilots are booked for an HF at your show. The 5 HF passes are listed below.
  - a. Arcing Pass
  - b. Bottom Up Arcing Pass
  - c. In Front Over-the-Crowd Pass
  - d. Flat Pass
  - e. Over-the-Crowd Pass / Break-to-Land (normally includes aileron rolls as the aircraft break)

NOTE: HFs flown in support of sporting events, funerals, memorials, and other events that are only authorized a single pass will only perform a single straight through HF pass. A Missing Man pull may be conducted for those events that have been approved for a Missing Man Formation.

4. **THE TEAM's** takeoff must be no earlier than 1/2 hour after sunrise and no later than one hour prior to official sunset so as to ensure the demonstration and the HF are complete no later than 30 minutes prior to sunset. The demonstration pilot's takeoff is approximately five minutes after the narrator takes control of the microphone and your public address system.

### **PERFORMANCE NARRATION**

1. **Demonstration:** Special narration of the ACC Single-ship Demonstration will be handled by the Demonstration Team Narrator. Coordinate with the Single-Ship Demo Team Narrator as to when to pass full control of the public address system over to him or her. Once the Demo Team Narrator has control, he or she should not be interrupted, unless it is an emergency situation.

2. **Heritage Flight (See Attachment 4):** The HF performance includes the song “We Remember”. The Demo Team will provide a copy of this song digitally or via a CD. A special narration script will be narrated by the Demo Team Narrator for the HF.
3. For ACC Demonstrations and/or HFs at foreign air or air and trade shows (other than Canada), the narration may need to be translated and/or adjusted for content. Demo Teams will coordinate with foreign air or air and trade shows if this will be required. If so, the Demo Team will submit the narration to ACC Aerial Events, who will review and update verbiage for the specific international show, then submit it to ACC/PA for coordination, and then to the host MAJCOM Public Affairs Office for their review.

## **COMMUNICATION**

1. In the interest of providing the Demonstration Pilot the safest environment to operate in, the pilot and safety observer will operate on a discrete frequency for all demonstrations and practices using their own radios (not required for HF-only performance). This will minimize the amount of third-party radio chatter which can distract our Demonstration Pilot and step on required radio calls from the pilot and safety observer during the demonstration. During the demonstration, the safety observer will be the only person in direct contact with the Demonstration Pilot. As such, during the demonstration, all other parties must coordinate through the safety observer for any information or coordination needed regarding the Demonstration Pilot or the demonstration. **Be prepared to provide the safety observer with a radio for contact with the other agencies (Air Boss, ATC, etc.). If the Air Boss is not co-located with the safety observer and narrator at show center, you MUST provide them with a DIRECT link (radio, walkie-talkie, etc.) to one another during the actual demonstration. A “middle-man” is not sufficient for safety purposes during the flying operations.**
2. All ACC Demonstration aircraft are equipped with UHF and VHF radios.
3. AFHFF Warbirds are equipped with VHF radios.
4. If not already provided, the Demo Narrator will require a podium or table and a public address system with CD and/or MP3 player input capability. The narrator needs this equipment to narrate the performance and play accompanying music.

## **WEATHER LIMITATIONS**

One of the following demonstration profiles will be flown, depending on the prevailing weather conditions:

- a. High Show – 4,500-foot ceiling for the F-22 / 7,000-foot ceiling for the F-16 / 4,000 foot ceiling for the A-10 / 5,000 foot ceiling for the F-35, 3 miles ground

visibility and 5 miles in-flight visibility, with a discernible horizon for all demo aircraft.

- b. Low Show – 1,500-foot ceiling, 3 miles ground visibility and 5 miles in-flight visibility, with a discernible horizon for all demo aircraft.
- c. USAF HF – 1,500-foot ceiling, 3 miles ground visibility and 3 miles in-flight visibility, with a discernible horizon for all ACC and HFF aircraft.

### **CRASH, FIRE and RESCUE**

In order for our Demo Teams to fly, we require crash, fire and rescue to be stationed on the field and NOT embedded in the crowd.

### **EMERGENCY RESPONSE EXERCISE**

1. The air show will ensure that first responders conduct an emergency exercise during the rehearsal day at the air show site.
2. The exercise will also include the aircraft's staging location, for those aircraft staging from other than the show site, and the location of the permanent or temporary arresting gear, if it's not located at the show site or staging location. Since the arresting gear location's only purpose is to handle an emergency divert, it's essential that personnel at that location participate in the exercise.

### **ADDITIONAL INFORMATION**

1. The AFHFF pilots and their aircraft operate as part of the United States Air Force Heritage Flight Program (USAFHFP). Special consideration should be paid to logistical requests required to safely launch, fly, and recover the HF. Final word on all HF operations at the air show site will be made by the Military Demo Pilot, IAW ACC's USAF HF rules and regulations.
2. The ACC Demos/HFs will not be performed **earlier than 12:00 PM local** unless approved by the Demo Pilot(s).
3. With the exception of the U.S. Army Golden Knights, the U.S. Navy Leap Frogs, the Air Force Academy Jump Team, and the Special Ops Command (SOCOM) Para Commandos, all landing zones for parachutist demonstrations must be at least 300 feet from THE TEAM's aircraft and at least 1,000 feet from THE TEAM's aircraft if engines are running or warbird props are turning.
4. If radio-controlled model aircraft will operate during your show, they must not come within 300 feet of THE TEAM's aircraft, laterally or vertically.

5. If you plan to use a 500-foot show line for civilian performers, THE TEAM's aircraft must be parked at least 300 feet from the 500-foot show line to avoid over flight of their aircraft.
6. Prohibit other aircraft from running engines during show narration, except for warbirds preparing for HF.
7. Do not allow the sale of helium / hydrogen-filled balloons at your air show, as they are a threat to safe flying operations.
8. If hot-air balloons are a part of your air show, ensure they are not inflated during THE TEAM's arrival, practice, or demonstration/HF.
9. Ensure the military Demo Team members and the civilian AFHFF Pilots and maintenance personnel have access to VIP tents/chalets/other areas to sign autographs and meet VIPs. To accommodate friends and family members, we request access to these areas for the team's family members and friends upon request. If unable, we require up to 20 or more reserved seats, upon request, in a covered area with water (it can be ice water in Igloo-type coolers) available for team guests, opposite show center, if possible; however, if it is easier for your show site to locate THE TEAM's seating within your main VIP seating section, please do so. This will alleviate you from having to construct a separate area just for our team, and will allow our personnel and their families to enjoy your hospitality.
10. Ensure THE TEAM has easy access to meals and water from aircraft parking ramp area during the **air show days and rehearsal days**. Provide two 5-gallon Igloo-type coolers filled with ice and water by the aircraft for the AFHFF Warbird Pilot and Demo Team personnel, to include staging locations.
11. Restroom facilities should be within walking distance of the aircraft parking locations, and restricted from general public use.
12. Do not schedule the demo/HF within 30 minutes either side of Thunderbirds or Blue Angels engine run or start of their ground show.
13. Immediately notify the ACC and/or HF Warbird Pilot(s) if you change the arrival time/window you provided them, for example via a Prior Permission Required (PPR) Number.

## CHAPTER 7 – FAA WAIVER/NOTAMS

### FAA WAIVER

1. A waiver from the Federal Aviation Administration (FAA) is required for THE TEAM's aerobatic maneuvers for arrival maneuvers and both the rehearsal and actual air show demonstrations / HF's. (NOTE: If any of our Demo or HF Warbird Pilots are non-current in the HF, you must provide an Aviation Practice Area (APA) or other protected airspace for them to practice the HF). You may submit all waiver requests on FAA Form 7711-2, Application for Certificate of Waiver or Authorization. You must initiate the waiver at least **90 days** before your scheduled show date.

<http://www.faa.gov/documentLibrary/media/form/faa7711-2.pdf>

2. Your request for waiver **must not** be issued to the "F-22, F-16, A-10 or F-35 Single-Ship Demonstration", or the "ACC Aerial Event Team" but must cite a representative of your organization in the "issued to" block of the waiver.
3. The ACC Demo Pilot will read and sign the waiver and all of the special provisions. Normally the pilot will review and sign the waiver after the first briefing, indicating he/she has been briefed.

### PERFORMANCE AND PRACTICE WAIVERS

1. In order for **THE TEAM** to perform at your air show, you must request a waiver to the following FAA regulations:
  - a. 91.117(a) – Aircraft speed in excess of 250 knots below 10,000 feet
  - b. 91.117(b) – Aircraft speeds in an airport traffic area
  - c. 91.119(b) – Minimum safe altitudes over congested areas (Military teams with approved maneuvers packages only)
  - d. 91.119(c) – Minimum safe altitudes over other than congested areas, except not closer than 500 feet to persons
  - e. 91.127 – Operating on or in the vicinity of an airport
  - f. 91-129 – Operations at airports with operating control towers (when appropriate)
  - g. 91-155 - Buffer zone around clouds
  - h. 91.303 – Definition of aerobatic flight

- i. 91.303(c) – Aerobatic flight within a federal airway
  - j. 91.303(e) – Aerobatic flight below an altitude of 1,500 feet above the surface
2. As a minimum, waiver time for the practice and demonstration must begin **5 minutes before scheduled takeoff and extend for 30 minutes after takeoff.** Although the actual demo performance only lasts approximately 15 minutes, the additional time is requested to allow flexibility for possible maintenance problems or weather conditions. Once again, these are minimum times. Additional time can be requested. Please ensure the required time blocks are accurately reflected on the waiver request. You could encounter unnecessary delays trying to obtain a new waiver.
  3. Please ensure the accuracy of your waivers with the FAA National Air Show Coordinator, Mr. Kevin Raymond, (847) 294-7155, [kevin.raymond@faa.gov](mailto:kevin.raymond@faa.gov).

**NOTICE TO AIRMEN (NOTAMs)**

1. Your airfield must be closed for the total time issued on the waiver **for both the practice and actual** aerial demonstration / HF. This time includes closure to airlines at commercial or joint-use airfields. If you anticipate any conflicts, contact the Single-Ship Demonstration Team and/or HQ ACC/A3TA (Aerial Events Schedulers).
2. Ensure a NOTAM is issued at least **48 hours in advance** of **THE TEAM’s** aircraft arrival that covers 30 minutes before/after planned arrival time, and in advance of the times specified in both practice and actual performance waivers. It is of the utmost importance to not only provide a NOTAM closing the airfield for rehearsals and show performances, but to include the closure requirements of 5 NM from show center and 8,000 feet AGL for the A-10 Demo / 15,000 feet AGL for the F-22, F-16 and F-35 Demos / 1,500 feet AGL for just a Heritage Flight for rehearsal or actual show performances.

**Sample NOTAM (for practice or actual performance)**

Airspace surface to \_\_\_\_\_ MSL closed within 5 NM of \_\_\_\_\_

Airfield/TACAN from \_\_\_\_\_ Z to \_\_\_\_\_ Z on \_\_\_\_\_ (date).

**TEMPORARY FLIGHT RESTRICTION (TFR)**

1. Please ensure a TFR is in place for your airfield during rehearsal and actual show days that will cover the entire air show circle – 5 NM from show center and 8,000 feet AGL for the A-10 Demo / 15,000 feet AGL for the F-22, F-16 and F-35 Demos / 1,500 feet AGL for just a Heritage Flight. To ensure you follow the appropriate steps in acquiring a TFR, follow the steps listed for TFRs on the following website:

[http://www.faa.gov/about/initiatives/airshow/tfr/media/Airshow\\_TFR\\_Worksheet.pdf](http://www.faa.gov/about/initiatives/airshow/tfr/media/Airshow_TFR_Worksheet.pdf)

2. If you are unable to access this site, contact the FAA Flight Standards District Office (FSDO) which approved your DD Form 2535. The FSDO does not accept requests nor issue TFRs but can assist in directing you to the appropriate FAA Air Traffic Office which provides that service.

## CHAPTER 8 – AIR TRAFFIC CONTROL

### AIR TRAFFIC CONTROL

The airfield must be controlled by tower personnel whenever ACC aircraft are scheduled to operate there, including arrival and departure. If the airfield or the divert location where the arresting gear is located will be uncontrolled at any time when ACC aircraft are flying, you must notify ACC/A3TA immediately. ACC/A3TA will have to request a waiver for their aircraft. If the waiver is disapproved, ACC will have to cancel its participation, unless an alternative solution can be found.

### HAZARDS

Provide the Demo Team and the AFHFF Warbird Pilot a sectional chart and advise on any hazards in the local area which are not readily known to transient aircraft. This information must be provided to the pilots prior to their arrival at your show site.

### LOCAL AIRPORTS

Make sure you contact all airports within a 5 NM radius of your airfield to ensure flying operations are suspended during the time periods specified in the FAA waiver.



## CHAPTER 9 – MAINTENANCE

### GENERAL

The air show is responsible for obtaining and arranging for the required support listed in this manual, and for covering the costs involved in obtaining and transporting the equipment and materials. The air show is also responsible for all aircraft fluids (i.e., fuel, oil, hydraulic, etc.) and any fuel and oil costs associated with aerospace ground equipment (AGE) equipment use. In addition, if the aircraft's departure is delayed due to weather, maintenance issues, or other factors, the air show is required to provide this equipment, fuel and oil until the aircraft depart. Provide the scheduled Demo/HF Team with a filled-in copy of Attachment 1 NLT **45 days** prior to your show date.

### FOREIGN OBJECT DAMAGE (FOD) CONTROL

1. FOD refers to damage to aircraft components, i.e., flight controls, tires, or engines, by foreign objects such as loose gravel, nuts, bolts, etc.
2. All aircraft are susceptible to FOD. Pieces of ice as small as 1/4", or material as soft as cloth, can damage the engines. Therefore, **make sure all surface areas where the team operates are swept and cleaned prior to their arrival, and ensure these areas remain clean during their stay.** Do not use sweepers with **steel bristles.**
3. **Snow fencing** will aid in preventing FOD from blowing onto the runways/taxiways when it is erected so it touches the ground. Orange nylon FOD fencing is an acceptable alternative to snow fencing along the crowd line.

### MILITARY AIRCRAFT ENGINE OIL SAMPLES

1. Each military aircraft must have engine oil samples analyzed, per the requirements listed below. Failure to provide this service will make the aircraft unable to fly in your air show. **It is the air show's responsibility to transport the samples to the testing location.** Oil samples must be analyzed by a DOD certified Joint Oil Analysis Program (JOAP) lab technician using a DOD certified analysis machine (spectrograph). **(NOTE: The current JOAP Lab Directory is on the ACC Aerial Events Website at <https://www.acc.af.mil/Home/Aerial-Events/>).**
2. **F-22:** Oil samples must be taken after the first flight of the day and analyzed. The results must be returned prior to the next flight, before the aircraft can fly again.
3. **F-16:** Oil samples are only required after every 25 hours of flight time. The F-16 Demo Team will take oil samples prior to departing their home station, so, except on rare occasions (lengthy road trip of 2 or 3 weekends or an overseas deployment), they will not require any oil samples to be taken while on the road.

4. **A-10:** Oil samples must be taken after the first flight of the day and analyzed. The results must be returned prior to the third flight of the day or prior to the next day's first flight, whichever occurs first, before the aircraft can fly again. Because the A-10 may be able to do JOAP analysis enroute to or from the show site, check with them to confirm their JOAP requirement for your particular show.
5. **F-35:** Oil samples are only required after every 60 hours of engine operating time. F-35 maintenance crews will ensure JOAP inspections are current prior to departure and should not require on-site support. However, JOAP capability should exist on site or in the nearby area to support contingencies.

### **ACC AIRCRAFT FUEL REQUIREMENTS**

1. The F-16 and A-10 aircraft require JP-4, JP-5, JP-8, Jet-A+, or NATO-24 (Jet A ++).
2. The F-22 aircraft requires JP-5, JP-8, JP-8 + 100, JP-8/SPK Blend, Jet A or Jet A-1. (JP-4 is not authorized). Note: TS-1 (with US additives) is an approved emergency fuel, provided at least one engine per aircraft has more than 100 total cycles (TCY).
3. The F-35 aircraft requires JP-5, JP-8, Jet-A+, or NATO 24 (Jet A++). (JP-4 is not authorized)
4. All fuel must be fuel-lab certified and provided by a certified vendor.
5. Military sites – Fuel for ACC Aircraft will be purchased by the Demo Team using the DOD fuel card for each respective aircraft.
6. Civilian sites – **AF regulations only allow the military to pay the current government rate for fuel for military aircraft.** It is essential you communicate this requirement to your fuel provider. **Any additional cost for fuel above the government rate will be the responsibility of the air show.**
7. Fuel quantities—air shows/open houses need to top off the all ACC Demo and HFF Warbirds after each demo / HF.
  - a. The F-22 requires approximately 18,000 pounds of fuel per single-ship demonstration / HF.
  - b. The F-16 requires approximately 7,000 pounds of fuel per single-ship demonstration / HF.
  - c. The A-10 requires approximately 4,500 pounds of fuel per single-ship demo / HF.
  - d. The F-35 requires approximately 18,000 pounds of fuel per single-ship demo / HF.

8. If aircraft departure from the air show is delayed due to maintenance, air shows/open houses are still required to top off demo aircraft and HF Warbirds, when requested.

**WARBIRD OIL AND FUEL REQUIREMENTS:** In general, piston-driven warbirds require 100LL AVGAS or 100/130 AVGAS (very hard to find) and AeroShell W120 oil and the F-86 requires JP 5/8 or Jet A fuel and MIL-L-6081D oil.

1. F-86: **Fuel**--Approximately 250 gallons of JP 5/8 or Jet A fuel each flight and 550 gallons top off prior to departing the air show. **Oil**—F-86 pilots normally bring oil with them, as it is hard to find, but the air show needs to provide approximately 2 quarts of MIL-L-6081D. (If unable to obtain this type of oil, contact the HF Warbird Pilot before the show and let him know.)
2. P-51/A-36/P-40: **Fuel**--Approximately 40 gallons of 100LL or 100/130 AVGAS each flight and approximately 150 gallons top off prior to departing the air show. **Oil**—Approximately 2 gallons of AeroShell W120 oil.
3. P-47: **Fuel**--Approximately 60 gallons of 100LL or 100/130 AVGAS each flight and approximately 300 gallons top off prior to departing the air show. **Oil**—4-8 gallons of AeroShell W120 oil.
4. P-38: **Fuel**--Approximately 80 gallons of 100LL or 100/130 AVGAS each flight and approximately 350 gallons top off prior to departing the air show. **Oil**—4 gallons of AeroShell W120 oil.
5. A-1: **Fuel**--Approximately 80 gallons of 100LL or 100/130 AVGAS each flight and approximately 350 gallons top off prior to departing the air show. **Oil**—4-10 gallons of AeroShell W120 oil.
6. F-5: **Fuel**—Jet A+. **Oil**—Mobile Jet II.

**NOTE: All the above are estimates and could vary. For example, the A-1 has a drop tank and it's usually topped off, so that could require an extra 300 gallons of fuel.**

### **ACC AIRCRAFT MAINTENANCE EQUIPMENT REQUIREMENTS**

The following maintenance equipment is **required** for the **Demo/HF aircraft**. Maintenance equipment may be obtained from any military installation which has the required equipment and is able and willing to support your show with it; however, you may be responsible for costs incurred in transporting the equipment. It is the air show's responsibility to coordinate with military installations for the use of support equipment. Please ensure all equipment is fully serviced and operational, is compatible with the specific ACC/warbird aircraft participating in your show and **is separate from**

equipment provided to the USAF Thunderbirds or USN Blue Angels (if they are also participating in your show). This equipment will not be shared with other performers without the expressed permission of the Demo Team. The cost of fuel for Aerospace Ground Equipment (AGE) is the responsibility of the air show. Required equipment and photos, where required, follows.

**NOTE: Do not contact the Demo Teams for Aerospace Ground Equipment (AGE) Requests. Air Show Coordinators must first engage with military installations within proximity of their event, to include those installations' Public Affairs Offices, to coordinate the use and transportation of required AGE. If unable to source the required AGE, contact the ACC Aerial Events (ACC/A3TA) AGE POC listed in Chapter One of this Support Manual, to assist with sourcing the AGE.**

- a. Hydraulic Servicing/Filler Cart: (Hydraulic Fluid MIL-H-83282 for **F-22/F-16**; MIL-PRF-83282 for **A-10**)



- b. Hydraulic Servicing/Filler Carts for **F-35**: Legacy style or P/N 9701A / NSN 4910-01-437-0442 / Parent FLCN S1210998. Use Hydraulic Fluid MIL-PRF-83282. (Contact F-35 Demo POC for details).



- c. MD-1 Military Universal Tow Bar: Must be at least 20' long. Ensure large towing lugs are positioned inward and must have access to a tow vehicle.





- d. Tow Bar, Aircraft, Land-Based (F-35): Ensure that the tow bar meets the following criteria - Weight: 239 lbs, Length: 240", Width: 16", Height: 9" (Navy has a shorter version that will not meet the length required to tow the F-35).



e. Warbird Tow Bar



f. Warbird Tow Bar and Tug



g. Nitrogen cart capable of 3,000 PSI





- h.** An aircraft platform stand: C-1, B-1 (preferred), or a B-4 is required for **F-22/F-35** maintenance personnel to get to the top of the aircraft and to allow for entry to and exit from the **F-22/F-35** cockpit. The A-10 requires two 8 to 10 foot A-frame ladders (little giant preferred) (for maintainers to get on top of the aircraft and for the pilot to get in and out of the cockpit) and maintenance stand C-1, B-4 or a B-1 (preferred) for visitors to view the cockpit. (No Photo Available for the C-1 stand).

B-1 Stand



B-4 Stand



- i. Oil Servicing Filler Cart: **F-16 and A-10** require (MIL-L-7808 Grade 3, but AeroShell Turbine Oil 308 is a suitable substitute and they can be mixed; **F-22 / F-35** require MIL-PRF-7808 Grade 4 (NATO 0-163) (preferred); however, MIL-PRF-7808 Grade 3 (NATO 0-148) and MIL-PRF-23699 (NATO 0-156) are acceptable for the F-22, but not the F-35. Mixing is acceptable for the F-22 only.



- j. Gaseous Oxygen (GOX) Cart (Military; not Medical): MIL-PRF-27210 for **F-22** and **F-35**. **F-35** can also use STANAG 7106.



- k. Two 150 LB HALON or CO2 Aircraft Fire Extinguishers.
- l. A Dash 60 Power Unit/Cart (115+/-15 vac, 400+/-30 Hz A/M 32A-60A). (F-16 only).
- m. A Hobart A/M 32A-86D Generator (115/200 vac 259A-230/400 vac 129A 28.5 vdc 600A-270 vdc 267A) (preferred) or the Dash-60 Power Unit mentioned above readily available (within 2 hours) at their parking locations. (A-10).
- n. High pressure liquid oxygen cart (MILITARY – not medical) readily available within two hours at the aircraft parking locations, if requested by the team. (A-10 only).
- o. A set of at least 6 light wands for towing. (F-35 only)
- p. A 5-gallon bucket and two sets of chocks with/or close to the following dimensions - Weight: 13 lbs Length: 20" Width: 8" Height: 6". (F-22 only)

- q. Access to a diesel powered hydraulic test stand (MJ2A-1 or equivalent) readily available within 2 hours at their parking locations, if requested by the Team Superintendent/Chief. (A-10 only)
- r. Access to a diesel powered CPT cart (AF/M24T-3 or equivalent) readily available within 24 hours at their aircraft parking locations, if requested by the Team Superintendent/Chief. (A-10 only)
- s. Access to 115 AC electric power (standard US outlet) readily available at their parking locations if requested by the Team Superintendent/Chief).

### **ADDITIONAL F-35 REQUIREMENTS**

The F-35 must have access to an enclosed hanger or other lightning-protected shelters large enough to house two F-35s. Aircraft must have clear access to the specified shelter and able to be towed from the parking location to the shelter in 20 minutes or less upon notification of inclement weather. The show location bears all responsibility for crowd control to facilitate towing the aircraft. The show location will provide immediate notification to F-35 maintenance crews if lightning is detected within 25 NM.

### **F-16 NOTE ON HYDRAZINE**

Crash, Fire and Rescue (CFR) teams should be aware that hydrazine is used to power the F-16s Emergency Power Unit (EPU). Hydrazine is a highly toxic gas. Should CFR teams need to approach the F-16 after a crash, and hydrazine fumes are present, they should go in with respirators, get the pilot out, and then cordon off the aircraft until the hydrazine dissipates, which should only be a few hours, before anyone else approaches the aircraft.

### **WARBIRD MAINTENANCE EQUIPMENT REQUIREMENTS** (Also See Chapter 15)

1. Nitrogen and equipment for servicing aircraft tires. Require standard fitting and a minimum of 8 feet of hose for servicing tires and accumulators.
2. Oxygen and equipment to service aircraft oxygen systems. Require standard high pressure civilian fitting and a minimum of 8 feet of hose.
3. F-86 requires a 28-volt DC, 1200-amp electric power cart.
4. F-5 requires Type 5607 hydraulic fluid.
5. Tow Bar Requirements: You must be able to safely tow the aircraft. For example - split bar (tail dragger) tow bar and tug for P-51s and P-47. A TR-6 tow bar or equivalent will work for most warbirds. (See tow bar/tug pictures above)

- a. F-86: Tow bar is special to the F-86, but a Fixed Base Operator (FBO) electric scoop-the-nose wheel type works.
  - b. P-51/A-36/P-40: Tow bar is a V type that attached to each main landing gear. See diagram above. Note: If pushing into the hangar by hand, it will take 4 to 5 people.
  - c. P-47: Tow bar for the P-47 is special. The P-47 requires a heavy duty tow bar similar to the one used for a P-51, but much longer and stronger. If pushing into the hangar by hand, it will take about 6 people.
  - d. P-38: Tow bar can be the same that you'd use to tow a Beach Baron--pulling it using the nose landing gear. If pushing it into the hangar by hand, it takes 8-10 people.
  - e. A-1: Same as one used for the P-51. If pushing into the hangar by hand, it will take 8-10 people.
  - f. F-5: Standard military jet towbar.
6. Any questions with regard to specific type of tow bar required or other maintenance support equipment, contact the AFHFF or the HF Warbird Pilot.



## CHAPTER 10 – SECURITY

### CROWD SECURITY

Events such as air shows and aircraft displays attract large numbers of people, all of whom may pass in close proximity to aircraft. This makes the aircraft extremely vulnerable to vandalism, damage, or destruction. Well-organized crowd control is essential to ensure the safety of spectators, security of the aircraft, and to satisfy FAA requirements. For effective crowd security, the security/law enforcement officer must:

- a. Ensure sufficient law enforcement/security personnel are posted to handle the anticipated crowd.
- b. Ensure all spectators remain behind a crowd line (physical barrier made up of either snow fencing or FOD fencing), separating the crowd from the aerobatic box and demonstration aircraft.
- c. For military installations, set up security per AFI 31-101 guidelines and Installation CC/DFC determinations. When an event takes place off of a military installation, ensure members of the security/law enforcement team are on hand early and positioned at specific intervals along the crowd line, to ensure the integrity of the intended crowd line is maintained.
- d. Brief the air show security team on all procedures for the air show.

### ACC F-22 AIRCRAFT SECURITY

1. Baseline F-22 security procedures at military or civilian locations:
  - a. Security for F-22 aircraft at a military installation will be in accordance with AFI 31-101, *Integrated Defense*, and the Senior Jersey Security Classification Guide. The F-22 is a PL 3 asset, however, it contains technologies protected by Special Access Programs, and as such, must be protected to ensure no uncleared individuals are allowed within 20 feet of the aircraft.
  - b. Aircraft commanders will assume security of parked aircraft during the Air Show/Open House. Uniformed presence is required by a knowledgeable person to answer questions for the public.
  - c. **IAW the F-22 Security Classification Guide (SCG) (otherwise known as the Senior Jersey SCG), if parked outside a permanent restricted area, stanchions and sufficient rope (500 feet) to secure a 20 foot perimeter around both aircraft must be available IMMEDIATELY upon arrival of the aircraft. If parked within a permanent restricted area, stanchions and rope will be available as soon as possible after arrival of the aircraft. At no time will any individuals be allowed inside the perimeter without escort by F-22**

**Demo Team personnel or trusted agent as identified on the Entry Access List (EAL).**

- d. Arrange for **DEDICATED** around-the-clock protection of F-22 aircraft from arrival until departure. No one is authorized to be on or around the F-22 aircraft without an F-22 Demonstration Team member escort. All three of the following requirements must be met.
    - 1) An armed one-person mobile security patrol dedicated to the F-22 aircraft. This individual must be in a position to prevent access to the 20-foot perimeter and be available whenever F-22 Demonstration Team members are NOT present.
    - 2) An armed two-person mobile security patrol in or around the aircraft parking area able to respond to aircraft. This is required, even if there is an F-22 Demonstration Team member present.
    - 3) Security or law enforcement personnel who may engage adversaries in the open during emergencies must carry an M-4 or the equivalent.
  - e. A sufficient light source will be available for hours of darkness. Both aircraft will be illuminated throughout the night.
  - f. Provide additional security requirements, such as hangaring the aircraft, if requested by the team in response to current world situation and security force posture/ Force Protection Condition (FPCON) or severe weather.
  - g. Photography is allowed no closer than 20 feet with the aircraft shutdown. With engines running, coordinate with the F-22 Demo Team Maintenance personnel to ensure photographers are in a safe location.
  - h. Aircraft tours inside 20 feet for US citizens must have a cleared escort with them at all times and be approved by the OG/CC or F-22 Demo Pilot. Air show security representatives should work this directly with the Demo Pilot, who will approve or coordinate approval from his OG/CC, as required.
2. Additional requirements for civilian and OCONUS locations:
- a. At civilian or OCONUS locations, security must meet all of the requirements above. MAJCOMs must approve use of host security or law enforcement personnel (US or foreign forces, when country-to-country agreements exist), military and civil police, or other DOD personnel to provide response for aircraft deployed away from home stations.
  - b. For civilian locations, the security forces/law enforcement representative must coordinate communications capability and procedures for requesting emergency

assistance from local military or civilian police, as appropriate, for the air show location.

- c. During Force Protection Condition “CHARLIE” and higher, or when security cannot be arranged at the air show location, cancel the Demo Team or route the aircraft to a safer location to remain overnight.

### **ACC F-16 and A-10 AIRCRAFT SECURITY**

#### **1. For military installations:**

- a. Security for ACC aircraft at a military installation will be in accordance with AFI 31-101, *Integrated Defense*, and Installation CC/DFC determinations. Close coordination between receiving locations, owning installations and their HQ ACC functional counterparts is required when aircraft leave their home station.
- b. Aircraft commanders will assume security of parked aircraft during the Air Show/Open House. Uniformed presence is required by a knowledgeable person to answer questions for the public.

#### **2. For civilian locations:**

- a. Security for aircraft will be equivalent to the basic standard (based on assigned protection level) when aircraft are away from home station.
- b. MAJCOMs must approve use of host security or law enforcement personnel (US or foreign forces, when country-to-country agreements exist), military and civil police, or other DOD personnel to provide response for aircraft deployed away from home stations.
- c. Arrange for around-the-clock protection of F-16/A-10 aircraft from arrival until departure through their local civilian law enforcement agency. No one is authorized to be on or around the F-16 / A-10 aircraft without an F-16 / A-10 Demo Team member escort.
- d. Throughout all periods at civilian airports, when F-16 / A-10 Demo Team personnel are not present, the following requirements must be met.
  - 1) A security patrol must provide constant observation of the F-16 / A-10 aircraft. All four of the following requirements must be met.
    - a) As a minimum, lock aircraft entry points and hatches.
    - b) An armed one-person mobile security patrol dedicated to the F-16/A-10 aircraft.



- c) An armed two-person mobile security patrol in or outside the aircraft parking area able to respond to aircraft.
  - d) Security or law enforcement personnel who may engage adversaries in the open during emergencies must carry an M-4 or the equivalent.
- 2) Provide additional security requirements, such as hanging the aircraft, if requested by the team in response to current world situation and security force posture/ Force Protection Condition (FPCON).
  - 3) The security forces/law enforcement representative must coordinate communications capability and procedures for requesting emergency assistance from local military or civilian police, as appropriate, for the air show location.
  - 4) During Force Protection Condition “CHARLIE” and higher, or when security cannot be arranged at the air show location, cancel the Demo Team or route the aircraft to a safer location to remain overnight.

### **F-35 AIRCRAFT SECURITY**

1. Baseline F-35 security procedures, military or civilian locations:
  - a. Security for F-35 aircraft at a military installation will be in accordance with AFI 31-101, *Integrated Defense*, and the F-35 Security Classification Guide (SCG). The F-35 is considered PL 3 asset, however, it contains technologies protected by Special Access Programs, and as such, must be protected to ensure no uncleared individuals are allowed within 20 feet of the aircraft.
    - 1) The F-35 will require a parking space 90’ long by 120’ wide to accommodate for the size of 2 aircraft parked next to each other with a 20’ cordon.
  - b. Aircraft commanders will assume security of parked aircraft during the Air Show/Open House. Uniformed presence is required by a knowledgeable person to answer questions for the public.
  - c. **IAW the F-35 SCG Table 1, if parked outside a permanent restricted area, stanchions and sufficient rope (500 feet) to secure a 20 foot perimeter around both aircraft must be available IMMEDIATELY upon arrival of the aircraft. If parked within a permanent restricted area, stanchions and rope will be available as soon as possible after arrival of the aircraft. At no time will any individuals be allowed inside the perimeter without escort by F-35 Demo Team personnel or trusted agent as identified on the EAL.**
  - d. Arrange for **DEDICATED** around-the-clock protection of F-35 aircraft from arrival until departure. No one is authorized to be on or the F-35 aircraft without an F-35

Demo Team member escort. All three of the following requirements must be met.

- 1) An armed one-person mobile security patrol dedicated to the F-35 aircraft. This individual must be in a position to prevent access to the 20-foot perimeter and be available whenever F-35 Demo Team members are NOT present.
  - 2) An armed two-person mobile security patrol in or around the aircraft parking area able to respond to aircraft. This is required, even if there is an F-35 Demo Team member present.
  - 3) Security or law enforcement personnel who may engage adversaries in the open during emergencies must carry an M-4 or the equivalent.
- e. A sufficient light source will be available for hours of darkness. Both aircraft will be illuminated throughout the night.
  - f. Provide additional security requirements, such as hangaring the aircraft, if requested by the team in response to current world situation and security force posture/ Force Protection Condition (FPCON) or severe weather.
    - 1) Any hangars possessing F-35s are PL III restricted areas. If other military/civilian aircraft are required to share the same hanger space as F-35s, then a 20 foot cordon must be placed around the F-35s with 24-hour dedicated security inside the hanger, IAW Paragraph 1a of this section.
  - g. Photography is allowed no closer than 20 feet with the aircraft shutdown. With engines running, coordinate with the F-35 Demo Team maintenance personnel to ensure photographers are in a safe location.
  - h. Aircraft tours inside 20 feet for US citizens must have a cleared escort with them at all times and be approved by the OG/CC. Air show security representatives should work this directly with the Demo Pilot, who will coordinate approval from his OG/CC's.
2. Additional requirements for civilian and OCONUS locations:
    - a. At civilian or OCONUS locations, security must meet all of the requirements above. MAJCOMs must approve use of host security or law enforcement personnel (US or foreign forces, when country-to-country agreements exist), military and civil police, or other DOD personnel to provide response for aircraft deployed away from home stations.
    - b. For civilian locations, the security forces/law enforcement representative must coordinate communications capability and procedures for requesting emergency

assistance from local military or civilian police, as appropriate, for the air show location.

- c. During Force Protection Condition “CHARLIE” and higher, or when security cannot be arranged at the air show location, cancel the F-35 Demo Team or route the aircraft to a safer location to remain overnight.

### **WARBIRD SECURITY**

See Chapter 15 for requirements for securing and hangaring the warbird.

### **CLASSIFIED SECURITY**

For air shows conducted at both military and civilian locations, request the Open House Director or Air Show Director provide a secure location for the Demo Team to store classified information, if required, and inform the Demo Team of who the Open House or Air Show point of contact will be for this function. The Demo Team will pre-coordinate storage of any classified materials with the appropriate agency(s).

## CHAPTER 11 – PUBLIC RELATIONS / MEDIA

### **ADVANCE PUBLICITY AND PUBLIC RELATIONS MATERIAL**

1. A successful air show begins with an organized public relations plan and publicity campaign. ACC Aerial Events Offices and the Air Force Heritage Flight Foundation (AFHFF) are prepared to help shape your plan to maximize media and community relations events for THE TEAM. (Note: THE TEAM refers to any combination of ACC Demo Teams and the AFHFF).
  - a. All public relations coordination for the Demo Teams will be handled by the Demo Team's Public Affairs POC or Team Superintendent listed in Chapter 1 of this Support Manual.
  - b. As a backup for ACC Demo Teams, you can also contact the ACC Aerial Events Public Relations POC or one of the ACC/PA POCs listed in Chapter 1.
  - c. The AFHFF POCs are listed in Chapter 1.
  
2. An ACC F-35, F-22, F-16, and/or A-10 Demo Team is coming to your event to accomplish the goals listed below.
  - a. Represent the U.S. Air Force and Air Combat Command, demonstrating the capabilities and professionalism of the finest air and space force in the world;
  - b. Strengthen and grow public trust and confidence in the U.S. Air Force;
  - c. Inspire and recruit America's best to join the service;
  - d. Retain the quality force we currently have and remind those who are wearing the uniform just how important their service is to the Air Force and the United States.
  
3. With these goals in mind, the remainder of this chapter provides some guidelines to follow in order to support THE TEAM's public relations effort.

*NOTE: ACC requires local AF Public Affairs offices to facilitate media opportunities for the ACC Team when the air shows are hosted at an Air Force Base.*

### **DEMO TEAM PUBLIC RELATIONS/PUBLICITY MATERIAL AVAILABLE**

1. Before beginning your show's publicity campaign, please contact the offices or personnel listed above for advanced publicity and public relations material. They will ensure you receive a media kit which includes b-roll footage and interviews of THE

TEAM, as well as other information and images useful to local media outlets. ACC wants to put media material in your hands early to help you promote your show.

2. For additional media on the AFHFF and/or the HF Warbird Pilots, contact one of the AFHFF POC's listed in Chapter 1 or the individual HF Warbird Pilot.
3. Additional information on the Demo Teams can be found at the ACC Aerial Events Website at <http://www.acc.af.mil/aerialevents/>. Additional information on the AFHFF and its civilian HF Pilots can be found at the AFHFF Website at <http://www.airforceheritageflight.org/>.
4. Approximately two months prior to your air show, you will get an email from ACC/A3TA providing you with military Demo and civilian HFF Pilots' names, bios, and aircraft links. The aforementioned websites contain fact sheets, biographies, schedules and a variety of other information, as well as links to the various Single-Ship Demonstration Teams' websites, where you'll find additional information on the team members, photographs and a variety of images. All information and images are public domain, so please feel free to use them in all of your marketing/media products (posters, air show programs, newspaper/magazine advertisements, billboards, flyers, news articles, etc.). Also, please ensure your local media outlets are aware of these websites and encourage use of provided material in advertisements, articles, public service announcements, etc. **We recommend you contact the ACC Single-Ship Demonstration Team for additional photos of their aircraft and team members for your program.**
5. Advertisements cannot imply any type of product endorsement by the Department of Defense, the U.S. Air Force, or the Demo Team (per Title 18 of the U.S. Code, Section 709).
6. Local Air Force Public Affairs offices and recruiters have a good working relationship with local media outlets and can be helpful in distributing these materials.
7. Please ensure you use only the current year's publicity material provided for this year's air show/open house.
8. Include the Single-Ship Demonstration and/or the HF, as applicable, in your air show/open house program, website and brochure.

### **PUBLIC RELATIONS INFORMATION NEEDED BY THE DEMO TEAMS**

To enable THE TEAM to maximize its time at your show, please e-mail the information listed below about your show and local area to the applicable Demo Team and Cc all the other points of contact listed in Paragraph 1 above at least **30 days** prior to the team's arrival.

- a. Name and theme of your air show/open house (supported charity or cause, if you have one).
- b. Air show/open house information (website address, schedule and other basic info).
- c. Brief history of your city/local area.
- d. List of local schools, children's and veteran's hospitals, etc. that may benefit from a visit by Demo Team members.
- e. Media list w/complete contact information.

### **MEDIA OPERATIONS**

1. The Demonstration Teams and the civilian HF pilots are available for telephone interviews prior to and after their arrival. After arrival, they are available for radio, television and print interviews. They may do in-station interviews if time permits. For scheduling purposes, a good rule-of-thumb is to allow 30 minutes drive time to/from the interview.
2. The applicable Demo Team will let you know when they will be available and when you can expect them to arrive in your local area.
3. The AFHFF or the HF Warbird Pilot will let you know when the HF Warbird Pilot will be available and when you can expect them to arrive in your local area.
4. After their arrival, THE TEAM is available for interviews when not flying/maintaining the aircraft, eating, sleeping or supporting the local recruiter. In other words, they want to engage the media – it's their job.
  - a. They are professionally trained to work with the media and will endeavor to promote your event every time they are interviewed.
  - b. Please encourage media coverage of the practice sessions and air show.

<b>PUBLIC RELATIONS CHECKLIST</b>
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Have you:

1. Been in touch with the scheduled F-22, F-16, A-10 and/or F-35 Demo Team PA representative and/or HQ ACC Aerial Events Public Relations POC or one of the ACC/PA POCs listed in Chapter 1. ?

YES [        ]                      NO [        ]

2. Been in touch with one of the AFHFF POCs listed in Chapter 1.

YES [        ]                      NO [        ]

3. Received the media kit from the ACC Demo Team?

YES [        ]                      NO [        ]

4. Distributed media kit material to media outlets?

YES [        ]                      NO [        ]

5. Contacted your local recruiter for support? The ACC Aerial Events Recruiting Liaison listed in Chapter 1 can put you in touch with your local recruiter.

YES [        ]                      NO [        ]

6. Provided a media contact list to the scheduled F-22, F-16, A-10 and/or F-35 Demo Team, or ACC Aerial Events and/or ACC/PA representatives listed in Chapter 1? (at least 30 days prior to the event)

YES [        ]                      NO [        ]

7. Invited the media to cover THE TEAM's arrival and air show?

YES [        ]                      NO [        ]

8. Included the Single-ship Demonstration and HF in the air show program?

YES [        ]                      NO [        ]

## CHAPTER 12 – PUBLIC APPEARANCES

### GENERAL

1. ACC Aerial Events Office and the Air Force Heritage Flight Foundation (AFHFF) are prepared to help shape your plan to maximize public appearances for THE TEAM. (Note: THE TEAM refers to any combination of F-35, F-22, F-16, and A-10 Demo Teams, and the AFHFF).
2. All public appearance activities for the Demo Teams will be handled by the Demo Team Public Affairs POC or Team Superintendent listed in Chapter 1 of this Support Manual.
3. Public appearances of military members of the ACC Single-Ship Demonstration Teams can also be coordinated by either the ACC Aerial Events Public Relations POC or one of the ACC/PA POCs listed in Chapter 1.
4. All public appearances of the civilian AFHFF Warbird Pilots must be coordinated with one of the AFHFF POCs listed in Chapter One, or with the individual civilian HF Warbird Pilot.
5. The above guidance does not preclude TV, radio and newspaper interviews scheduled the week of the show. The Demo Pilot and civilian HF Warbird Pilots may approve last-minute appearances at their discretion.
6. **Please do not** commit the ACC Demo Team or civilian HF Pilot(s) to an activity or event, unless it has been coordinated with the Demo Team, the individual HF Warbird Pilot, ACC and/or AFHFF POCs listed in Chapter 1.
7. Air Force Recruiting representatives must be allowed to participate in the planning and participation of all public appearances.
8. The air show/open house committee should plan for a 5-minute block in which THE TEAM is given the opportunity to introduce team members at social events and/or exchange gifts, if necessary. Please inform the Demo Team's Team Superintendent or Team Chief if a formal presentation and/or gift exchange is planned at any social event. This will allow the military pilot the opportunity to recognize key individuals appropriately during his presentation.

### AVAILABILITY

1. Due to crew rest and THE TEAM's preparation, the military pilot or the civilian HF Warbird Pilot may not be available for public appearances on the day of your air show, except for post-show receptions; however, other team members may be available, so please use them to the maximum extent possible.



2. All public relations commitments must be within a maximum of **30 minutes** drive time from the hotel and/or show site.

### **REQUIRED INFORMATION**

Please provide the Demo Team PR representative with the information listed below for each public relations event.

- a. Name of Event – visits to schools (medical schools, universities, high schools), hospitals, golf matches, dinners, interviews, etc. THE TEAM likes to make as much contact with children as possible. Please attempt to schedule visits to high schools, summer camps, and youth organizations first.
- b. Location of Event – a complete street address, to include zip code.
- c. Date/Time of Event.
- d. Host/Hostess/Sponsor – identify the individual or organization sponsoring the event and include their work, home and cell phone numbers.
- e. Description – what the event sponsor/host would like THE TEAM to do while at the event, such as provide the audience with an introduction to the USAF, encourage students to stay in school, study hard, etc. An estimate of how many will be present at the event is also required.
- f. VIPs/Dignitaries Attending – who is attending any event, such as the mayor, civic dignitaries, military officials, etc.
- g. Drive Time – because of THE TEAM’s tight schedule, they need to know how long it will realistically take to drive from the hotel to the public relations events. Please err on the liberal side when estimating driving times, allowing for traffic, stop lights, parking, etc.
- h. Event Site – request the show site PA representative provide an escort from the hotel to the event and back.
- i. Site Requirements – forward to the Demo Team Public Relations representative, as far in advance of the visit as possible. For example, a children’s hospital may require a listing of all attendees in advance of the visit.

<b>PUBLIC APPEARANCE CHECKLIST</b>
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Have you:

1. Coordinated all Single-Ship Demo/HF Team public appearances with the Demo Team PA representative or Demo Team Superintendent or Team Chief? You can also contact (as a backup) HQ ACC Aerial Events Public Relations POC and/or one of the ACC/PA POCs listed in Chapter 1?

YES [        ]                      NO [        ]

2. Coordinated all HF Warbird Pilot public appearances with one of the AFHFF POCs listed in Chapter 1?

YES [        ]                      NO [        ]

3. Ensured commitments are within a 30-minute drive?

YES [        ]                      NO [        ]

4. Sent the Demo Team and/or ACC Aerial Events all the required information?

YES [        ]                      NO [        ]

5. Planned a 5-minute block for team to make introductions at social events?

YES [        ]                      NO [        ]

6. Informed Demo Team Superintendent or Team Chief and ACC Aerial Events office, on the specifics regarding visiting VIPs, Dignitaries and Military Officers (O-6 and above) attending social events?

YES [        ]                      NO [        ]

7. Planned for escort to/from event?

YES [        ]                      NO [        ]

## CHAPTER 13 – AIR FORCE RECRUITING

**GENERAL** (Recruiting support is not required for Canadian or overseas air shows not held on a U.S. base)

1. Recruiting is at the heart of THE TEAM. Therefore, it is essential that air show project officers work closely with the Air Force Recruiting Service (AFRS) Events Marketing Recruiting Liaison (MSgt Chris Arthur), ACC/A3TA Recruiter (see Chapter 1 for contact information) and the local recruiting squadron to get the most out of the team's visit. (Note: THE TEAM refers to any combination of ACC F-35, F-22, F-16, and A-10 Demo Teams and the AFHFF).
2. The AFRS Events Marketing Recruiting Liaison will work with THE TEAM POC and identify the local Recruiter/Flight Chief/Squadron Commander for each air show. The local recruiting squadron POC will contact the air show project manager and nearest public relations representative to coordinate their participation. The local recruiting squadron will then update the Events Marketing Recruiting Liaison when all plans have been finalized.
3. Air shows can locate the nearest Air Force recruiter by going to <https://www.airforce.com/find-a-recruiter>. Note: The ACC Aerial Events Recruiting Liaison listed in Chapter 1 can also be contacted for contact information for local recruiting squadrons. See Chapter 1 for his contact information.
4. Local Recruiting Service personnel, along with the HQ ACC Aerial Events office, will set up/coordinate public appearances in the local community and schools with support and attendance from THE TEAM.

### **REQUIRED AIR SHOW SUPPORT**

Air Show/Open House Project Managers must provide full support to Air Force Recruiting to include, as a minimum, the requirements listed below.

- a. Ensure a local U.S. Air Force Recruiting person is on the air show/open house committee.
- b. Provide at no cost a minimum of 60 x 40 foot display space in a prime location near show center and, when possible, near a USAF aircraft (such as a B-1), if applicable, to help draw a large crowd. The display space will be utilized for the recruiting display booth (which will now have a 20-foot long trailer), Raptor SUV, Inspire Tour, etc., and will be shared with the AETC and AF Special Operations Recruiters. The Recruiters or their squadron marketers will inform the air show POC if they do not require the full space. If a national asset is approved by HQ AFRS, then a display space large enough to accommodate the asset is required.

This asset will require a minimum of a 60 x 40 foot and a maximum of 100 x 100 foot display space, depending on which asset is available.

- c.** Allow AF recruiting personnel to utilize their own tent, table and chairs.
- d.** Invite AF recruiting personnel to all official functions in which THE TEAM is participating.
- e.** Schedule a minimum of six minutes into the show itinerary for recruiting personnel to conduct an enlistment ceremony at show center before or after THE TEAM performs.
- f.** Provide free access and parking to the air show/open house for Delayed Enlistment Program personnel and recruiters (number and names will be provided by the recruiter in advance), so they can be sworn in and meet with the Demonstration Teams and HF Warbird Pilots.
- g.** Provide at least six free PA announcements during the show to inform the crowd where to find the AF recruiting booth.
- h.** Display the local recruiter's name, address and phone number along with AIRFORCE.COM and 1-800-43-USAF prominently in your air show brochure and the event website.
- i.** Work with local recruiting personnel to properly utilize THE TEAM personnel at the recruiting booth during the air show.

## CHAPTER 14 - MUSIC LICENSING RIGHTS

### GENERAL

1. The music industry has increased its concern to ensure they are paid when copyrighted music is played. Therefore, the United States Air Force requires any U.S. air show -- civilian or military -- hosting an Air Force aircraft performance which includes music (except as noted in Paragraph 3 below), must secure the necessary music licenses for broadcast of pre-recorded copyrighted music over public address speaker systems.
2. On behalf of all U.S. air shows, the International Council of Air Shows (ICAS) has negotiated a 2021 rate of \$206 per public air show day from BMI; a rate of \$150 per day from ASCAP; and \$128 for a one to two-day air show weekend, \$185 or three to four days, and \$244 for five to seven days from SESAC. These rates are not controlled or negotiated by the USAF and are subject to change. (Note: This rate applies only to music broadcast over the public address system during the air show portion of the program and does not provide the show with the right to use pre-recorded music at concerts or other non-air show special events held in conjunction with the air show.) Each event organizer should secure music licenses from BMI, ASCAP and SESAC and provide proof of licenses to the teams **NLT 30 days prior** to the event to allow for rescheduling.
3. No music license is required for the song "We Remember", which is played during the HF performance.

### CONTACTS TO OBTAIN LICENSES

1. For BMI licenses, contact Kim Monaghan, Senior Director Customer Relations, General Licensing, BMI, 10 Music Square East, Nashville, Tennessee 37203, Phone: (615) 401-2871, E-mail: [kmonaghan@bmi.com](mailto:kmonaghan@bmi.com). Visit their website at [www.bmi.com](http://www.bmi.com).
2. For ASCAP licenses, contact Pam Gibson, Senior Business Development Specialist, ASCAP, PO Box 331608, Nashville, Tennessee 37203-7515. Phone: (615) 727-5193, E-mail: [pgibson@ascap.com](mailto:pgibson@ascap.com). Visit their website at [www.ascap.com](http://www.ascap.com).
3. For SESAC licenses, contact Hardy Link, Director, Licensing Sales, SESAC, Inc., 35 Music Square East, Nashville, Tennessee 37203, Phone: (615) 788-0775 (cell) / (615) 963-3528 / (615) 320-0055, E-mail: [hlink@sesac.com](mailto:hlink@sesac.com). Visit their website at [www.sesac.com](http://www.sesac.com).

## CHAPTER 15 – WARBIRD REQUIREMENTS SUMMARY

**GENERAL:** All the Heritage Flight (HF) Warbird and civilian HF Warbird Pilot requirements are included in the prior chapters. This chapter will summarize those critical requirements that are specific to the HF Warbirds/Warbird Pilots, such as those pertaining to housing, transportation, maintenance, runway, hangar support, ground support equipment, fuel, oil and similar requirements. Read the entire Support Manual to ensure you are familiar with all the requirements that are for both the ACC Demo Teams AND the HFF Warbird Pilots.

**NOTE:** If unable to meet any of the HF warbird requirements in this Support Manual, Air Show Directors/Organizers must coordinate with the AFHFF **NLT 30 days prior** to show start.

1. **HOUSING:** At least two non-smoking rooms per HF warbird. I.e., if there are two warbirds scheduled to support the HF, then four rooms will be required.
2. **TRANSPORTATION:** Provide one vehicle per warbird (with flight line access/pass for each vehicle). I.e., if there are two warbirds, two vehicles will be required.
3. **PARKING:** If the AFHFF Pilots bring their recreational vehicle (RV), provide parking space on the ramp and approval to cook at the RV without paying a vendor fee.
4. **FOOD AND WATER:** Ensure HF Warbird Pilot/Crew Chief has easy access to meals and water from aircraft parking ramp during air show and rehearsal days. Provide two 5-gallon Igloo-type coolers filled with ice and water by the aircraft for staged shows for the HF warbird and military aircraft, if the HF warbird is staging from the same location as the military aircraft. If staging from a different location, at least one 5-gallon Igloo-type cooler should suffice for the HF Warbird Pilot/Crew Chief.
5. **OPERATIONS:**
  - a. Park warbirds near the ACC Demo aircraft, unless otherwise coordinated with the ACC and AFHFF Pilots.
  - b. Provide hangars and tow bars to tow the warbirds to the hangars—15-minute response time.
  - c. Minimum runway length and width for all AFHFF Warbirds is 5,000 feet by 75 feet.
  - d. The HF requires airspace up to a five-mile radius from show center, up to 1,500 feet AGL, and an aerobatic box of 3,000 feet wide by 3,000 feet long. If you have the F-35, F-22, F-16, or A-10 Demo scheduled for your show, the TFR required for the demo will more than suffice for the HF. See Chapter 6 for HF Profiles.

## 6. WARBIRD INSURANCE LIMITATIONS:

- a. The AFHFF will ensure that liability insurance coverage is maintained on participating AFHFF Warbirds (defined as those civilian owned aircraft operated by approved USAF Heritage Flight Pilots, independent of actual ownership or control). The AFHFF warbirds shall not add any entities as “additional insureds” to any insurance policy; rather, if there is an incident in which an AFHFF Warbird is involved in a negligent manner, the insurance policy for that particular AFHFF Warbird will be available to provide coverage for the incident in accord with the terms of the insurance policy and if liability is proven in accord with the applicable law.
- b. To the extent that a given show, or entity associated in any way with the show, in spite of the terms of this Support Manual, maintains a requirement to be added as an “additional insured” to any insurance policy or other source of liability coverage, that is considered cause to terminate the agreement for the AFHFF aircraft to appear and/or participate in the given show. The AFHFF strongly recommends to any entity attempting to impose a requirement on any AFHFF warbird to be added to any insurance policy as an additional insured to obtain their own insurance coverage.

## 7. WARBIRD OIL AND FUEL REQUIREMENTS: In general, piston-driven warbirds require 100LL AVGAS or 100/130 AVGAS (very hard to find) fuel and AeroShell W120 oil. The F-86 requires JP 5/8 or Jet A fuel and MIL-L-6081D oil.

- a. F-86: **Fuel**--Approximately 250 gallons of JP 5/8 or Jet A fuel each flight and 550 gallons top off prior to departing the air show. **Oil**—F-86 pilots normally bring oil with them, but the show needs to provide approximately 2 quarts of MIL-L-6081D oil. (If unable to obtain this type of oil, contact the HF Warbird Pilot before the show and let him know).
- b. P-51/A-36/P-40: **Fuel**--Approximately 40 gallons of 100LL or 100/130 AVGAS fuel each flight and approximately 150 gallons top off prior to departing the air show. **Oil**--Approximately 2 gallons of AeroShell W120 oil.
- c. P-47: **Fuel**--Approximately 60 gallons of 100LL or 100/130 AVGAS fuel each flight and approximately 300 gallons top off prior to departing the air show. **Oil**—4 to 8 gallons of AeroShell W120 oil.
- d. P-38: **Fuel**--Approximately 80 gallons of 100LL or 100/130 AVGAS fuel each flight and approximately 350 gallons top off prior to departing the air show. **Oil**--4 gallons of AeroShell W120 oil.

- e. A-1: **Fuel**--Approximately 80 gallons of 100LL or 130/130 AVGAS fuel each flight and approximately 350 gallons top off prior to departing the air show. **Oil**—4 to 10 gallons of AeroShell W120 oil.
- f. F-5: **Fuel**--Jet A+ Fuel. **Oil**—Mobile Jet II.
- g. NOTE: All of the above are estimates and could vary. For example, the A-1 has a drop tank and it usually needs to be topped off, so that could require an extra 300 gallons of fuel.

## 8. WARBIRD MAINTENANCE EQUIPMENT REQUIREMENTS:

- a. Nitrogen and equipment for servicing aircraft tires. Require standard fitting and a minimum of 8 feet of hose for servicing tires and accumulators.
- b. Oxygen and equipment to service aircraft oxygen systems. Require standard high pressure civilian fitting and a minimum of 8 feet of hose.
- c. F-86 requires a 28 volt DC, 1200 amp electric power cart.
- d. Tow Bar Requirements: You must be able to safely tow the aircraft within 15 minutes utilizing approved method as follows (reference tow bar/tug pictures in Chapter 9).
  - 1) F-86: Tow bar is special to the F-86, but an FBO electric scoop-the-nose wheel type works.
  - 2) P-51/A-36/P-40: Tow bar is a V type that attached to each main landing gear. See diagram above. Note: If pushing into the hangar by hand, it will take 4 to 5 people.
  - 3) P-47: Tow bar for the P-47 is special. The P-47 requires a heavy duty tow bar similar to the one used for a P-51, but much longer and stronger. If pushing into the hangar by hand, it will take about 6 people.
  - 4) P-38: Tow bar can be the same that you'd use to tow a Beach Baron--pulling it using the nose landing gear. If pushing it into the hangar by hand, it takes 8-10 people.
  - 5) A-1: Same as one used for the P-51. If pushing into the hangar by hand, it will take 8-10 people.
  - 6) A split bar (tail dragger) tow bar and tug will work for P-51s and P-47. A TR-6 tow bar or equivalent may be a suitable substitute, if approved by the HF Warbird Pilot.



9. **SECURITY OF WARBIRDS:** The Air Show/Open House Director should contact the AFHFF or the HF Pilot for specific requirements for securing and hangaring the warbird.
  
10. Compliance with the Support Manual is mandatory without specific written guidance from the HF Warbird Pilot(s) participating in your event to deviate from the Support Manual. **All shows will contact the scheduled HF Warbird Pilot NLT Monday prior to a weekend show (or Thursday prior to a midweek show the following week) to ensure completion/compliance and to discuss any additional requests or needs.** Any unresolvable disputes should be forwarded to Mr. Tommy Williams, AFHFF, at (817) 913-0702 or the Chief, ACC Aerial Events Branch, at (757) 876-2848. Failure to comply with the minimums above and information contained in the Support Manual regarding HF warbird support may prevent HF support for your show.

<b>ATTACHMENT 1</b>
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AIR SHOW/OPEN HOUSE DIRECTOR PLANNING AND RESPONSE SHEET  
**DUE 30 DAYS PRIOR TO AIR SHOW/OPEN HOUSE**

**FROM: (Air Show Director)**

**TO: (Appropriate Single-Ship Demonstration/Team)**

**Cc: ACC Aerial Events (ACC/A3TA)**

**SUBJECT: Air Show Support for ACC Single-Ship Demonstration Team and AFHFF Pilot**

**I have reviewed the Support Manual and checklist below and completed all appropriate items for the ACC Single-Ship Demonstration / AFHFF pilot.**

**Chapter 2 – Things We Need To Know**

- Air Show Information Sheet
- Schedule of Events

**Chapter 3 – Maintenance Personnel Arrival/Meeting**

- Have arranged for required vehicles for transporting teams from airport to show/lodging and back, as required
- Meeting – Date/Time \_\_\_\_\_, Place \_\_\_\_\_
- Ground survey of air show site
- Inventory of maintenance support equipment

**Chapter 4 – Housing**

- Met the specific requirements for the number of rooms for the scheduled Demo/HF Team and HF Warbird Pilot
- Hotel \_\_\_\_\_, Phone Number \_\_\_\_\_
- No more than 30-minute driving time from show site (Police escort if longer drive)
- Accepts VISA cards
- Parking charges waived or costs defrayed
- Parking within one city block of lodging facility
- Dining facilities and laundry/dry cleaners nearby
- Complimentary fitness facility or temporary membership at nearby 24-hour fitness center if one not available at lodging facility
- Fitness Facility name: \_\_\_\_\_, Phone Number \_\_\_\_\_.

- Telephone and high-speed data connections for computer equipment for specified team members
- Clean and quiet
- Non-smoking rooms with air condition
- HQ ACC and Demo Team wing senior leadership rooms
- Demo Team and AFHFF Warbird Pilots all billeted together

## Chapter 5 – Transportation

- For Demo Team: Met the requirements for the number of fully fueled and serviced vehicles listed in Chapter 5 for the scheduled Demo Team and HFF Warbird Pilot and other approved personnel listed in Chapter 5
- Confirmation of Insurance for courtesy/non-rental vehicles
- Courtesy car advertising restrictions adhered to
- Authorized unrestricted flight line, parking ramp, and on/off base use
- Maps of base/local area provided
- Golf cart or other independent mode of travel
- Parking for AFHFF RV, if applicable

## Chapter 6 – Operations

- Have contacted the Demo Team and AFHFF POC
- Met all requirements to support F-22, F-16, A-10 and/or F-35, and HF warbird aircraft
- Airfield diagram
- Show line
- Show center
- Crowd line
- Aircraft parking
- Hangar space for USAF aircraft and warbirds
- Storage of F-35 Life Support Gear
- Weight-bearing requirements
- Runway length, width and arresting gear requirements
- Is a temporary arresting gear required
- Coordinated to have the temporary arresting gear certified, if required.
- Arresting gear location requirements—coordinated with the airfield where the arresting gear is located to be operational during the time of the air show—see statement below regarding a letter or signed form
- Staged location requirements—coordinated with the staging location and obtained approval—see statement below regarding a letter or signed form
- Runway/taxiway sweepers
- Pyrotechnic requirements
- Flare requirements

- Air Boss requirements
- Time allotted for performance length
- Narration
- Communications equipment
- Weather limitations
- Crash, Fire and Rescue stationed on the field and not embedded in crowd
- Emergency Response Exercise conducted on rehearsal day at the air show site and include staging location and location where the arresting gear is located in the exercise
- Demo/HF not scheduled prior to 1200, without prior coordination with the Demo Pilot.
- Prohibitions on other aircraft doing engine run-ups
- Prohibitions on balloons
- VIP Tickets/Chalet request/requirements
- Water/restroom requirements
- Demonstration not scheduled within 30 minutes of Blue Angels or Thunderbirds pre-show start time (as applicable)
- Will immediately notify pilot/crew if previously provided arrival time changes
- 5 minutes of arrival airspace provided to ACC Team for an aerial site survey
- Staging location approved by Military Installation Commander or Airfield Manager, as applicable. Required letter from military installation commander or airfield manager of staging location approving the F-22/F-16/A-10/F-35 Demo jets and civilian HFF warbirds to stage from their military installation or civilian airfield, as applicable, OR FILL IN/SIGN BELOW: air show name and dates, signature of military installation commander/airfield manager, date, military or civilian position, printed name and title and phone number of authorizing official— FILL IN BELOW.

F-22/F-16/A-10/F-35 Demo jets and civilian HFF warbirds, if applicable, are authorized to stage from my base/airfield in support of the \_\_\_\_\_ Air Show/Aerial Event on the following dates: \_\_\_\_\_ . The airfield will be fully operational with tower manned, and crash, fire, and rescue in place.

\_\_\_\_\_  
Name/Rank/Title of Military Installation Commander or name of Airfield Manager

\_\_\_\_\_  
Military or Civilian Position/Name of Military Installation or Civilian Airfield

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Phone Number

- Arresting gear location confirmation of the Military Installation Commander or Airfield Manager, as applicable. Required letter from military installation commander or airfield manager where the arresting gear will be located stating that the airfield will be fully operational (control tower, fire department, crash recovery, arresting gear operators, etc. in place) during the time of the air show and the rehearsal day so it can be used as an emergency divert airfield by the F-22/F-16/F-35 Demo jets, as applicable, in support of your air show OR FILL IN/SIGN BELOW: air show name and dates, signature of military installation commander/airfield manager, date, military or civilian position, printed name and title and phone number of authorizing official—FILL IN BELOW.

I certify that my airfield will be fully operational (control tower manned, fire department, crash recovery, arresting gear operators, etc. in place) so it can be used as an emergency divert airfield by the F-22/F-16/F-35 Demo jets, as applicable, during the time of the air show/rehearsal, in support of the

\_\_\_\_\_ Air Show/Aerial Event on the following dates:

\_\_\_\_\_.

\_\_\_\_\_  
Name/Rank/Title of Military Installation Commander or name of Airfield Manager

\_\_\_\_\_  
Military or Civilian Position/Name of Military Installation or Civilian Airfield

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Phone Number

## Chapter 7 – FAA Waiver/NOTAMS

- FAR 91.117 (a) – Airspeed in excess of 250 knots below 10,000 feet
- FAR 91.117 (b) – Aircraft speeds in an airport traffic area
- FAR 91.119 (b) – Minimum safe altitudes over congested areas
- FAR 91.119 (c) – Minimum safe altitudes over other than congested areas, except not closer than 500 feet to persons.
- FAR 91.127 – Operating on or in the vicinity of an airport
- FAR 91.129 – Operations at airports with operating control towers (when appropriate)
- FAR 91-155 - Buffer zone around clouds
- FAR 91-303 - Definition of aerobatic flight
- FAR 91.303 (c) – Aerobatic flight within a federal airway

- FAR 91.303(e) – Aerobatic flight below an altitude of 1,500 feet above the surface
- Airspace 5 NM radius from show center
- Airspace surface to 8,000 for A-10 Demos; 15,000 feet AGL for F-22, F-16 and F-35 Demos; and 1,500 feet AGL for Heritage Flight only, as applicable
- NOTAMs
- TFR

## Chapter 8 – Air Traffic Control

- Airfield or divert location where the arresting gear is located is controlled by tower when military aircraft operate, to include arrival and departure, or ACC/A3TA Aerial Events is notified immediately (waiver is required)
- Hazards
- Notification of FAA waiver times/dates to local airports within 5 NM of airfield

## Chapter 9 – Maintenance

- FOD Control
- Aircraft engine oil samples analysis arranged (as required)
- Fuel requirements, as detailed in Chapter 9 for USAF and warbird aircraft
- Maintenance equipment, as required
  - Equipment provided is separate from equipment provided to Thunderbirds or Blue Angels (as applicable)
  - Hydraulic Servicing/Filler cart, as detailed in Chapter 9 for each USAF aircraft
  - Military universal tow bar for USAF aircraft – must be 20' long with towing lugs positioned inward. F-35 specifics as detailed in Chapter 9
  - Tow bar for warbirds
  - Tow bar tug for USAF aircraft and warbirds
  - Nitrogen cart capable of 3,000 psi
  - An aircraft platform stand, as detailed in Chapter 9 for each USAF aircraft
  - Oil servicing filler cart, as detailed in Chapter 9 for each USAF aircraft
  - Gaseous Oxygen (GOX) Cart (Military-not Medical), as detailed in Chapter 9 for F-22 and F-35
  - Two 150 LB HALON or CO2 fire extinguishers
  - Dash 60 Power Unit/Cart (115+/-15 vac, 400+/-30 Hz A/M 32A-60A (F-16 and A-10 only) or Hobart Generator (A-10 only, preferred), as detailed in Chapter 9
  - High pressure liquid oxygen cart (MILITARY – not medical). (A-10 only)
  - Set of at least 6 light wands for towing (F-35 only)
  - A 5-gallon bucket and 2 sets of chocks (F-22), as detailed in Chapter 9

- Access to a diesel powered hydraulic test stand (A-10 only), as detailed in Chapter 9
- Access to a diesel powered CPT cart, as detailed in Chapter 9
- Access to 115 AC electric power, if requested by the team.
- Additional requirements for F-35, as detailed in Chapter 9
- Aware of Hydrazine safety issues, as detailed in Chapter 9 (F-16 only)
- Additional requirements for warbirds (AVGAS, nitrogen, oxygen, etc.), as detailed in Chapter 9 and Chapter 15
- Warbird fuel, oil and maintenance equipment requirements met, as detailed in Chapters 9 and 15

**Chapter 10 – Security – DUE TO DEMO TEAM POC 30 DAYS PRIOR TO EVENT**

- Crowd security
- Aircraft security for USAF aircraft, as detailed for each aircraft in Chapter 10: Required Security Rep signature, date, company/agency or military organization, printed name and title and phone number—FILL IN BELOW.

All applicable security requirements IAW Chapter 10, Sections titled Crowd Control, F-22/F-16/A-10/F-35 Security of this manual will be provided/met by:

\_\_\_\_\_.  
Company/Agency Name (Civilian) or Security Forces Unit (Military)

\_\_\_\_\_  
Security Representative Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name & Title

\_\_\_\_\_  
Phone Number

**Chapter 11 - Public Relations/Media**

- Requirements met
- Demo/HF Team and/or USAF HF in Air Show program
- Public Relations Checklist completed

**Chapter 12 – Public Appearances**

- Event information provided
- 5-minute block provided for team to make introductions at socials

- Information regarding VIPs/Dignitaries/Military Officers (O-6 and above) relayed to Team's Superintendent or Team Chief
- Public Appearance checklist completed

### **Chapter 13 – Air Force Recruiting**

- Enlistment/Reenlistment Ceremony (if applicable)
- Ensure Air Force Recruiting person is on committee
- Prime space at no cost for recruiting display. Determine size of recruiting space and provide recruiter with details (i.e. 60' x 40'). Recruiter will coordinate request for Air Force Recruiting assets based on information received.

### **Chapter 14 - Music License**

- Obtained from all three agencies and proof forwarded to Demo Team(s)

### **Chapter 15 – Warbird Requirements Summary**

- All warbird requirements met for lodging, transportation, food/water, aircraft parking
- Towbar requirements met, as detailed in Chapter 9
- Hangar requirements met
- Runway and airspace requirements met
- Warbird security requirements met
- Fuel, oil, and maintenance equipment requirements met, as detailed in Chapters 9 and 15

\_\_\_\_\_  
Air Show Director Signature

\_\_\_\_\_  
Date

---

Air Show Director Printed Name

**NOTE: Failure to comply with this support manual may result in cancellation of ACC support for this and / or subsequent shows.**



<b>ATTACHMENT 2</b>
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### AIR SHOW/OPEN HOUSE INFORMATION SHEET

Air Show Title \_\_\_\_\_ Site/Location \_\_\_\_\_

Current Show Date and Estimated Takeoff Time \_\_\_\_\_

Base Operator	Command Post	Base Operations
DSN: _____	DSN: _____	DSN: _____
CMCL: _____	CMCL: _____	CMCL: _____

---

WG/CC Name: _____	OG/CC Name: _____
DSN: _____	DSN: _____
CMCL: _____	CMCL: _____

---

HOST-SITE AERIAL EVENTS TEAM PROJECT OFFICER:  
NAME: \_\_\_\_\_

DSN: \_\_\_\_\_  
CMCL: \_\_\_\_\_  
E-MAIL: \_\_\_\_\_  
FAX: \_\_\_\_\_

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HOST-SITE AERIAL EVENTS TEAM MAINTENANCE REPRESENTATIVE:

NAME: \_\_\_\_\_  
DSN: \_\_\_\_\_  
CMCL: \_\_\_\_\_  
E-MAIL: \_\_\_\_\_  
FAX: \_\_\_\_\_

---

Air Show Director: _____	Billing/Housing Rep: _____
DSN: _____	DSN: _____
CMCL: _____	CMCL: _____
E-Mail: _____	E-Mail: _____
FAX: _____	FAX: _____

---

Trans Rep: _____	Air Boss: _____
DSN: _____	DSN: _____
CMCL: _____	CMCL: _____
E-Mail: _____	E-Mail: _____
FAX: _____	FAX: _____

---

Crash, Fire and Rescue:

Name: \_\_\_\_\_

DSN: \_\_\_\_\_

CMCL: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

FAX: \_\_\_\_\_

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Local USAF Recruiter Name: \_\_\_\_\_

DSN: \_\_\_\_\_

CMCL: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

FAX: \_\_\_\_\_

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Staging Location POC: \_\_\_\_\_

DSN: \_\_\_\_\_

CMCL: \_\_\_\_\_

E-Mail: \_\_\_\_\_

FAX: \_\_\_\_\_

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Public Relations Representative: \_\_\_\_\_

DSN: \_\_\_\_\_

CMCL: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

FAX: \_\_\_\_\_

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**ATTACHMENT 3**

**CONFIRMATION OF INSURANCE COVERAGE**

- 1) All vehicles provided to ACC Demo Teams and AFHFF pilots/maintainers, are provided with insurance.
- 2) I understand ACC and AFHFF Team members may or may not be covered with their own insurance when they operate vehicles; therefore, the requirement for host-provided insurance.

\_\_\_\_\_  
Signature of Air Show Director/Event Host

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Air Show Director/Event Host

**Please return this letter to the participating ACC Demo Team upon completion**

## ATTACHMENT 4

### HERITAGE FLIGHT NARRATION SCRIPT

Introduction [during aircraft rejoin]

**NOTE: Portions of the narration below may be changed for air shows outside of the United States.**

Ladies and gentlemen, I would like to take a moment to describe the unique history of what you are about to watch. In 1997, the leaders of Air Combat Command assembled a select group of retired military and civilian performers to celebrate the 50th Anniversary of the United States Air Force. *[Start Music]* From this gathering was born the Heritage Flight, a unique visual representation of the Air Force's history from the days of the Army Air Corps to the present. What started out as a one-time event has grown in popularity and demand, and now, Heritage Flights are performed at air shows and special events in the United States and around the world.

Please turn with me now and watch as this rare formation approaches from behind and to the (left/right).

[Begin after first pass]

Flying in formation today is a:

**WWII era (A-36, P-38, P-40, P-47) piloted by \_\_\_\_\_**

(And \_\_\_\_\_ piloted by \_\_\_\_\_)

**WWII and Korean era P-51 piloted by \_\_\_\_\_**

(And \_\_\_\_\_ piloted by \_\_\_\_\_)

**Korean era F-86 piloted by \_\_\_\_\_**

(And \_\_\_\_\_ piloted by \_\_\_\_\_)

**Korean and Vietnam era A-1 piloted by \_\_\_\_\_**

(And \_\_\_\_\_ piloted by \_\_\_\_\_)

**Vietnam era F-5 piloted by \_\_\_\_\_**

(And \_\_\_\_\_ piloted by \_\_\_\_\_)

**U.S. Air Force (F-22, F-16, F-35, A-10) piloted  
by \_\_\_\_\_**

(And \_\_\_\_\_ piloted by \_\_\_\_\_)

We would like to dedicate today's Heritage Flight to all military veterans in attendance, whose sacrifices over the years have helped preserve America's Freedom. We hope you enjoy watching this rare formation of classic and current United States Air Force Aircraft, on our journey from Heritage to Horizons.

Conclusion [after the break-to-land]

Ladies and gentlemen, the United States Air Force Heritage Flight! We hope you have enjoyed watching and taking pride in this rare display of more than 70 years of air power Heritage. If you have questions, please stop by and talk with us at the Air Force recruiting booth located \_\_\_\_\_ between \_\_\_\_\_ (AM/PM) and \_\_\_\_\_ (AM/PM) or visit the Air Force Heritage Flight Foundation website at: [www.airforceheritageflight.org/](http://www.airforceheritageflight.org/).

**ATTACHMENT 5****F-22 / F-16 / A-10 / F-35 PYROTECHNICS PROCEDURES**

1. The F-22, F-16, A-10 and F-35 Demonstrations will only utilize pyrotechnics (pyro) as a Wall of Fire and only during the High Speed Pass (F-22, F-16 and F-35) and Low Angle Strafe Passes (A-10). Only ICAS approved personnel will be permitted to utilize pyrotechnics (pyro) in association with the ACC F - 22 / F-16 / A-10 / F-35 demonstration teams. Each calendar year the ICAS Pyro Safety Subcommittee identifies personnel as approved Shooters in Charge (SICs). Individuals' selection will be based on experience, judgment, and safety record. Only those SICs approved by the ICAS Pyro Safety Subcommittee will be allowed to work with ACC Demonstration Teams.

2. The following maximum Net Explosive Weights (NEW) will be used: (Note: All NEWs in this instruction are TNT equivalent). Only non-fragmenting explosive charges will be used:

a. For A-10 Strafe Passes, a maximum of 40 charges with a maximum NEW of one pound per charge may be initiated at one time (in series).

b. The "ending shot" for each A-10 Strafe Pass will be a maximum NEW of two pounds.

c. For the Wall of Fire pass, the maximum NEW is dependent on the length of the wall. The maximum wall length is 2000 linear feet, and the maximum NEW is 20 pounds (spread out evenly). No more than 1 pound NEW will be used for each 100 linear feet of wall. The Demo Pilot will fly the maneuver as a strafe pass, however the explosives will not be initiated until the aircraft exits the blast area.

d. The following items will be briefed by the ACC Demo Pilot and the SIC, in person, prior to each performance:

(1) Exact dimensions of the pyro area and the magnitude of explosives being used.

(2) Aircraft/pyro de-confliction plan.

(3) Demonstration profile and sequence of pyro (Wall of Fire during high-speed pass for F-22 / F-16 / F-35, and pop—up strafe pass, first low angle strafe pass, second low angle strafe pass (simulated bomb run) Wall of Fire pass for the A-10).

(4) Forecast wind and effects on pyro.

(5) Communications plan.

(6) Knock-it-off (KIO) procedures.

- (7) Fire hazards and fire department response plan.
- (8) FOD potential and effects.

**3. Maneuver Description – Pyro.** Prior to the start of the F-22, F-16, F-35 or A-10 Demonstration, the Demonstration Pilot or Team Safety Observer will get a radio check with the SIC. Radio contact will only be initiated by the Demo Pilot or Safety Observer, and in no instance will the SIC talk to the Demo Pilot unless safety of flight becomes an issue. Following the Cuban 8 (High or Low Show) for the F-16, Split-S Reposition (High Show) or Loaded Roll (Low Show) for the F-22, the Weapons Bay Door Pass (High or Low Show) for the F-35, or immediately prior to the first strafe pass for the A-10, the Demonstration Pilot will make a —“next pass hot” call. This will alert the SIC to the High Speed Pass maneuver (F-22, F-16, F-35) or first “HOT” strafe run (A-10) and give the SIC permission to discharge the pyrotechnics as briefed. The third low angle strafe pass for the A-10 is a simulated bombing run and will be referred to as the bomb pass—this will be the Wall of Fire bomb pass. The pilot’s responsibility is to fly the demonstration without distraction, and radio calls between the safety observer and the SIC will be kept to the absolute minimum necessary. The turn or vertical pull initiating the aircraft reposition following the High Speed Pass (F-22, F-16, F-35) or Strafe Run (A-10) is the timing cue to discharge the —“Wall of Fire”.

**4. De-confliction:** Deconfliction with the aircraft will be based on altitude, timing and lateral offsets. SIC will not fire the pyro until the demonstration aircraft has exited the blast area (i.e., pulled vertical and begun a positive rate of climb, or begun the reposition turn away from the crowd line). The demonstration aircraft will turn away from the target area prior to flying over the pyro. The F-22, F-16, F-35 or A-10 will fly a ground track that is offset at least 150 feet from the aircraft pyro effect and overfly the pyro by at least 300 feet AGL. IAW AFMAN 91-201, explosives safety standards dictate a minimum of 1250 feet separation from Hazard C/D 1.1 explosive detonations to unrelated personnel. Therefore, at all Air Force Bases, pyro will be set up a minimum of 1250 feet from the crowd line. The Demonstration Pilot may continue the demonstration on the 500-foot show line. For all non-Air Force Base show sites, pyro will be set up a minimum of 650 feet from the crowd line, allowing the aircraft to fly on the 500-foot show line.

**5. Abnormal Procedures – Pyro.** Safety is paramount. If at any time safety becomes an issue, anyone on the radio may make a KIO call. Following a KIO call, the pilot will discontinue his routine and the pilot, safety observer, and SIC will acknowledge the call. If there is ever a question of timing, safety, or sequence, the SIC will not shoot the pyro.

**ATTACHMENT 6****PROCEDURES FOR A-10, F-16 AND F-35 DEMO PILOTS DISPENSING FLARES AT OVERWATER AIR SHOWS**

1. Prior coordination and approval needs to be obtained from the air show director.
2. The show must have a place to store the flares in case they need to be downloaded (hanger in inclement weather).
3. Flare usage will be in accordance with the above guidance and in coordination with the air show director.
4. Flares will be expended during the performance so as to remain within the aerobatic box.
5. Training flares (M206, MJU-61 or equivalent) will be used for all demonstrations.
6. An individual qualified in arming, de-arming, and storage of flares will be present for all air shows where flares will be used.
7. Aircraft loaded with flares will not be used as a static display.
8. The planned minimum safe altitude wings-level is 750'AGL to ensure burnout prior to contact with the water.
9. The required Explosives Safety Quantity-Distance is a minimum of 1250'.
10. A max planned crosswind of 22kts with a 4.5" burn time will push the flare 168' laterally. Pilots will use the 1500' line for the aerobatic planned maneuvers so that the flares will travel no closer than 1250' to the crowd line. This will ensure burnout/duds fall into the water and not the spectator area.
11. Aircraft will be armed in the chocks with the CMS set to "OFF" until positioned in the arming area
12. A-10, F-16 and F-35 Demo Pilots are authorized to use flares at overwater air shows during the following maneuvers.

**A-10:**

- Vertical 540
- Double aileron roll (fire conditions permitting)
- Slow roll (fire conditions permitting)



- Cuban 8 (at the top)
- Strafe passes
- Jink out
- Dedication pass (fire conditions permitting)
- Pitch out (fire conditions permitting)
- Reposition turns in front of the crowd (but inside the aerobatic box)

**F-16:**

- Triple Roll
- Falcon Turn
- Max Performance Climb
- Spiral Descent maneuvers.

**F-35:**

- High Alpha Half Cuban
- High Speed Quick Climb
- Inverted-to-Inverted
- Pedal Turn
- Square Loop
- Slow Speed
- Tac Pitch

## ATTACHMENT 7

### REQUEST FOR MILITARY AEROSPACE GROUND EQUIPMENT (AGE)

1. For Air Show Representatives: If you are having problems obtaining AGE to support our Demo Team(s), prepare a request for the AGE support that you still need (see sample request on the next page of this attachment), print out a copy of the signed ACC/A3 Memorandum to DoD Installations (see the last page of this attachment), attach it to your request and send it via regular mail to the DoD installation(s) of your choice or electronically attach the ACC/A3 Memorandum to your e-mail request and e-mail it to the DoD installation(s) of your choice.

**NOTE: THE MEMO HAS NOT BEEN SIGNED. ONCE IT IS SIGNED, IT WILL BE ADDED VIA A CHANGE TO THE SUPPORT MANUAL, WHICH WILL BE POSTED ON THE ACC AERIAL EVENTS WEBSITE.**

2. You will need to obtain the e-mail address or regular mailing address of the individual or agency at the DoD installation where you plan to send it. If you need assistance with that, contact the ACC Aerial Events AGE POC listed in Chapter 1 of this Support Manual.
3. Recommend sending it to the installation commander or maintenance group commander, rather than someone who may not be authorized to commit the support. Note that the ACC/A3 memo on the last page of this attachment is addressed to all DoD installations; not just Air Force bases.
4. In your request, suggest you include the following items, as a minimum.
  - a. Indicate that you are making the request on behalf of ACC, as per the attached ACC/A3 Memorandum.
  - b. Which ACC Single-Ship Demo Team(s) requires the AGE.
  - c. Where you need the AGE--show site or staging location (airfield, city, state).
  - d. The date you need the AGE in place and the date it will be returned, barring any delay in the demo aircraft departure due to weather, maintenance, etc.
  - e. Whether or not the air show is able to pick up and return the AGE or if you can hire someone to do that.
  - f. POC at the air show along with their contact information.
  - g. The list of AGE you still require (Note: Suggest you just ask for the AGE you don't have or don't already have committed from another installation).
  - h. Provide them with name and contact information of the ACC Aerial Events AGE POC listed in Chapter 1 of this Support Manual, in case they have any questions.

**SAMPLE REQUEST FOR AEROSPACE GROUND EQUIPMENT**

(Note: This is a sample. This is not a required form, but the essential information is included.)

Subject: Request for Aerospace Ground Equipment (AGE)

To: Name of Installation Commander, Maintenance Group Commander, or their Organization/Position (i.e. 388 FW Commander, or NAS Oceana Base Commander)

1. As per the attached Air Combat Command Director of Operations' (ACC/A3) memorandum, this is a formal request from the **Name of Airshow**, on behalf of ACC/A3, for aerospace ground equipment (AGE) for use by the **Name of the ACC Team** (e.g. ACC F-16 Demo Team) that will be performing at the **(xxx Airshow in City, State) from day/month/year to day/month/year.**

2. REQUESTED AGE:

- a. (e.g. MJ-2 Hydraulic Test Stand with Hydraulic Fluid #83282 – 1 each)
- b. (e.g. AM/32A-86 (Hobart) – 2 each)

3. REQUESTED DATES:

a. If able to support, we will need the AGE to be ready for transport to the **(Name of airshow or staging location)** by **day/month/year.**

b. AGE will need to be in place when the demo aircraft arrive (**day/month/year**) and remain until they depart the airshow. Normally this is the day after the airshow ends, but could be delayed for weather or maintenance, etc.

c. We will coordinate pickup unless your organization is able to transport it.

4. POINTS OF CONTACT:

**Name of Airshow, City, State**

**Airshow POC** - (xxx) xxx-xxxx, email address

**DoD Installation, State.** If able to support all or any of the requested AGE, please contact the above POC and provide your installation's:

**POC** – (xxx) xxx-xxxx, email address

Note: If unable to support the request, please let us know as soon as possible.

**ACC Aerial Events Branch**

Dan Young - (757) 225-9275 or DSN 575-9275,  
[daniel.young.53.ctr@us.af.mil](mailto:daniel.young.53.ctr@us.af.mil)

5. Any support you can provide would be greatly appreciated.

Signature Block

Attachment  
ACC/A3 Memorandum

ACC/A3 Memo to All DoD Installations

**DRAFT. Not Signed**

MEMORANDUM FOR All DoD Installations

FROM: HQ ACC/A3  
205 Dodd Blvd, Ste 101  
Joint Base Langley-Eustis VA 23665-2789

SUBJECT: Request for Aerospace Ground Equipment (AGE)

1. The accompanying air show request is a military-to-military request sent on behalf of the USAF's Air Combat Command (ACC). The request is for Aerospace Ground Equipment (AGE) to support an ACC Single-Ship Demonstration Team that will be participating in the air show that is requesting the AGE. The AGE is for our Demo Team(s), so they can perform their mission at the air show; it is not for the air show. However, it is not feasible for our Demo Teams to bring AGE with them, because they do not have dedicated airlift. Therefore, ACC requires the air shows that our Demo Teams support to source the required AGE and have it in place at the air show site (or the location where our demo aircraft will be staging from to support the show) before the demo aircraft arrive, and it needs to remain there until the aircraft depart.
2. While most military installations have the AGE on hand for their air shows, civilian air shows do not, and they have to locate the AGE from a DoD installation, because none, or very little, of the required AGE is available on the economy. The required AGE for each demo aircraft is listed in the ACC Aerial Events Demo Team and Heritage Flight Support Manual, which each air show supporting our Demo Teams has a copy of, and which is posted on ACC's Aerial Events Website: <https://www.acc.af.mil/Home/Aerial-Events/>.
3. In most cases, air shows have to contact numerous DoD installations in their attempt to source the GSE, and they end up obtaining this equipment from more than one installation. The air shows are more familiar with the DoD installations in their local area, they know which equipment they have already acquired, what AGE they still need and when they need it. They also know which installations have already been contacted for support. Therefore, they are in the best position to make the request. So I have authorized the air shows we are supporting to request your support for AGE on my behalf.
4. ACC appreciates any AGE support you can provide our Demo Team(s) and their mission.

5. If you have any questions, please contact my Aerial Events Branch at (757) 764-8346 or DSN 574-8346, [acc.a3ta@us.af.mil](mailto:acc.a3ta@us.af.mil).

//unSIGNED/xxx/xxMth21//  
MARK H. SLOCUM  
Major General, USAF  
Director of Operations

## ATTACHMENT 8

### GLOSSARY

ACC (Air Combat Command) – The USAF Major Command that owns the Single-ship Demonstration Teams.

AGE (Aerospace Ground Equipment) –Support equipment necessary to maintain U. S. Air Force aircraft.

AGL (Above Ground Level) - Altitude measured in feet above the ground.

AFHFF (Air Force Heritage Flight Foundation) – The organization that provides warbirds and HF Warbird Pilots to participate in Air Combat Command’s Heritage Flight Program. Often referred to as HFF (Heritage Flight Foundation).

AFRS (Air Force Recruiting Service) – The USAF Major Command responsible for USAF Recruiting.

ATC (Air Traffic Control) – a service provided by ground-based air traffic controllers who direct aircraft on the ground and through controlled airspace, and can provide advisory services to aircraft in non-controlled airspace.

AVGAS (Aviation Gas) - an aviation fuel used in spark-ignited internal-combustion engines to propel aircraft. **AVGAS** is distinguished from **MOGAS** (motor gasoline).

CFR (Crash, Fire and Rescue) – An abbreviation for Crash Recovery, Fire Department, and Rescue Services at an airport or air show site—services available in the event of an airplane crash or other similar incidents.

DSN (Defense Switched Network) - A military telecommunication which allows military installations to call each other directly.

DTS (Defense Travel System) - The Defense Travel System (**DTS**) is a fully integrated, automated, end-to-end travel management system that enables DoD travelers to create authorizations (TDY travel orders), prepare reservations, receive approvals, generate travel vouchers, and receive a split reimbursement between their bank accounts and the Government Travel Charge Card (GTCC) vendor.

DV (Distinguished Visitor) - A prominent guest, such as a General Officer, U.S. Senator, Governor, member of Congress, etc.

FAA (Federal Aviation Administration) - The approving authority for waivers concerning aerobatic demonstrations.

FBO (Fixed-Base Operator) - an organization granted the right by an **airport** to operate at the **airport** and provide aeronautical services such as fueling, hangaring, tie-down and parking, aircraft rental, aircraft maintenance, flight instruction, and similar services.

FOD (Foreign Object Damage) - Damage to aircraft components such as tires or engines caused by loose gravel, nuts, bolts, etc.

FPCON (Force Protection Condition) – FPCON is a counter-terrorist threat system overseen by the United States Department of Defense directive, and describes the number of measures needed to be taken by security agencies in response to various levels of terrorist threats against military facilities. There are **five Force Protection Conditions**: Normal, Alpha, Bravo, Charlie, and Delta. For each **condition**, there are several security measures stipulated. At each progressively higher **FPCON**, all of the security measures for the previous **condition** are implemented, and a few more measures are added.

FSDO (Flight Standards District Office) – Local field office for the FAA where you can obtain various approvals for your air show and the participating aircraft.

GOX (Gaseous Oxygen) – A specific type of military (not medical) oxygen required for the F-22.

HF (Heritage Flight) – A dissimilar formation flight consisting of Air Combat Command Single-Ship Demonstration Pilots flying modern-day jets in formation with civilian warbird pilots flying vintage warbirds.

ICAS (International Council of Air Shows) – an organization developed in 1967 to protect and promote air show industry professionals' interests in the growing North American air show marketplace. ICAS is the world leader on a wide range of air show related issues: safety, regulatory concerns, industry standard and best practices, interaction with the military, and professional ethics.

IIC (Inspector-In-Charge) – The FAA representative at an air show who is responsible for ensuring all aircraft abide by FAA rules.

JOAP (Joint Oil Analysis Program) - Used to test oil for aircraft engine wear.

MSL (Mean Sea Level) – The average level of the surface of one or more of Earth's bodies of water from which heights, such as elevation, may be measured.

MOGAS (motor gasoline), which is the everyday gasoline used in motor vehicles and some light aircraft.



NEW (Net Explosives Weight) – Weight in pounds of each charge of explosives (used with pyrotechnics).

NM (Nautical Miles) - Equivalent to 6,076 feet.

NOTAMs (Notice to Airmen) - Notices that are posted at airports/airfields to inform pilots that a particular airfield will be closed.

POC (Point of Contact) – A term used to identify a person who should be the primary person to contact regarding the issue in question.

PPR (Prior Permission Required) – A reservation obtained from an airport before an aircraft can land at that airport, usually issued on a first-come, first-serve basis.

SAF/PA (Secretary of the Air Force Public Affairs) – Air Force office responsible for approving events for Air Force support, along with other functions.

SWWB (Single Wheel Weight Bearing) – A runway's weight bearing capacity in thousands of pounds for an aircraft with a single wheel type landing gear, such as a fighter aircraft.

TFR (Temporary Flight Restriction) – Temporarily restricts flight into designated areas.

TSA (Transportation Security Administration) - The Transportation Security Administration is an agency of the U.S. Department of Homeland Security that has authority over the security of the traveling public in the United States. It was created as a response to the September 11 attacks.

UHF (Ultra High Frequency) - A band of radio frequencies from 300 to 3,000 megacycles per second.

USAFHFP (United States Air Force Heritage Flight Program – A program developed by the USAF to train and equip selected Air Force and civilian pilots to participate in Heritage Flights (see definition above).

VHF (Very High Frequency) - A band of radio frequencies between 30 and 300 megahertz.