

# ACC AERIAL EVENTS

## 2025 Demo Team and Heritage Flight SUPPORT MANUAL Change 1

Compliance with this support manual is mandatory



ACC/A3TA  
As of 18 Mar 2025

## CHANGES

### Changes included in Change 1 (Changes from the original 2025 Support Manual are highlighted in Yellow in the Support Manual)

1. Chap 6: Para 9.a., under additional information. Added a note requesting additional reserved seats for family and friends in a covered area.
2. Chap 9: Under ACC Aircraft Maintenance Equipment Requirements, paras 1.f and 1.g. Flipped flopped the photos for the Hydraulic Servicing/Filler Cart and Oil Servicing Cart.
3. Atch 7: Under ACC/A3 Memo. Replaced the old AGE Memo with a current one. If unable to open the memo, it's available on the ACC Aerial Events Web Site.
4. Atch 11: ACC Aerial Events Media or Public Relations (PR) Community Relations Support. Changed the primary POC to Erin Wood.

### *Changes from the 2024 Support Manual*

1. Deleted all references to the A-10 Demo Team
2. Chaps 1 and 2. Chap 1 under Air Show Director and Chap 2 under Air Show/Open House Information Sheet. The requirement for checklists/information sheet to be submitted to the demo team is now 90 days for airshows outside the US that will host the F-22 or F-35. This will give the demo team time to submit their deployment/security plans to HHQ for approval
3. Chapter 6. Certifying a Mobile Aircraft Arresting System (MAAS) is desired, but not required, for a Canadian MAAS installed by a Canadian installation team, as this is a USAF/ANG Civil Engineering requirement; not a Canadian requirement.
4. Chapter 6. Airspace Requirements. Changed the altitude for the F-35 required airspace from 6,000 ft to 12,000 ft.
5. Chapter 6. Ground-Based Pyrotechnics and Atch 1 Checklist. Added a requirement to provide the demo team with the name of the SIC the air show will be using.
6. Chapter 6. Flares. Reworded: If Overland Military Installation Air Shows want to request flares to be dispensed, they need to request it through the demo pilot, who, if he/she wants to do it, will request approval from ACC.
7. Chapter 10. If the aircraft are delayed from departing the air show due to weather, maintenance, or other factors, air shows will be responsible for security of the aircraft until they depart.
8. Chapter 14. Updated the Music Licensing Rates for 2025 (rates increased \$50 for 1-day show, \$50 for 2-day show, etc.)
9. Atch 1. All checklist items have been updated to coincide with the changes made in Chapters 1-15.
10. Atchs 1, 1a (if applicable), 1b, 1c, and 2. These attachments are due to the Demo Team POC 45 days for the F-16 Demo Team and 60 days for F-22 and F-35 Demo Teams (90 days for F-22 and F-35 Demo Teams at shows outside the US) prior to the event.
11. Atch 6. Deleted Procedures for Dispensing Flares Overland at Military Installation Air Shows. Added: If Overland Military Installation Air Shows want to request flares to be dispensed, they need to request it through the demo pilot, who, if he/she wants to do it, will request approval from ACC.

12. Atch 7. Added 2025 ACC/A3 AGE Memo.
13. Atch 10. Added ACN (Aircraft Classification Number) and Pavement Classification Number (PCN) to the glossary. These two numbers are used together to determine if the runway has sufficient weight bearing for the aircraft in question. Often used in lieu of SWWB (Single-Wheel Weight Bearing).
14. Atch 11. Updated various names and contact information for the Demo Teams.
15. All. Typo/format corrections and minor wordsmithing throughout the Support Manual.

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## INTRODUCTION

### **PURPOSE**

1. Congratulations on receiving an F-35, F-22, and/or F-16 Single-Ship Demo Team and/or United States Air Force (USAF) Heritage Flight (HF) provided by Air Combat Command (ACC) and the Air Force Heritage Flight Foundation (AFHFF or 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. The USAF Heritage Flight Program (USAFHFP or HFP) provides coordinated ACC and HFF aerial performances, which will usually be scheduled as a package for air shows and open houses where an ACC Single-Ship Demo Team is scheduled to perform. The HFF 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 considered when deciding which shows will or will not receive a HF, including warbird pilot and aircraft availability.
3. This manual provides support requirements for both the Single-Ship Demo Teams and the AFHFF warbird pilots. Requirements unique to one Demo Team or unique to specific warbird pilots will be listed separately.
4. The schedule that the Demo Teams and HFF personnel maintain is rigorous, causing team members to be on the road for a large portion of the year. The requirements herein ensure that the teams can provide the best performance possible to all scheduled shows, while still prioritizing the health, safety, and longevity of the crews and aircraft. The better you adhere to the requirements and requests in this manual, the more likely it is that these programs can continue to support the air show industry each year, while achieving USAF recruiting and public outreach goals.

**NOTE: The USAF Heritage Flight Team consists of the ACC Single-Ship Demo Team Members, AFHFF civilian pilot(s), and any representatives from the Demo Team's wing leadership or Headquarters ACC. Unless stated otherwise, any reference to "THE TEAM" includes all of the above personnel.**

## ***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, A-36, P-40, P-51, P-47, P-38 and F-86 aircraft. The response was an overwhelming favorite during air shows, so ACC designed and approved the Heritage Flight Program (HFP) as a formal program 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 HFF was formed to keep this popular program flying. In 2013, due to funding concerns, the USAF canceled all support for the program, so the Heritage Flight Foundation (HFF) 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 HFP once again. In 2023 the F-5 was added to the list of warbirds. At the end of 2024, the A-10 Demo Team was deactivated. Currently, the F-35, F-22, and F-16 Single-Ship Demo Teams are the only active-duty participants of the HFP.
- 3.** USAF HFs may only be conducted by ACC Single-Ship Demonstration Pilots and trained and approved HFF warbird pilots. This program and these pilots are also endorsed by name 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, if ACC supports an air and/or trade show outside the Continental US (OCONUS) or Canada, at a location where our ACC Demo Team needs to deploy with additional support equipment / personnel, or where they will be flying another Major Command's (MAJCOM's) aircraft, expect additional requirements. These may include additional people (flight surgeon, Delivery Control Officer, additional pilots who deliver the Host MAJCOM's jets, maintenance or other specialists), additional lodging/rental cars, airlift and air refueling support, passports and visas and more, which will be specified by event. Also, for these shows, some of the requirements in this Support Manual may not be applicable. For example: If a Demo Team volunteers to bring Aerospace Ground Equipment (AGE) or a portable Joint Oil Analysis Program (JOAP) lab, the show will not be required to provide it. The ACC Overseas Scheduler will discuss these requirements with you prior to committing a demo and/or HF team to your show. (See Contact Information in Attachment (Atch) 11.)

### ***REQUEST PROCEDURES***

1. 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 your FAA local Flight Standards District Office (FSDO) (or your country's equivalent agency), and e-mail a scanned copy to SAF/PA. For OCONUS Air Shows, other than Canada, send a copy to the applicable USAF Major Command (MAJCOM) HQ in your geographic area (USAFE, PACAF, etc.)
2. ACC plans to announce all future Demo/Heritage Flight Schedules at the annual



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International Council of Air Shows (ICAS) Convention, typically held in early  
December. All requests for demo support for 2026 events must be received by 1 Jul  
2025.

## **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 must sign the agreement forms at Atchs 1, 1a (if applicable), 1b, 1c and 3, complete Atch 2, and email them to the appropriate ACC Demo / HF Team no later than (NLT) 45 days (F-16 Demo Team) or 60 days (F-35/F-22 Demo Teams at US airshows and open houses) and 90 days (F-35/F22 Demo Teams at airshows outside the US) prior to your event. Failure to send forms by the deadline may jeopardize ACC's ability to support your event.
  - a. If you are missing one or two items from the required documents, please send what you do have on time. As it becomes available, contact the team and pass on the remaining information. Failure to fulfill the requirements outlined in this support manual may limit your chances to receive ACC and/or HFF support in the future and could cause cancellation of the currently scheduled support.
  - b. If you are scheduled for an ACC 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 NLT 45 days (F-16 Demo Team) or 60 days (F-35/F-22 Demo Teams at US airshows and open houses) and 90 days (F-35/F-22 Demo Teams at airshows outside the US). The Demo Pilot will determine if the event can still be supported.
  - c. For an HF warbird, if you are unable to meet any requirements, you must also coordinate with the HFF 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 (PROJO) and allowing him/her to be the Demo Team, ACC Aerial Events (A3TA), and the HFF's sole source of contact with your air show / open house staff. Experience has shown that utilizing one focal point for communication between the show site, ACC/A3TA, 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 PROJO must read this manual** and be acquainted with the respective areas of responsibility. He/she should be able to discuss all details of

- b. 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.
  - c. **Your Demo/HF PROJO** must be readily engaged in coordination at least 45 days (F-16 Demo Team) or 60 days (F-35/F-22 Demo Teams at US airshows and open houses), and 90 days (F-35/F-22 Demo Teams for airshows outside the US) prior to your event.
- 3. **Air Force Recruiter** – We recommend you put an AF Recruiter on your air show/open house committee. Recruiting quality candidates for military service is one of the primary missions of THE TEAM. It is essential that local recruiters take an active role in coordinating activities to enhance recruiting efforts. Recruiters must work closely with the host-site PR Representative to gain maximum benefit from THE TEAM's visit. Keep them in the loop throughout your planning. You can find a local recruiting squadron by contacting the AF Recruiting Service (AFRS) Recruiting Liaison at ACC/A3TA listed in Atch 11.
- 4. **Host-Site PR Representatives** – He/she is responsible for coordinating THE TEAM's participation at all receptions, dinners, public relations visits, and media interviews. Coordination with the ACC/A3TA Recruiting Liaison and local USAF Recruiting representatives will greatly facilitate AF recruiting and retention. An effective publicity campaign is crucial to a successful air show/open house. The host-site PR Representatives should write and/or distribute all pre-show publicity and arrange for media interviews, PR commitments, and live coverage of the air show/open house.

## CHAPTER 2 – THINGS WE NEED TO KNOW

### ***AIR SHOW/OPEN HOUSE INFORMATION SHEET***

1. The Air Show/Open House Information Sheet (Atch 2) contains essential information needed by the Demo Team scheduled for your show. Please send it to the applicable demo team as soon as possible, but NLT 45 days (F-16 Demo Team) or 60 days (F-35/F-22 Demo Teams at US airshows and open houses), and 90 days (F-35/F-22 Demo Teams for airshows outside the US) prior to your event.
2. When filling out the information sheet, be sure to include the full name, rank (if applicable), commercial and DSN (if applicable) phone numbers.
3. Please verify all phone numbers and notify your scheduled Demo Team of changes ASAP.
4. If unable to meet any of the warbird requirements in this Support Manual, Air Show Directors are responsible to coordinate with the HFF **NLT 30 days prior** to show.

### ***SCHEDULE OF EVENTS***

1. 30 days prior to your air show / open house, send the participating Demo Team or HFF pilots:
  - a. Draft flying schedule
  - b. Lodging location. This helps recruiting effort planning (school visits, etc.).
  - c. Diagram of the airfield/show site (details in Chapter 6)
2. No later than one week from the air show/open house start date, please provide the applicable Demo Team and HFF warbird pilot a detailed schedule of your air show and additional documentation. It should include the following:
  - a. All scheduled events and performance times (from gates open to gates closed).
  - b. Scheduled / proposed PR appearances (e.g., high school visits, hospital visits, etc.).
  - c. Names and positions of all VIPs attending the air show.

- d. If required, ensure completion of any local documentation to allow TEAM members installation access and flight line driving privileges immediately upon arrival.
3. Please ensure **all TEAM members**, including all Demo Team pilots and personnel, HFF pilots and personnel, and any attending Demo Team Wing or ACC leadership are included on all intended access lists, particularly those used to access the flight line, VIP/performer areas, etc.
- a. Any privileges/area entry you intend to grant to pilots should also be granted to maintenance crews, Public Affairs representatives, ACC/A3TA representatives, and attending TEAM leadership; we operate as a TEAM!
  - b. Home station flight line badges, along with any other locally required documentation, may be used in lieu of an access list, but please ensure airfield and air show security understands which list will be utilized.
  - c. 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.

Military Air Shows: Obtain a Visitor's Pass for the Heritage Flight warbird pilots and any members of their crew who do not have a military ID card, so they may enter the exit/base during their stay. This pass should cover the dates of their arrival and extend 2 days after the show ends, in case of weather or maintenance delays.

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

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

The ACC Demo Team maintenance support personnel will usually arrive at your air show/open house site one day before the pilots/jets. Upon arrival, all Demo Team maintenance personnel will require show-provided transportation to pick them up from the commercial airport (for the F-35/F-22 an SUV or full-size van and 2 minivans will be required), unless the air show has coordinated for them to pick up airport rental cars. See Chapter 5 - TRANSPORTATION for details on specific vehicle requirements to transport THE TEAM's luggage and maintenance equipment to and from the airport.

### ***WARBIRD MAINTENANCE PERSONNEL ARRIVAL***

If the HFF warbird pilot brings maintenance support personnel, they may arrive via commercial air or via the backseat 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 Demo Team maintenance representative and any warbird maintenance representatives will meet with the air show/open house director/coordinator or Host–Site Demo Team PROJO 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 present for each area covered in the support manual who has the authority and knowledge to answer questions and fix problems that may arise. Agenda items will include the:

- a. Air show schedule
- b. Community 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 HFF 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 HFF POC or warbird pilot before making billeting arrangements. If attending a military air show, the team will not book lodging through DTS, as this is the responsibility of the air show.
2. **Room Reservations:** The following number of non-smoking rooms will be reserved for each team. Please contact the applicable Demo Team and HFF POC or warbird pilot for further details.
  - a. F-22 Demo Team – at least 10 rooms. The team may require 2 additional rooms for pilots who bring aircraft to the air show/open house from other bases to support.
  - b. F-16 Demo Team – at least 9 rooms.
  - c. F-35 Demo Team – at least 11 rooms. The team may require 2 additional rooms for pilots who bring aircraft to the air show/open house from other bases to support.
  - d. HFF warbird team– at least 2 rooms per warbird, unless otherwise coordinated with the HFF POC or warbird pilot (i.e., only 1 room needed when a crew chief doesn't attend, or when pilot stages from his home base or another air show site but needs to remain overnight at your show site.).
  - e. 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, such as staging from other than show site or other pilots that bring in the jets for the Demo Pilot to fly, etc. In this case, THE TEAM will inform the air show of the additional requirement(s). 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 and/or Demo Team wing leadership representative who attends the show for official oversight. 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, safe, and in a quiet location (i.e., not near railroad tracks, heavily traveled thoroughfares, heavy construction).
6. Hotel rooms for the Demo Pilot, Safety Observer, Team Superintendent (and/or Team Chief), and civilian HFF Pilot must have a phone 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 or phone calls used for official/authorized purposes. All rooms must have working 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. This includes the Demo Pilot, Safety Observer, Narrator, Demo Team Maintainers, Public Affairs representative, civilian HFF Pilot/Maintainer, and any ACC HQ or Wing Leadership personnel, unless previously coordinated.
8. Billet THE TEAM with other air show participants to the maximum extent practical.
9. Reserve rooms for all ACC and HFF personnel under the applicable ACC Single-Ship Demo Team name (i.e., F-35, F-22, or F-16 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 travel time; police escort or commensurate solution required if longer). If staging, billet THE TEAM near the air show rather than the staging location, unless otherwise coordinated.
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. In such a case, THE TEAM will require the rooms for as long as needed at the air show/open house's expense for those individuals required to remain behind. Additional 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 communicate their needs to their host-site PROJO and make every effort to depart ASAP to minimize the expense to the air show/open house.



## ***ADDITIONAL REQUIREMENTS***

1. Credit Cards: The hotel where THE TEAM lodges 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 waive the charges, or else the air show/open house will be required to cover the cost.
  - b. Due to the amount of gear requiring daily storage, the available parking area must be within one city block of the lodging facility.
3. Other:
  - a. Dining, fitness, and laundry facilities should be located nearby.
  - b. Fitness facilities:
    - 1) 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.
    - 2) 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 (team-specific data below). Vehicles should be booked by host-site organizers, not by Demo Team or HFF personnel. TEAM personnel do not provide rental contract information to show sites.
2. Funding for vehicles, fuel, and toll fees for the Demo Team and HFF personnel is the air show's/open house's responsibility.
  - a. Please ensure the vehicles have a full tank of gas upon pickup. Should more than a full tank be needed to support the show and vehicles need to be refueled, host-site transportation representatives must anticipate and provide a method to refuel vehicles at no expense to the Demo Team or HFF personnel.
  - b. 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 HFF 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 Atch 3). Vehicle requirements are as follows:

- a. **F-22 and F-35 Demo Teams:** 6 vehicles:
  - 1) 3 vehicles with capacity to transport (and secure) 6 large pelican cans (ex; Minivan, large SUV w/foldable back row, 15 passenger van w/2 back rows removed, etc.) to carry maintenance tool boxes and equipment
  - 2) 3 mid-size sedans
  - 3) 1 to 2 additional vehicles may be required for F-22 / F-35 pilots who bring aircraft to the air show/open house from other bases to support the team.
- b. **F-16 Demo Team:** 5 vehicles:

- 1) 2 full-size vans/SUVs to carry maintenance toolboxes and equipment
  - 2) 3 mid-size sedans
- c. **HFF Warbird Pilots:** Provide 1 vehicle per warbird.
  - d. **HQ ACC and/or Demo Team Wing Leadership Representative:** Provide 1 sedan for each ACC or Demo Team wing leadership who attends the air show/open house for official oversight.
  - e. 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. In such a case, THE TEAM will require the vehicles for as long as needed at the air show/open house's expense for 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 communicate their needs to their host-site PROJO and make every effort to depart ASAP to minimize the expenses.

## ***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. Where government cars/vehicles are available, they should generally be used. These vehicles will be available for off base official use.
- c. All vehicles are in place, fully serviced and fueled.
- d. All vehicles are in good mechanical condition and dependable.
- e. 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 limitations on advertisements. Dealers/providers may not advertise that the cars were provided for

use by a Demo Team or the HF warbird pilot in any way, before, during or after the team's visit. Dealer/Air Show will provide insurance for cars at no cost to the team. Please sign and return Atch 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***

Rental cars are the preferred mode of transportation on the ramp, because they offer a cool environment with space for secure transport of support equipment; however:

- a. If rental cars are not allowed on the ramp at show site or the staged location, provide golf carts for demo team members and Heritage Flight Pilots to operate on the ramp.
- b. If congestion in the Priority Level 3 (PL 3) parking areas (secured aircraft parking areas) and show center makes it too difficult to operate a rental vehicle, the Demo Team and Heritage Flight Pilot require the use of a golf cart or similar at the show site and at the staged location (if applicable).
- c. If a golf cart is not available, please provide another independent mode of travel acceptable for a congested PL 3 area for the team while on the flight line.

## ***HFF Recreational Vehicle (RV)***

Occasionally, the HFF will bring an RV to an air show/open house to support their aircraft and personnel. 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 Demo Team and HFF POC (or HFF warbird pilot) with a diagram of their airfield/show site NLT **30 days before** the air show. As a minimum, this 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 annotated), any secondary crowd lines, and the Demo and HF aircraft parking areas.
- 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 and approved by the applicable Demo/HF Pilot or Team Chief before a change is made. Strive to request parking changes greater than 24 hours prior so that teams may minimize towing requirements and station tow-qualified personnel efficiently. Demo/HF Pilots and Team Chiefs maintain the final say in the movement of their aircraft.
- 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 staged shows, THE TEAM must have a diagram of the show site, as well as the airfield from which the aircraft will stage from.
- 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.
- i. The airfield diagram must reflect the FAA Inspector-in-Charge's (IIC) determination of congested areas.

## ***SHOW LINE***

1. The show line should normally be a straight path over the ground, located 1,500 ft in front of the crowd. If the crowd line is other than a straight line, the show line must be no closer than 1,500 ft from the spectator area at any point. This line will be used as a primary reference during the ACC Single-ship Demonstration and/or HF.

**NOTE:** Show line for non-aerobatic maneuvers (HF performance, high speed pass, etc.) must be a minimum of 500 ft 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 ft of an active runway or taxiway, first 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. Ensure there are clearly visible corner markers 500 ft 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 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 the Demo/HF Pilot uses to center each maneuver during their performance. 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 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 ft 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.

## ***AIRCRAFT PARKING (SHOW)***

1. Please coordinate parking with the TEAM's senior maintenance representative to discuss jet blast safety and parking.
2. Park the Demo aircraft and HF warbirds as close to the crowd line as safety permits, at show center, so the crowd can see the pilots and maintenance team at work.
  - a. If the Thunderbirds, Blue Angels and/or other National Team is parked at show center, park the Demo aircraft and Heritage Flight warbirds next to them at show center, but no closer than 150 ft, to allow vehicle and aircraft maneuvering and maintenance space for both teams.
  - b. Minimum distance from the Demo aircraft nosewheel to the crowd line is 200 ft.
  - c. Minimum distance from the Demo aircraft nosewheel to the air boss and/or narration stand is 200 ft for noise reduction.
3. HF warbirds must be parked near the ACC demo aircraft, unless otherwise coordinated with the ACC and HFF pilots.

**NOTE:** If the ACC demo aircraft are required to stage from a different airfield than the show site and the warbirds are not, we request you park the warbird(s) at the show site.

4. THE TEAMS require aircraft to be parked on a taxiway or ramp which is at least 75 ft 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 2 aircraft to your event; 1 aircraft will be the primary demo 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 HFF may bring more than 1 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***

1. Provide hangar space for all ACC Demo/HF aircraft in the event of severe weather (hail, lightning, etc.), maintenance, or security concerns. Provide hangar space for warbirds during periods of actual and forecast precipitation, in addition to the above conditions. 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. See Chapter 9 and contact the HFF Pilot for detailed information about specific aircraft 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 available hangar space until their departure, at the air show's/open house's expense. Hangar space for the TEAM must be coordinated prior to arrival and accessible upon arrival and for the duration of their stay.

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2. The following are aircraft dimensions and minimum hangar size for the ACC Demo aircraft:

- a. F-22: 62 ft long, 45 ft wide, 16 ft 8 in high. Hangar dimensions for 2 x F-22 parked side-by-side are 70 ft long, 95 ft wide, and no obstructions below 18 ft.
- b. F-16: 47 ft 8 in long, 31 ft wide, 16 ft 5 in high. Hangar dimensions for 2 x F-16 parked side-by-side are 55 ft long, 75 ft wide, and no obstructions below 18 ft.



- c. F-35: 51 ft 6 in long, 35 ft wide, 14 ft 3 in high. Hangar dimensions for 2 x F-35 parked side-by-side are 60 ft long, 85 ft wide, and no obstructions below 18 ft.

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

F-35 Demo Team requires secure indoor space for pilot life support equipment near the aircraft parking location. This space must be able to be secured so that only F-35 Demo Team members are permitted access.

### ***RUNWAY WEIGHT BEARING REQUIREMENTS***

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

- a. **F-22:** 65,000 pounds or ACN of 28
- b. **F-16:** 30,000 pounds or ACN of 11.5
- c. **F-35:** 48,000 pounds or ACN of 20.5

**NOTE:** SWWB requirements are also applicable for taxiways and parking locations to prevent aircraft from sinking into unfit paved surfaces, which can damage both airfield and aircraft.

### ***AIRFIELD REQUIREMENTS***

1. Fire department must be open and available at show site, staging location and arresting gear location, as applicable.
2. There is no Air Force requirement for the control tower to be manned, or for Crash Rescue to be available at an emergency divert base, but ACC prefers the air show request it. If a manned tower and/or CFR is not available, inform ACC/A3TA and the Demo Pilot ASAP. In some cases, a Mobile Aircraft Arresting System (MAAS) may be required to mitigate risk.

### **3. Runway Size and Arresting Gear Requirements**

Arresting gear must be in place and operational for aircraft arrival. If this requirement

cannot be met, shows must inform the Demo Pilot NLT 7 days prior to the arrival for fuel and divert planning. Arresting gear should be planned to remain in place until aircraft departure, unless prior coordination has been completed with the Demo Pilot to remove the system early.

- a. **F-22 Demo Aircraft:** The minimum runway size for the F-22 is 7,000 ft by 75 ft. To perform a demo, all show sites or staging locations, as applicable (regardless of runway length), must have the following:
  - 1) Suitable arresting gear on site or on a minimum 7,000 ft runway within 80 NM of both the staging location and the show site.
  - 2) If suitable arresting gear is not available, the air show must have a Mobile Aircraft Arresting System (MAAS) installed on site or on a runway meeting the above criteria.
  
- b. **F-35 Demo Aircraft:** The minimum runway size for the F-35 is 8,000 ft by 75 ft (7,000 ft by 75 ft with a compatible arresting gear at the departure end of the runway). To perform a demo, all show sites or staging locations, as applicable (regardless of length), must have the following:
  - 1) Suitable arresting gear on site or on a minimum 7,000 ft runway within 80 NM of both the staging location and the show site.
  - 2) If suitable arresting gear is not available, the air show must have a MAAS installed on site or on a runway meeting the above criteria.
  
- c. **F-16 Demo Aircraft:** The minimum runway size for the F-16 is 7,000 by 75 ft. To perform a demo, the following requirements must be met:
  - 1) If the show-site runway or staging location runway is less than 10,000 ft, there must be a suitable arresting gear at a 7,000 ft or longer runway within 80 NM of both the staging location and the show site.
  - 2) If the show site or staging location runway is at least 10,000 ft in length, an arresting gear is not required.
  - 3) If neither requirement can be met, the air show must have a MAAS installed on site or on a runway meeting the above criteria.
  
- d. **HFF Warbirds:** The minimum runway size for all HFF warbirds, except the F-5, is 5,000 ft by 75 ft. For the F-5, it's 8,000 ft by 75 ft.

- e. **HF-Only Arresting Gear Requirement:** If a Heritage Flight with an ACC demo aircraft and HF warbird is scheduled without a separate ACC demo performance, each situation will be evaluated separately by the Demo Pilot and ACC to determine distance-to-arresting gear and staging distance requirements. Because fuel needs may be lower, the distance requirement to an arresting gear may be different than what's listed above.
- f. Airshows are responsible for funding MAAS installations.
- g. When required, "suitable arresting gear" for all aircraft is a BAK-12 equivalent. Suitable BAK-12 equivalents for all aircraft include: BAK-12A, BAK-12B, BAK12ER (Extended Runout), E-28 (BAK-13), or BAK-15NI.

#### **4. Mobile Aircraft Arresting System (MAAS) (BAK-12 or equivalent or M-31):**

- a. A compatible, serviceable aircraft arresting system is required for USAF Thunderbirds, USN Blue Angels, or ACC Demonstration Teams (F-16, F-22, F-35). While it is the ultimate responsibility of the airshow to ensure that an arresting system is available, if MAAS is required, ACC/A3TA will coordinate with the organizers to ensure they have the information needed to begin the process of acquiring a MAAS. NOTE: The airshow is responsible for funding MAAS transportation and installation.
- b. Organizers for shows that require a MAAS shall initiate the process by contacting the ACC MAAS coordinator (Atch 11) within 14 days of the Demo Team schedules being announced or immediately upon learning of an issue with the pre-planned use of permanent MAAS at an established installation. ACC/A3TA will simultaneously make every effort to establish contact with show organizers following schedule release; however, this does not relieve organizers of the requirement to establish contact.
- c. ACC/A3TA will determine potential installation teams from the USAF (active or National Guard) and USMC. Upon identifying an installation team for the show, A3TA will pass the MAAS installation team contact information to the show organizer so coordination may begin between the organizer and installation teams directly. A3TA will remain available to answer questions and assist with other coordination as able.
- d. Airshow organizers are responsible for direct coordination with MAAS installation teams to select and secure a MAAS transportation option that is reliable, able to access military installations and is agreeable to all parties.
- e. ACC/A3TA will provide the following services to airshow organizers:
  - 1) During the schedule building phase, determine and inform an airshow if it

will have a MAAS requirement.

- 2) Fully explain the MAAS acquisition process and answer questions on MAAS.
  - 3) After official demonstration team schedule publishing and being contacted by the air show organizer, will identify potential MAAS installation teams and provide organizers with team contact information.
  - 4) If required, provide organizers with contact information of all suitable certifying aircraft in their region of the country,
- f. **F-22, F-16:** arresting gear must be a cable (not a net or a web) arresting system with a BAK-12 rotary brake or equivalent system or a Marine-installed M-31 Expeditionary Arresting Gear System (EAGS).
  - g. **F-35:** arresting gear must be a cable (not a net or a web) arresting system with a BAK-12 rotary brake system or equivalent. The USAF F-35A is not certified to use the Marine-installed M-31 EAGS.

## 2. Certifying a Mobile Aircraft Arresting System (MAAS)

- a. The Marine M-31 system 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 often elect to certify it).
- b. It is the responsibility of the airshow organizers to secure certification of a USAF or ANG-installed MAAS prior to the demonstration team arrival. A3TA will assist airshow organizers with contacting potential volunteer units to secure a MAAS certifier. BAK-12 MAAS systems installed by a USAF or ANG installation team must be certified by an aircraft engagement prior to being considered "in service". This is a USAF/ANG civil engineer requirement. The Marine installed M-31 MAAS system does not have this requirement, as it is self-certifying. If a Canadian Team installs one of their MAASs, there is no requirement to have it certified, but it is desired.
- c. The USAF and ANG MAAS requires a tail hook equipped aircraft to perform a certification engagement to bring the arresting system into service.
- d. The Blue Angels will normally certify any MAAS gear that is installed for their use. As a last resort, the Thunderbirds may certify the MAAS that is installed for their use at the show site, but will not normally send an aircraft to another location to certify it. ACC's F-35, F-22 and F16 Demo Teams will not certify a

MAAS, due to the potential for damage to the aircraft and the potential to lose the spare aircraft for their demo.

- e. Air shows are responsible to find a tail hook-equipped aircraft to certify a MAAS installed by the USAF or ANG. Aircraft with low tails are unlikely to do a certification due to potential damage. The best aircraft for certification are the F18, F-15C/D or F-15E.

NOTE: Installing a MAAS on a runway less than 8,000 ft limits which aircraft can certify it. Most USAF and ANG Wing policies do not allow planned landings on runways less than 8,000 ft unless a certified arresting gear is already in place and operational, so you may encounter challenges finding wings to certify the MAAS on runways less than 8,000 ft. Contact the A3TA scheduler listed in Atch 11 for assistance if you encounter an issue getting installed gear certified.

### 3. Arresting Gear Locations:

- a. When arresting gear is required (including a MAAS), but is located at other than the show site, it is the air show's responsibility to coordinate with the installation commander or airfield manager at that location. Air shows must:
  - 1) Confirm arresting gear is in service and raised and the fire department is open and available.
  - 2) Request the tower be manned and crash rescue be available for the aircraft arrival, rehearsal, air show, and departure dates.
  - 3) IAW Atch 1: Checklist (Chapter 6), provide confirmation status to the Demo Team.
- b. MacDill AFB Auxiliary Field (Avon Park), FL has 2 x BAK-12s and *may* meet minimum requirements if within range. Note the following:
  - 1) This is a VFR uncontrolled field in restricted airspace R-2901 at Avon Park Air Force Range (APAFR), FL.
  - 2) There are no controllers in the tower, but there are Range Safety Officers (RSO) on duty to provide aircraft advisory services Monday-Friday during normal duty hours, and on weekends if the range is scheduled for non-airshow military training.

- 3) MacDill Aux will not have barrier personnel in place outside duty hours. If required, they will recall personnel to release jets from the arresting gear.
  - 4) The MacDill Aux Fire Department is on duty 24/7 and capable of responding to aircraft emergencies including arresting gear engagements, but there is no crash recovery available. Fire Department staffing levels will be reduced on weekends and frequently operate at a Critical Level of Service (CLS) or Inadequate Level of Service (ILS).
  - 5) Inform ACC Aerial Events Scheduler early if MacDill Aux is required, but unable to meet requirements. A MAAS may be required.
  - 6) The MacDill Aux Fire Department Alarm Room does not monitor VHF or UHF. The air boss must call their Alarm Room at (863) 452-4225 to inform them that an emergency aircraft is inbound to use their arresting gear. Fire department personnel will use UHF 292.2.
- c. If planning to utilize arresting gear at any other uncontrolled field, inform the ACC/A3TA Scheduler listed in Atch 11 of this Support Manual.
  - d. The air show is also responsible for providing the Demo Pilot with radio frequencies at arresting gear locations. If the tower will be unmanned, provide contact information and monitored radio frequencies for the fire department. Ensure the air boss contacts the arresting gear location's tower and/or fire department to advise them of the inbound aircraft.
  - e. Contact information for the MacDill Auxiliary Field Arresting gear POC is in Atch 11.

#### 4. Runway / Taxiway Sweepers

- a. All paved ramps, taxiways, and runways used by THE TEAM must be absolutely free of foreign object debris (FOD) which could damage aircraft engines.
- b. To reduce/eliminate FOD, an operational vacuum sweeper is mandatory. If the airport maintenance facilities do not possess a vacuum sweeper, the air show must make arrangements to obtain one for use prior to ACC Demo/HFF aircraft planned arrival through actual departure. **It is mandatory for all surfaces to be thoroughly swept before THE TEAM's arrival.**

- c. If a brush-style sweeper is used, ensure the **bristles are not steel**, and a thorough FOD check of the runway is accomplished after its use.
- d. Restrict rotary-wing, Harriers, and other hovering aircraft from hovering over taxiways, ramps, and runways intended for THE TEAM's use. If absolutely necessary, please ensure those areas are swept and FOD-checked prior to use by ACC or HFF aircraft. **It is absolutely essential that hovering not be performed over or near parked ACC or HFF aircraft.**

## ***STAGING REQUIREMENTS***

1. When ACC Demo or HFF aircraft stage from a location other than the show site, it is the air show's responsibility to coordinate with the staging location and ensure all Support Manual requirements will be met.
2. ACC aircraft cannot stage more than 50 NM from the show site for a Demo. For a Heritage Flight-only event, pilots will determine maximum staging distance.
3. Air shows must ensure aircraft are approved to operate from the staging location during the dates of the rehearsal and air show. Air shows must obtain approval to stage aircraft from the wing / installation commander (military location) or airport manager (civilian location) at the staging location via a signature on the checklist (Atchs 1 and 1a: Chapter 6 section) or a detailed letter.
4. Air shows must provide Demo Teams the POC name and contact information at the staging location via Atch 2.

## ***GROUND-BASED PYROTECHNICS***

1. ACC Demo Aircraft: 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).. Only ICAS-approved personnel will be permitted to utilize pyro during ACC Single-Ship Demo Team performances. ICAS posts an annual approved Shooters-in-Charge (SIC) list, available on the ACC Aerial Events Website. Include the name of your SIC on the Checklist at Atch 1. See Atch 5 for specific pyro procedures. See Atch 1 Checklist for the requirement to submit the name of your SIC.
2. If pyrotechnics are planned anytime during the air show, ensure they are detonated with sufficient distance to prevent frag or FOD affecting THE TEAM's aircraft or intended runways and taxiways. Pyrotechnic performances closer than

500 ft to the parked ACC or HFF aircraft are forbidden.

## ***FLARES***

F-16, F-22 and F-35 Demo Pilots may dispense flares at civilian and military overwater air shows. For dispensing flares overland at military installations, ask the demo pilot. If the demo pilot wants to do it, he/she will request approval from ACC, but it is not guaranteed. See Atch 6 for guidance/restrictions for dispensing flares.

## ***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. Air shows should plan practice shows to mimic performances to the max extent possible. Additionally, coordinate 5 minutes of arrival airspace at the ACC Demo/HFF aircraft arrival time for an aerial site survey (to observe local obstacles, run-ins, show lines, etc.).
2. Air shows must have a CAT 1 aerobatic box for the F-35, F-22, and F-16 Demos. Aerobatic boxes must be sanitized of personnel (Exception: Essential personnel, such as pyro performers).
3. Minimum protected airspace (Temporary Flight Restriction (TFR) or restricted area) for single-ship demonstration aerobatic maneuvers includes a 5-mile radius from show center and the following:
  - a. F-22: up to 7,000 ft AGL, aerobatic box of 3,000 ft by 4,500 ft
  - b. F-16: up to 15,000 ft AGL, aerobatic box of 3,000 ft by 6,000 ft
  - c. F-35: up to 12,000 ft AGL, aerobatic box of 3,000 ft by 6,000 ft
  - d. HF: up to 1,500 ft AGL, aerobatic box of 3,000 ft by 3,000 ft
  - e. NOTE: If an ACC Demo is scheduled for your show, the TFR required for the demo will more than suffice for the HF.
4. If the FAA has waived a show line to less than 1,500 ft, the aerobatic box may be



less than 3,000 ft wide for all the demos and HF, provided the box is at least 1,200 ft from either the primary or secondary show line.

## ***AIR BOSS REQUIREMENTS***

All air shows and other events where ACC Demo Teams perform must have an Air Boss. US air shows must have an Air Boss with Letter of Authorization (LOA) issued by FAA and Canadian air shows must have an airboss with a LOA issued by the ICAS Canadian Air Boss Committee.

## ***AIR SHOW PERFORMANCE SPECIFICS***

1. It is critical for the Air Boss to understand and enforce that **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 will not make requests to the Demo Pilots, HFF pilots, or Safety Observers to allow such takeoffs or landings. The Air Boss will release the show container and grant takeoff clearance to the HF (ACC demo jet and HFF warbird) in its entirety, if applicable. Actual single-ship takeoffs will be coordinated intra-flight, based on show profile. Takeoff and landing activity by other aircraft during the ACC Demo and/or Heritage Flight, as well as radio chatter to make such requests, distract the pilots, pose an unnecessary risk, and may lead to a safety stop (Knock-it-Off) and profile abort.
2. **Demonstration Profile:** ACC single-ship demo performances, including ground and flying portions, last approximately 20 minutes or, if Heritage Flight (HF) is included, 30 minutes. It is imperative no other events be scheduled during this time aside from the HF start, taxi, and takeoff. **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 the HF aircraft originates from the show site or a staged location. Taxi and rejoin times are included. The performance consists of 5 or more formation passes, ranging from a 2 to 4-ship formation, depending on the number of ACC Demo Teams and HFF warbirds booked 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)
  - f. With sufficient gas and per pilot judgment, 1 or more additional single-ship passes (zoomies) may be flown; the Air Boss should coordinate with pilots or Safety Observers in real time.
  - g. 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 events with approval.
4. Takeoff for Demos / HF must be no earlier than 30 minutes after official sunrise and no later than 1 hour prior to official sunset to ensure the demo and HF are complete no later than sunset. NOTE: Takeoff occurs approximately 5 minutes after the narrator takes control of the microphone and public address system.

## ***PERFORMANCE NARRATION***

1. **Demonstration:** Special narration of the ACC Single-ship Demo will be handled by the Demo Team Narrator. Coordinate with the Single-Ship Demo Team Narrator to determine 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 Atch 4):** The HF performance includes the song “We Remember”. The Demo Team will provide a copy of this song digitally or via CD. The Demo Team Narrator for the HF will utilize a special narration script.
3. For ACC Demonstrations and/or HFs at foreign air or air and trade shows (other than Canada), the narration may require translation and/or adjustment for content. Demo Teams will coordinate with foreign air or air and trade shows if required. In that case, the Demo Team will submit the narration to ACC/A3TA, who will review and update verbiage for the specific international show, submit it to ACC/PA for coordination, and then submit it 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, ACC and safety observers will operate on a discrete frequency for all demonstrations and practices (not required for HF-only performance). This will minimize distracting third-party radio chatter and avoid stepped-on radio calls between the pilot and safety observer. During the demonstration, the safety observer will be the only person in direct contact with the Demo Pilot. During the demonstration, all other parties must coordinate through the safety observer for any communications intended for the Demo Pilot.
2. Air shows must provide the safety observer with a direct communications link (radio, walkie-talkie, etc.) for contact with the other agencies (Air Boss, ATC, etc.) during the actual demonstration if not co-located. For safety purposes, a “middleman” is not sufficient during flying operations when things happen quickly.
3. All ACC Demonstration aircraft are equipped with UHF and VHF radios.
4. HFF Warbirds are equipped with VHF radios only.
5. The air show must provide the Demo Narrator with a podium or table and a public address system with CD and/or MP3 player input capability so they may narrate the performance and play accompanying music.

## **WEATHER LIMITATIONS**

ACC Demo and HF pilots will select from the following profiles, depending on the prevailing weather conditions:

1. High Show: 3 miles ground visibility, 5 miles in-flight vis, discernible horizon, and:
  - a. F-22:
    - 1) High Show: 4,500-ft ceiling
    - 2) Low Show: 1,500-ft ceiling
  - b. F-16:
    - 1) High Show: 7,000-ft ceiling
    - 2) Low Show: 1,500-ft ceiling

- c. F-35:
  - 1) High Show: 6,000-ft ceiling
  - 2) Low Show: 1,500-ft ceiling
- 2. Low Show for F-35, F-22 and F-16: 1,500-ft ceiling, 3 miles ground vis, 5 miles inflight vis, and a discernible horizon.
- 3. USAF HF: All ACC Demo and HFF aircraft require a 1,500-ft ceiling, 3 miles ground and in-flight vis, and a discernible horizon.

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

For ACC Demo Teams and HFF warbirds to fly, on-duty CFR teams must 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 and the location of the permanent or temporary arresting gear (i.e., a MAAS), as applicable. Since the purpose of an arresting gear location outside the show site is to handle an emergency divert, it's essential that personnel at that location participate in the exercise however possible.

### ***ADDITIONAL INFORMATION***

- 1. The HFF Pilots and their aircraft operate as part of the USAFHFP. Special consideration should be paid to logistical requests to safely launch, fly, recover, move, and protect HF warbirds. Final word on all HF operations at the air show site will be made by the ACC Demo Pilots and HF Pilots, IAW ACC's USAFHFP rules and regulations.
- 2. ACC Demos/HFs will not be performed earlier than 12:00 PM local unless coordinated and approved by the Demo Pilot(s).
- 3. With the exception of the U.S. Army Golden Knights, the U.S. Navy Leap Frogs,

the USAF Academy Wings of Blue, and the Special Ops Command (SOCOM) Para Commandos, all landing zones for parachutist demonstrations must be at least 300 ft from THE TEAM's stationary non-running aircraft, and at least 1,000 ft if engines are running or aircraft are moving.

4. Drones and radio-controlled model aircraft operated during an air show must not come within 300 ft of THE TEAM's aircraft, laterally or vertically.
5. If a 500-ft show line for civilian performers is planned, THE TEAM's aircraft must be parked at least 300 ft from the 500-ft show line to avoid over flight of their aircraft.
6. Air shows will prohibit other aircraft from running engines during show narration, except for warbirds preparing for HF.
7. Air shows will not allow the sale of helium / hydrogen-filled balloons, as they are a threat to safe flying operations.
8. Hot-air balloons must not be inflated during THE TEAM's arrival, practice, or demonstration/HF, unless they are tethered to and remain on the ground, out of the aerobatic box, and well clear of any aircraft's flight path.
9. Air shows will ensure all TEAM members have equal access to VIP tents/areas to sign autographs, meet VIPs and DVs, and engage supporters.
  - a. Please provide access to these areas for THE TEAM's family and friends upon request. If unable, we require 20 or more reserved seats in a covered area with water available (ice water in Igloo-type coolers is sufficient) for team guests, opposite show center if possible. (Note: We request up to 30 reserved seats in this covered area. Unused tickets will be returned).
  - b. If it is easiest to provide THE TEAM and their guests access to your main VIP seating section and will alleviate you from constructing a separate area just for this purpose, please do so. Your show's hospitality is often THE TEAM's best chance to see their loved ones throughout their busy travel seasons!
10. Ensure THE TEAM has easy access to meals and water from aircraft parking ramp area during the rehearsal and air show days. Provide two 5-gallon Igloo-type coolers filled with ice and water by the aircraft for the HFF warbird pilot and Demo Team personnel, to include staging locations.
11. Restroom facilities should be within brief walking distance of the aircraft parking

locations and restricted from general-public use.

- 12.** Do not schedule the demo/HF within 30 minutes before or after the Thunderbirds or Blue Angels performance, engine runs, or start of their ground shows.
- 13.** Immediately notify the ACC and/or HF warbird pilot(s) if you must change a previously provided arrival time/window.

## CHAPTER 7- FAA WAIVER/NOTAMS

### ***FAA WAIVERS FOR PRACTICE AND PERFORMANCES***

1. A waiver from the Federal Aviation Administration (FAA) is required for THE TEAM's aerobatic maneuvers for arrival, rehearsal and actual air show demonstrations / HFs.
  - a. If any Demo or HFF pilots are non-current in the HF, you must provide them an Aviation Practice Area (APA) or other protected airspace to practice the HF.
  - b. Submit all waiver requests on FAA Form 7711-2, Application for Certificate of Waiver or Authorization. The waiver must be initiated at least **90 days** before your scheduled show date.

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

2. Your 7711-2 request for waiver **must** cite a representative of your organization in the "issued to" block. **Do not** issue waivers to the "F-22, F-16, or F-35 Single-Ship Demonstration", or the "ACC Aerial Event Team."
3. The ACC Demo Pilot will read and sign the waiver and all special provisions. Normally, this will occur after the first briefing to indicate he/she has been briefed.
4. For THE TEAM to perform at your air show, air shows must request waivers to the following FAA regulations:
  - a. 91.117(a) – Aircraft speed in excess of 250 knots below 10,000 ft
  - 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 ft 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 ft above the surface
5. As a minimum, waiver time for practice or demonstration must begin 5 minutes before scheduled takeoff and extend for 30 minutes after takeoff. Although the actual demo performance lasts approximately 15 minutes, the additional time is requested to allow flexibility for unforeseen maintenance problems or weather conditions. These are minimum times; additional time may be requested. Please ensure the required time blocks are accurately reflected on the waiver request; unnecessary delays are possible while trying to obtain a new waiver.
6. Please ensure the accuracy of your waivers with the FAA National Air Show Coordinator. (See Atch 11 for name and contact information.)

### ***NOTICE TO AIRMEN (NOTAMs)***

1. Your airfield must be closed for the total time issued on the waiver for both the practice and the official demonstration / HF. This time includes closure to airlines at commercial or joint-use airfields. If you anticipate any conflicts, contact the Demo Team Pilot or Team Chief 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 and after planned arrival and the flight times** specified in the practice and performance waivers. It is of the utmost importance to not only provide a NOTAM closing the airfield for rehearsals and performances, but also to include airspace requirements listed in Chapter 6 for the aircraft scheduled.



**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 IAW the airspace requirements listed in Chapter 6. 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 to request a waiver. If the waiver is disapproved, ACC will cancel its participation unless an alternative solution is found.

### ***HAZARDS***

Provide the Demo Team and the HFF warbird pilot a sectional chart and advise on any hazards in the local area which are obvious to transient aircraft. This information must be provided to the pilots prior to arrival at the show site.

### ***LOCAL AIRPORTS***

Contact all airports within a 5NM 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 arranging the required support listed in this manual and covering the costs involved in obtaining and transporting the equipment and materials. The air show is responsible for providing all aircraft fluids (i.e., fuel, oil, hydraulic, etc.) and any fuel and oil costs associated with aerospace ground equipment (AGE) equipment use. If TEAM aircraft departure is delayed due to weather, maintenance issues, or other factors, the air show must continue to provide this equipment, fuel and oil until the aircraft depart. Provide the scheduled Demo/HF Team with a completed copy of the Atch 1 checklist NLT **45 days** prior to your show date.

### **FOREIGN OBJECT DAMAGE (FOD) CONTROL**

1. FOD is foreign object debris which threatens damage to aircraft components, i.e., flight controls, tires, or engine damage by 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, ensure all 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. ACC F-22 and F-35 Demo aircraft must have engine oil samples analyzed per specific requirements by aircraft, listed below. Failure to provide this service will cancel their participation 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 for the F-16 are no longer required.
4. **F-35:** Oil samples are required after every 60 hours of engine operating time. F35 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. Air shows/open houses must provide fuel for ACC Demo and HFF Warbirds after arrival, and after each demo / HF.
2. All fuel must be fuel-lab certified and provided by a certified vendor.
3. Military sites – Fuel for ACC Aircraft will be purchased by the Demo Team using the DOD fuel card for each respective aircraft.
4. 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.**

NOTE: Current standard aviation fuel pricing from the Defense Logistics Agency (DLA) are published at: <https://www.dla.mil/Energy/Business/Standard-Prices/>

5. If aircraft departure from the air show is delayed due to maintenance, air shows/open houses are still required to provide fuel for demo aircraft and HF Warbirds, when requested.
6. Quantities and types required by aircraft:
  - a. **F-16:** Requires approximately 7,000 pounds per demo / HF. Authorized fuels: JP-4, JP-5, JP-8, Jet-A+, or NATO-24 (Jet A ++)
  - b. **F-22:** Requires approximately 18,000 pounds per single-ship demo / HF
    - 1) Authorized fuels: JP-5, JP-8, JP-8 + 100, JP-8/SPK Blend, Jet A or Jet A-1.

- 2) JP-4 is not authorized.
  - 3) 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).
- c. **F-35:** Requires approximately 18,000 pounds per single-ship demo / HF
- 1) JP-5, JP-8, Jet-A+, or NATO 24 (Jet A++).
  - 2) JP-4 is not authorized.

### **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.

#### **1. F-86:**

- a. **Fuel**--Approximately 250 gallons JP 5/8 or Jet A fuel each flight and 550 gallons top off prior to departing the air show
- b. **Oil**—F-86 pilots normally bring oil, as it is hard to find, but the air show needs to provide 2 quarts of MIL-L-6081D. (If unable, contact the HF warbird pilot ASAP.)

#### **2. P-51/A-36/P-40:**

- a. **Fuel**--Approximately 40 gallons 100LL or 100/130 AVGAS each flight and 150 gallons top off prior to departing the air show
- b. **Oil**—Approximately 2 gallons AeroShell W120 oil

#### **3. P-47:**

- a. **Fuel**--Approximately 60 gallons 100LL or 100/130 AVGAS each flight and 300 gallons top off prior to departing the air show
- b. **Oil**—4-8 gallons AeroShell W120 oil

4. P-38:

- a. **Fuel**--Approximately 80 gallons 100LL or 100/130 AVGAS each flight and 350 gallons top off prior to departing the air show
- b. **Oil**—4 gallons AeroShell W120 oil

5. A-1:

- a. **Fuel**--Approximately 80 gallons 100LL or 100/130 AVGAS each flight and 350 gallons top off prior to departing the air show
- b. **Oil**—4-10 gallons AeroShell W120 oil

6. F-5:

- a. **Fuel**—Approximately 345 gallons per flight of JP 4, JP 5, JP 8, or Jet A
- b. **Oil**—MIL-L-7808 (Pilots will bring their own oil)

**Note for F-5: Air shows scheduled for the F-5 should contact the HFF to confirm what AGE they may have to provide.**

**NOTE For All Warbirds: All the above are estimates and could vary. For example, the A-1 has a drop tank that typically remains full. Filling it could necessitate 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. **This equipment will not be shared with other performers without the express permission of the Demo Team.**

**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 Atch 11 of this Support Manual, to assist with sourcing the AGE.**

1. All ACC aircraft:

- a. MD-1 Military Universal Tow Bar: Must be at least 20' long. Ensure large towing lugs are positioned inward. Appropriate tow vehicle required.



- b. Nitrogen cart capable of 3,000 PSI



- c. Two 150 LB HALON or CO2 Aircraft Fire Extinguishers.
- d. Access to 115 AC electric power (standard US outlet) readily available at their parking locations if requested by the Team Superintendent/Chief)
- e. Grounding points must be available.

- f. Hydraulic Servicing/Filler Cart (NOTE: The Legacy model listed under F-35 Specific requirements is preferred for the F-35):



- g. Oil Servicing Filler Cart



- h. F-16 specific:

- 1) Hydraulic Fluid MIL-H-83282
- 2) A Dash 60 Power Unit/Cart (115+/-15 vac, 400+/-30 Hz A/M 32A-60A)
- 3) Oil Servicing Filler Cart: MIL-L-7808 Grade 3, but AeroShell Turbine Oil 308 is a suitable substitute, and they can be mixed.
- 4) C-1 Maintenance Stand to use for showing people the aircraft cockpit. Not mandatory; but required to show the cockpit.
- 5) NOTE ON HYDRAZINE:
  - a) Crash, Fire and Rescue (CFR) teams should be aware that hydrazine is used to power the F-16s Emergency Power Unit (EPU).
  - b) Hydrazine is a highly toxic gas. Should CFR teams need to approach



the F-16 after a crash while hydrazine fumes are present, they should go in with respirators, remove the pilot, then cordon off the aircraft and prevent approach until the hydrazine dissipates. This may take a few hours.

i. F-35 specific:

1) Oil Servicing Filler Cart: MIL-PRF-7808 Grade 4 (NATO 0-163)

2) Aircraft platform stand and ladders: C-1, B-1 (preferred), or a B-4 for maintenance personnel to get to the top of the aircraft and to allow for entry to and exit from the cockpit.

3) Tow Bar

a) Aircraft, Land-Based: 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

b) (NOTE: F-35 can also use the Military Universal Tow Bar.)



4) Hydraulic Servicing/Filler Cart: (Preferred) Legacy style or P/N 9701A / NSN 4910-01-437-0442 / Parent FLCN S1210998. Use Hydraulic Fluid MIL-PRF83282. (Contact F-35 Demo Team POC for details).



- 5) Gaseous Oxygen (GOX) Cart (Military; not Medical): MIL-PRF-27210. (F35 can also use STANAG 7106.)



- 6) 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.

j. F-22 specific:

- 1) Hydraulic Fluid MIL-H-83282
- 2) Aircraft platform stand and ladders: C-1, B-1 (preferred), or a B-4 for maintenance personnel to get to the top of the aircraft and to allow for entry to and exit from the cockpit.
- 3) 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".
- 4) Gaseous Oxygen (GOX) Cart (Military; not Medical): MIL-PRF-27210.
- 5) Oil Servicing Filler Cart: 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. Mixing is acceptable for the F22.

Other Photos:

B-1 Stand



B-4 Stand



### **WARBIRD MAINTENANCE EQUIPMENT REQUIREMENTS**

1. Nitrogen and equipment for servicing aircraft tires. Require standard fitting and a minimum of 8 ft 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 ft of hose.
3. F-86 requires a 28-volt DC, 1200-amp electric power cart.

4. F-5 requires Type MIL-H-5606 hydraulic fluid.
5. F-5 requires the following start cart: External Air Jet Assistance Starting Unit (JASU) —MA-1A or equivalent (Wells Air Start System M32A-60A with recommended minimum output of 350 degrees Fahrenheit, 42 PSIA, and 100 LB/Min.
6. Tow Bar Requirements: You must be able to safely tow the aircraft. A TR-6 tow bar or equivalent will work for most warbirds.
  - 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. If pushing into the hangar by hand, it takes 4 to 5 people.
  - c. P-47: Tow bar for the P-47 is special; requires a heavy-duty tow bar similar to the V type used for a P-51, but much longer and stronger. If pushing into the hangar by hand, it takes about 6 people.
  - d. P-38: Tow bar can be the same that you'd use to tow a Beach Baron--pull using the nose landing gear. If pushing it into the hangar by hand, it takes 8-10 people.
  - e. A-1: V type that attached to each main landing gear. If pushing into the hangar by hand, it takes 8-10 people.
  - f. F-5: Standard military jet towbar.

#### Warbird Tow Bar



## Warbird Tow Bar and Tug



7. Grounding points for all Heritage Flight Warbirds must be available.
8. For any questions with regard to specific type of tow bar required or other maintenance support equipment, contact the HFF or the HF warbird pilot.
9. 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) 764-8346. 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.

## 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 snow fencing, FOD fencing, or similar), 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.
- e. From the ACC jets' arrival until their departure from the air show, even if the crowd is not present, ensure security is available to control media, airshow performers and staff, and other local interested parties from swarming aircraft and pilots. If security staff cannot control access to the aircraft and pilots during these times, ensure a physical cordon is available to maintain safe separation and a sanitized area for pilots and crews to work.

### ***ACC AIRCRAFT SECURITY***

1. All ACC aircraft:
  - a. For military installations:

- 1) Aircraft commanders will assume security of parked aircraft during the Air Show/Open House. Presence of a knowledgeable uniformed person to answer questions for the public is required.
  - 2) Close coordination between receiving locations, owning installations and their HQ ACC functional counterparts is required when aircraft leave their home station.
- b. At civilian or OCONUS locations, security must meet all published requirements.
- 1) 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.
  - 2) 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.
  - 3) Security or law enforcement personnel who may engage adversaries in the open during emergencies must be armed IAW Host Installation mandated requirements, e.g., DoD, Air Force, Sister Service or local law enforcement guidelines. Arming and use of force considerations should follow local tactical employment and any regional rules of engagement that may apply.
- 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.
2. F-22/F-35-specific security procedures at military or civilian locations:
- a. Security for F-22/F-35 aircraft at a military installation will be in accordance with AFI 31-101, *Integrated Defense*, and the Senior Jersey Raptor Security **Classification Guide (SCG)** for the F-22 or the **F-35 SCG** for the F-35. The F-22 and F-35 aircraft are PL 3 assets; however, they contain technologies protected by Special Access Programs, and therefore must be protected to ensure no un-cleared individuals are allowed within 20 ft of the aircraft.

- 1) The F-22 requires a parking space 110 ft by 144 ft to accommodate 2 aircraft parked next to each other with a 20 ft cordon.
  - 2) The F-35 requires a parking space 90 ft by 120 ft to accommodate 2 aircraft parked next to each other with a 20 ft cordon.
- b.** IAW the F-22/F-35 respective SCGs, if parked outside a permanent restricted area, stanchions and sufficient rope (500 ft) to secure a 20-ft perimeter around both F-22 or F-35 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.
- c.** Arrange for dedicated around-the-clock protection of F-22/F35 aircraft from arrival until departure. At no time will any individuals be allowed inside the perimeter without escort by F-22/F-35 Demo Team personnel or trusted agent as identified on the Entry Access List (EAL). When the aircraft is left unattended within a restricted area (e.g., parking ramp), the aircraft will be in a “buttoned up” configuration (canopy closed, all panels fastened, all bay doors closed, etc.). The following requirements must be met:
- 1) An unarmed 1-person mobile sentry dedicated to control access to the F22/F-35 aircraft and provide surveillance over the 20-ft perimeter around the aircraft, whenever F-22/F-35 Demo Team members are NOT present. This individual must be in a position to prevent access to the 20-ft rope cordon (i.e., restricted area) perimeter. USAF approved Intrusion Detection Systems (SDS) may perform this function, when available.
  - 2) An armed 2-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/F35 Demo Team member present. This 2-person mobile patrol may operate inside or outside the restricted area to which they are assigned but must be able to respond immediately to back up the initial responding Security Response/Police mobile patrol.
- d.** A sufficient light source will be available during the hours of darkness. F-22/F35 aircraft will be illuminated throughout the night to allow sentry and security response element to observe anyone approaching the aircraft.
- e.** Provide additional security, 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-22/F-35 aircraft are PL-3 restricted areas. If other military/civilian aircraft are required to share the same hangar space as the F22s/F-35s, then a 20-ft cordon must be placed around the F-22s/F35s, with 24-hour dedicated security inside the hangar IAW Para 1a of this section of the Support Manual.
- f. Photography is allowed no closer than 20 ft with the aircraft shutdown. With engines running, coordinate with the F-22/F-35 Demo Team Maintenance personnel to ensure photographers are in a safe location.
- g. Aircraft tours inside 20 ft for US citizens must have a cleared escort with them at all times and be approved by the OG/CC or F-22/F-35 Demo Pilot. Air show security representatives should work this directly with the Demo Pilot, who will approve or coordinate approval from his/her OG/CC, as required.

## ***ACC F-16 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.

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

- a. Security for aircraft will be equivalent to the basic standard (based on assigned protection level, typically PL-3) when aircraft are away from home station.
- b. Arrange for around-the-clock protection of F-16 aircraft from arrival until departure through their local civilian law enforcement agency. No one is authorized to be on or around the F-16 aircraft without an F-16 Demo Team member escort.
- c. Throughout all periods at civilian airports, when F-16 Demo Team personnel are not present, lock aircraft entry points and hatches as a minimum.
  - 1) 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).

- d. Whenever Demo Team members are NOT present, the following is required:
  - 1) An unarmed 1-person mobile sentry dedicated to control access to the F16 aircraft must be present
  - 2) An armed 2-person mobile security patrol able to respond to aircraft must be present in or nearby the aircraft parking area

## ***SECURITY REQUIREMENTS FOR LOCATIONS OUTSIDE THE US***

Security of aircraft for events outside the US have additional requirements that will be provided at that time—contact the Demo Team.

## ***WARBIRD SECURITY***

Provide hangar space for all warbirds in the event of severe weather (hail, lightning, etc.), maintenance, or security concerns or during periods of actual and forecast precipitation. The Air Show/Open House Director should contact the AFHFF or the HF warbird pilot for more specific 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).

## **AIRCRAFT SECURITY IF DEPARTURE IS DELAYED**

Should ACC aircraft or Heritage Flight warbird(s) 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. In such a case, the air show must continue to provide security until the jets depart.

## **CHAPTER 11 – COMMUNITY RELATIONS MEDIA**

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

1. A successful air show begins with an organized public relations plan and publicity campaign. ACC/A3TA and the HFF are prepared to help shape your plan to maximize media and community relations events for THE TEAM. All POCs are listed in Atch 11.
  - a. All public relations coordination for the Demo Teams will be handled by the Demo Team's Public Affairs POC or Team Superintendent.
  - b. As a backup for ACC Demo Teams, you can also contact the ACC Aerial Events Public Relations POC or ACC/PA.
  - c. The HFF POC is listed in Atch 11.
2. An ACC 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 to support THE TEAM's public relations effort.
4. NOTE: When the air shows are hosted at an Air Force Base, ACC requires the local AF Public Affairs office facilitate media opportunities for the ACC Team.

## ***Demo Team PUBLIC RELATIONS/PUBLICITY MATERIAL AVAILABLE***

1. Before beginning your show's publicity campaign, please contact the appropriate POC 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 HFF and/or the HF warbird pilots, contact one of the HFF POCs 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/Home/Aerial-Events/>. Additional information on the AFHFF and its civilian HF Pilots can be found at the AFHFF Website at <http://www.airforceheritageflight.org/>.
4. Approximately 2 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 ACC/A3TA and HFF websites contain fact sheets, biographies, schedules and a variety of other information, as well as links to the various Single-Ship Demo Teams' websites, where you'll find additional information on the team members, photographs, and more. All information and images are public domain, so please feel free to use them in all your marketing/media products. Also, please make your local media outlets are aware of these websites and encourage use of provided materials in their coverage. **We recommend you contact the ACC Single-Ship Demo 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 following list of information pertaining to your show and local area to the applicable Demo Team and POCs at least **30 days** prior to the team's arrival.

- a. Name, theme, and supported charity/cause of your show/open house as applicable
- b. Air show/open house information (website, schedule, other basic info)
- c. Brief history of your city/local area, list of local schools, children's/veteran's hospitals, CAP/JROTC units, etc. that may benefit from a visit by Demo Team members.
- d. Media list w/complete contact information

## ***MEDIA OPERATIONS***

1. The Demo Teams and the civilian HF Pilots are available for telephone interviews prior to and after their arrival. After arrival (and a minimum 5-10 minute recovery period from their flight to manage administrative and biological needs), 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-minute drive time to/from the interview.
2. The Demo Team will inform you when they will be available and when you can expect them to arrive in your local area.
3. The HFF or the HF warbird pilot will inform you when they will be available and when you can expect them to arrive in your local area.
4. After arrival, THE TEAM will make media and public engagement a priority. They want to engage; it's part of 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.
- 5.** See printable checklist in Atch 8.

## CHAPTER 12 – PUBLIC APPEARANCES

### **GENERAL**

1. ACC/A3TA and the AFHFF are prepared to help shape your plan to maximize public appearances for THE TEAM.
2. All public appearance activities for the Demo Teams will be handled by the Demo Team PA POC or Team Superintendent.
3. Public appearances of military members of the ACC Single-Ship Demo Teams can also be coordinated by either the ACC/A3TA PR POC or one of the ACC/PA POCs.
4. All public appearances of the civilian HFF warbird pilots must be coordinated with one of the AFHFF POCs or with the 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 HF warbird pilots may approve last-minute appearances at their discretion.
6. **Please do not** commit the ACC Demo Team or HF Pilot(s) to an activity or event, unless it has been coordinated with the Demo Team, the HF warbird pilot, ACC and/or HFF POCs.
7. Air Force Recruiting representatives must be engaged during the planning and execution 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. 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 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 below for each public relations event. Use the 5 Ws as a guideline: What, where, when, who, why?

1. Name of Event: THE TEAM prioritizes events for children whenever possible. Please attempt to schedule visits to high schools, summer camps, and youth organizations first. Visits to other schools (medical schools, universities, etc.), hospitals, sporting event, and dinners are other possible options.
2. Location of Event: A complete street address including zip code.
3. Date/Time of Event:
4. Host/Sponsor: Identify the individual or organization sponsoring the event and include their work, home and cell phone numbers.
5. Description: Sponsor's goal for THE TEAM while at the event (e.g. Provide the audience with an introduction to USAF, encourage students to stay in school, study hard, etc.). Include an estimate of how many will be present.
6. VIPs/Dignitaries: Expected attendees such as the mayor, civic dignitaries, military officials, etc.
7. Drive Time: Because of THE TEAM's tight schedule, they need to know realistic drive time from the hotel to the public relations events. Please err on the liberal side when estimating driving times, allowing for traffic, parking, and contingencies.



- 8.** Event Site: Request the show site PA representative provide an escort from the hotel to the event and back.
- 9.** Site Requirements: Forward to the Demo Team Public Relations representative as far in advance as possible. For example, a children's hospital may require a listing of all attendees in advance of the visit.
- 10.** See printable checklist in Atch 9.

## **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) ACC/A3TA Events Marketing Recruiting Liaison (see Atch 11 for the name and contact information for that liaison) 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, and F16 Demo Teams and the HFF).
2. The AFRS Events Marketing Recruiting Liaison at ACC/A3TA 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. The ACC Aerial Events Marketing Recruiting Liaison listed in Atch 11 can also provide contact information for local recruiting squadrons.
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 ft 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-ft 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 ft and a maximum of 100 x 100 ft 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 Demo 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 USAF requires any U.S. air show, civilian or military, hosting an Air Force aircraft performance which includes music (except as noted in Paragraph 6 below) to secure the necessary music licenses for broadcast of pre-recorded copyrighted music over public address systems. Music licensing is required for all Public Air Show Days; it is not required for practice/rehearsal days if they are not open to the public
2. The ICAS negotiated music licensing rates for 2025 are \$700 for a one (1) day air show; \$1000 for a two (2) day air show; \$1,250 for a three (3) day air show; \$1,500 for a four (4) day air show; \$1,750 for a five (5) day air show, \$2,000 for a six (6) day air show; and \$2,250 for a seven (7) day air show.
3. Additional information is available at <https://airshows.aero/CMS/71>.
4. ICAS has sent event organizers in the US with an air show in 2025 instructions on how to secure their music license through ICAS, and ICAS provided the rates specified for their air show. Email Karen Connors at [connors@airshows.aero](mailto:connors@airshows.aero) with any questions regarding the ICAS Music Licensing Program.
5. If you decide not to participate in this new ICAS program, you may continue to secure your music licenses through ASCAP, BMI and SESAC individually. But be forewarned that the ASCAP fees will increase significantly if you are not an ICAS member and will include a base fee plus either a percentage of your gross ticket sales or a percentage of the money you spend on your air show performer fees. In all cases, if you go it alone, your ASCAP fees will be dramatically higher than those negotiated by ICAS on your behalf. And the BMI and SESAC fees will be the same as those being charged by ICAS in this package program.
6. No license is required for the song "We Remember", played during HF performances.

### CONTACTS TO OBTAIN LICENSES ON YOUR OWN

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). [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) 7275193, E-mail: [pgibson@ascap.com](mailto:pgibson@ascap.com). [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). [www.sesac.com](http://www.sesac.com).

## ATTACHMENT 1

### AIR SHOW/OPEN HOUSE DIRECTOR PLANNING AND RESPONSE SHEET

***DUE 45 DAYS (F-16) 60 DAYS (F-22/F-35) AND 90 DAYS (F-22/F-35 for shows outside the US) PRIOR TO THE 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 Demo 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 Team, HF warbird pilot, and other approved personnel per Chapter 4 of this Support Manual.
- HQ ACC and Demo Team wing senior leadership rooms
- 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: \_\_\_\_\_,
- Fitness Facility Phone Number: \_\_\_\_\_ .Phone and high-speed data connections provided for specified team members
- Clean and quiet
- Non-smoking rooms with air conditioning
- Demo Team and HFF 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
- HQ ACC and Demo Team wing senior leadership vehicles
- 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 HFF RV, if applicable

## Chapter 6 – Operations

- Have contacted the Demo Team and HFF POC
  - Met all requirements to support all scheduled ACC demo 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
  - Determined if a Mobile Aircraft Arresting System is required
  - Coordinated to have the Mobile Aircraft Arresting System certified, if required
  - Staging location approved by staging location Military Installation Commander or Civilian/Joint Use Airfield Manager, as applicable. Required letter from the staging location Military Installation Commander or Civilian/Joint Use Airfield Manager, as applicable, approving the F-22/F-16/F-35 Demo jets and civilian HFF warbirds to stage from their Military Installation or Civilian/Joint Use airfield, as applicable, **OR HAVE THEM FILL IN AND SIGN ATCH 1a.**
- 
- Arresting gear location requirements—coordinated with the airfield where the arresting gear is located. Required letter from the arresting gear location's Military Installation Commander or Civilian/Joint Use Airfield Manager, as applicable, stating that the arresting gear will be in service and raised and the fire department will be available during the times of aircraft arrival, rehearsal, air show and departure. Confirm if the airfield will be fully operational (control tower, fire department, crash recovery, arresting gear operational and operators, etc. in place) during the aforementioned times/dates, 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 HAVE THEM FILL IN AND SIGN ATCH 1b.**
  - Runway/taxiway sweepers
  - Pyrotechnic requirements (Add the name and contact information for the SIC in Atch 2) (Note: Only ICAS-approved SICs are authorized to use pyro during ACC Demo Team performances)
  - Flare requirements
  - Airspace/aerobatic box requirements/properly marked aerobatic box diagram
  - 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 the crowd.
- Emergency Response Exercise conducted on rehearsal day at the air show site. Include staging location and arresting gear location, if possible.
- Demo/HF not scheduled prior to 12:00 PM without prior coordination with 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
  
- Chapter 7 – FAA Waiver/NOTAMS**
  
- FAR 91.117 (a) – Airspeed in excess of 250 knots below 10,000 ft
- 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 ft to persons
- FAR 91.127 – Operating on or in the vicinity of an airport
- FAR 91.129 – Operations at airports with operating control towers (as required)
- 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 ft above the surface
- Airspace 5 NM radius from show center, surface to 7,000 ft AGL for F22 Demos; 15,000 ft AGL for F-16 Demos; 12,000 ft AGL for F-35 Demos and 1,500 ft AGL for Heritage Flights 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 (additional approval may be required)
- Hazards
- Notification of FAA waiver times/dates to local airports within 5NM 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, per 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 per 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 and/or ladder, as detailed in Chapter 9 for each USAF aircraft
- Oil servicing filler cart, per Chapter 9 for each USAF aircraft
- Gaseous Oxygen (GOX) Cart (Military-not Medical), per Chapter 9 for F-22 and F-35
- Conventional 50-gallon LOX servicing cart (MIL-PRF-38170 or equivalent)
- 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), per Chap 9
- A 5-gallon bucket and 2 sets of chocks (F-22), per Chapter 9
- Access to a diesel-powered Cockpit Pressure Test (CPT) cart, per Chapter 9
- Access to 115 AC electric power, if requested by the team
- Grounding points available

- Additional requirements for F-35, per Chapter 9
- Aware of Hydrazine safety issues, per Chapter 9 (F-16 only)
- Additional requirements for warbirds (AVGAS, nitrogen, oxygen, etc.), per Chapter 9
- Warbird fuel, oil and maintenance equipment requirements met, as detailed in Chapter 9

**Chapter 10 – Security – DUE TO Demo Team POC 45 DAYS (60 DAYS FOR F-22 and F-35 Demo Teams and 90 days for F-35 and F-22 Demo Teams at shows outside the US) PRIOR TO EVENT**

- Crowd security
- Aircraft Security for USAF aircraft, as detailed in Chapter 10. FILL IN REQUIRED DATA AT ATCH 1c, SIGN AND DATE

**Chapter 11 – Community Relations/Media**

- Requirements met
- Demo/HF Team and/or USAF HF included in the Air Show Program
- Community Relations Checklist completed (Atch 8)

**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 (Atch 9)

**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 ft x 40 ft). Recruiter will coordinate

request for Air Force Recruiting assets based on information received.

### Chapter 14 - Music License

- Obtained from ICAS or individually from all 3 agencies, proof sent to Demo Team

### Warbird Requirements Summary

- All warbird requirements met for lodging, transportation, food/water, aircraft parking
- Tow bar requirements met, as detailed in Chapter 9
- Hangar requirements met
- Runway and airspace requirements met
- Warbird security and hangaring requirements met
- Fuel, oil, and maintenance equipment requirements met (per Chapter 9)

I have completed the Attachment 1 Planning and Response Sheet and have attached completed and signed Attachments 1a, 1b and 1c, as applicable.

\_\_\_\_\_  
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.**

## ATTACHMENT 1a

### STAGING LOCATION APPROVAL

For staging location Military Installation Commander or Civilian/Joint Use Airfield Manager, as applicable.

Please fill in air show name and dates below, print the name/rank/title of the Military Installation Commander or name of Civilian/Joint Use Airfield Manager, as applicable, and the name of the military installation or civilian joint use airfield, as applicable. Then sign, date and provide the phone number of the individual signing the form.

F-22/F-16/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 Civilian/Joint Use Airfield Manager, as applicable

\_\_\_\_\_  
Name of Military Installation or Civilian/Joint Use Airfield, as applicable

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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

## ATTACHMENT 1b

### ARRESTING GEAR LOCATION APPROVAL

For the Military Installation Commander or Civilian/Joint Use Airfield Manager, as applicable.

Please fill in air show name and dates below, print the name/rank/title of the Military Installation Commander or name of Civilian/Joint Use Airfield Manager, as applicable, and the name of the military installation or civilian joint use airfield, as applicable. Then sign, date and provide the phone number of the individual signing the form. **(If any of the requirements listed below cannot be met, please adjust the letter to indicate that, so ACC can plan accordingly.)**

I certify that my airfield will be fully operational (control tower manned, fire department, crash recovery, barrier engagement personnel, etc. in place, and arresting gear in service and raised, as needed) so that my field can be used as an emergency divert airfield by the F-22/F-16/F-35 Demo jets, as applicable, during the dates/time of the aircraft arrival, rehearsal, air show and departure, in support of the \_\_\_\_\_ Air Show/Aerial Event on the following dates: \_\_\_\_\_.

\_\_\_\_\_  
Name/Rank/Title of Military Installation Commander or name of Civilian/Joint Use Airfield Manager, as applicable

\_\_\_\_\_  
Name of Military Installation or Civilian/Joint Use Airfield, as applicable

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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

## ATTACHMENT 1c

### ***CONFIRMATION OF AGENCY/UNIT PROVIDING SECURITY***

This Attachment is DUE TO Demo Team POC 45 DAYS (60 DAYS FOR F-22 and F-35 Demo Teams and 90 days for F-35 and F-22 Demo Teams at shows outside the US) PRIOR TO EVENT

All applicable security requirements IAW Chapter 10, Sections titled Crowd Control, F22/F-16/F-35 Security, Security at Locations Outside the US, Classified Security and Warbird Security of this manual will be provided/met by:

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

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

\_\_\_\_\_  
Date

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

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

## ATTACHMENT 2

### ***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: \_\_\_\_\_

OR

AIRFIELD MANAGER:

NAME: \_\_\_\_\_

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

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

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

---

HOST-SITE AERIAL EVENTS TEAM PROJECT

OFFICER:

NAME: \_\_\_\_\_

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

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

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

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



HOST-SITE AERIAL EVENTS TEAM MAINTENANCE REPRESENTATIVE:

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

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Air Show Director: \_\_\_\_\_  
DSN: \_\_\_\_\_  
CMCL: \_\_\_\_\_  
E-Mail: \_\_\_\_\_  
FAX: \_\_\_\_\_

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Billeting/Housing Rep: \_\_\_\_\_  
DSN: \_\_\_\_\_  
CMCL: \_\_\_\_\_  
E-Mail: \_\_\_\_\_  
FAX: \_\_\_\_\_

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Transportation Rep: \_\_\_\_\_  
DSN: \_\_\_\_\_  
CMCL: \_\_\_\_\_  
E-Mail: \_\_\_\_\_  
FAX: \_\_\_\_\_

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Air Boss: \_\_\_\_\_  
DSN: \_\_\_\_\_  
CMCL: \_\_\_\_\_  
E-Mail: \_\_\_\_\_  
FAX: \_\_\_\_\_

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Crash, Fire and Rescue:  
Name: \_\_\_\_\_  
DSN: \_\_\_\_\_  
CMCL: \_\_\_\_\_

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

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

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Shooter-in-Charge:

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

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

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

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

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

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Local USAF Recruiter Name/Rank: \_\_\_\_\_

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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Arresting Gear Location POC: \_\_\_\_\_

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) 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 over 75 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 / F-35 PYROTECHNICS PROCEDURES***

1. The F-22, F-16, and F-35 Demo Teams will only utilize pyrotechnics (pyro) as a Wall of Fire and only during the High-Speed Pass (F-22, F-16 and F-35). Only ICAS approved personnel will be permitted to utilize pyrotechnics (pyro) in association with the ACC F -22 / F-16 / F-35 Demo 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 Demo 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 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.
- b. 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).
  - (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, or F-35, 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, or the Weapons Bay Door Pass (High or Low Show) for the F-35, 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). 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, F16, F-35) 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, or F-35 will fly a ground track that is offset at least 150 ft from the aircraft pyro effect and overfly the pyro by at least 300 ft AGL. IAW AFMAN 91-201, explosives safety standards dictate a minimum of 1250 ft 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 ft 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 ft 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 F-16, F-22 AND F-35 DEMO PILOTS DISPENSING FLARES AT AIR SHOWS***

#### **Procedures for F-16, F-22 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.
9. The required Explosives Safety Quantity-Distance is a minimum of 1250 ft.
10. Pilots will use the 1500 ft show line for the aerobatic planned maneuvers so that the flares will travel no closer than 1250 ft 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 flare switches/setting "OFF" as appropriate per MDS until positioned in the arming area
12. F-16, F-22 and F-35 Demo Pilots are authorized to use flares at overwater air shows during those maneuvers authorized by Air Force instructions:



NOTE: For dispensing flares overland at military installations, ask the demo pilot. If the demo pilot wants to do it, he/she will request approval from ACC, but it is not guaranteed.

## 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) and send it via regular mail to the DoD installation(s) of your choice or electronically attach the ACC/A3 Memorandum that is provided on the last page of this attachment to your e-mail request and e-mail it to the DoD installation(s) of your choice.
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 Atch 11 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 Atch 11 of this Support Manual in case they have any questions.

## **SAMPLE REQUEST FOR AEROSPACE GROUND EQUIPMENT**

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

Subject: Request for Aerospace Ground Equipment (AGE)

To: 388 FW Commander

1. As per the attached Air Combat Command Director of Operations' (ACC/A3) memorandum, this is a formal request from the Utah Air Show, on behalf of ACC/A3, for aerospace ground equipment (AGE) for use by the ACC F-16 Demo Team that will be performing at the Utah Air Show from 5/2/25 to 5/4/25.
2. REQUESTED AGE:
  - a. MJ-2 Hydraulic Test Stand with Hydraulic Fluid #83282 – 1 each
  - b. 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 Utah Air Show by 4/30/25.
  - b. AGE will need to be in place when the demo aircraft arrive 5/1/25 and remain until they depart the air show. Normally this is the day after the air show 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:

Utah Air Show, SLC, UT: Mr. Air Show, (555) 555-5555, [mrairshow@airshow.com](mailto:mrairshow@airshow.com)

Hill AFB, UT. If able to support all or any of the requested AGE, please contact the above POC and provide your installation POC: Mr. Show Helper, (123) 123-1234, [helper@helpful.com](mailto:helper@helpful.com)

### **ACC Aerial Events Branch**

**POC** – Dan Young – (757) 225-9275, 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. If unable to support the request, please let us know as soon as possible.

Signature Block

### **ACC/A3 Memo to All DoD Installations**

The attached memo is provided for you to include in your request for AGE. If unable to open it is available on the ACC Aerial Events Web Site on the right-hand side of the home page: <http://www.acc.af.mil/Home/Aerial-Events>



A3 AGE MEMO  
2025.pdf

signed.pdf



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

YES [        ]

NO [        ]

## ATTACHMENT 9

### ***PUBLIC APPEARANCE CHECKLIST***

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 Atch 11?

YES [        ]                      NO [        ]

2. Coordinated all HF warbird pilot public appearances with one of the AFHFF POCs listed in Atch 11?

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?

93    YES [        ]                      NO [        ]

## ATTACHMENT 10

### GLOSSARY

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

ACN – Aircraft Classification Number. Used in conjunction with Pavement Classification Number (PCN) to determine if a runway has sufficient weight bearing for that aircraft—see SWWB below).

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 internalcombustion 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 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.

MAAS (Mobile Aircraft Arresting System) – a temporary arresting gear that can be

installed on a runway for hook-equipped aircraft to engage.

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 ft.

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

PCN – Pavement Classification Number. Used in conjunction with an Aircraft Classification Number (ACN) to determine if a runway has sufficient weight bearing for that aircraft—see SWWB below).

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 or as a Pavement Classification Number (PCN) for an aircraft with a single wheel type landing gear, such as a fighter aircraft. (The PCN is used in conjunction with an Aircraft Classification Number (ACN) to determine if the weight bearing is sufficient for that 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.

## **ATTACHMENT 11**

### **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 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, prioritize email. If hard materials are required, send by priority mail in sufficient time to reach the recipient before the suspense date. Do not use FEDEX for on-base deliveries.

#### **HQ ACC Aerial Events Office (E-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

#### **HQ ACC Aerial Events Office (Phone/E-mail/Website)**

Comm: (757) 764-8346 or DSN: 574-8346  
E-mail: [acc.a3ta@us.af.mil](mailto:acc.a3ta@us.af.mil)  
Website: <https://www.acc.af.mil/Home/Aerial-Events/>

#### **ACC Single-Ship Demo Schedulers**

If your event falls in or begins in an even month, contact:  
Mr. Jason Fleegal at Comm: (757) 225-5523 or DSN: 575-5523  
E-mail: [jason.fleegal.1.ctr@us.af.mil](mailto:jason.fleegal.1.ctr@us.af.mil)

If your event falls in or begins in an odd month or is overseas, contact:  
Mr. Larry Schleser at Primary--Cell (334) 524-0190.  
Alt Comm: (757) 764-8175 or DSN: 574-8175  
E-mail: [lawrence.schleser.ctr@us.af.mil](mailto:lawrence.schleser.ctr@us.af.mil)

### **ACC Recruiting Support**

TSgt Dyzel Walton, AFRS Events Marketing Recruiting Liaison at ACC/A3TA  
Comm: (757) 764-8174 or DSN: 574-8174 or Cell: (240) 801-0236  
E-mail: [dyzel.walton@us.af.mil](mailto:dyzel.walton@us.af.mil)

### **ACC Mobile Aircraft Arresting System (MAAS) Scheduler and Aerospace Ground Equipment (AGE) Support**

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) or his alternate:

Alternate: Mr. Larry Schleser at Primary--Cell (334) 524-0190.  
Alt Comm: (757) 764-8175 or DSN: 574-8175  
E-mail: [lawrence.schleser.ctr@us.af.mil](mailto:lawrence.schleser.ctr@us.af.mil)

### **ACC Aerial Events Media or Public Relations (PR)/Community Relations Support**

ACC Public Affairs Media/Community Relations:

**Ms. Erin Wood (ACC/PAC) at Comm: (757) 764-5994 or DSN: 574-5994**  
E-mail: [erin.wood.5@us.af.mil](mailto:erin.wood.5@us.af.mil), or her alternate:

Alternate: Ms. Karen Wilson (ACC/PAC), at Comm: (757) 764-5994 or DSN: 574-5994,  
E-mail: [karen.wilson.15@us.af.mil](mailto:karen.wilson.15@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 Demo Team Contact Information:**

1st OG Demo Team  
159 Sweeney Blvd, Ste 105  
Joint Base Langley-Eustis, VA 23665-2213  
Comm: (757) 764-5028 or DSN 574-5028

Capt Nicholas “Laz” LeTourneau  
Comm: (757) 764-1926 or DSN: 574-1926  
Cell: (651) 402-6542  
E-mail: [nicholas.le\\_tourneau.1@us.af.mil](mailto:nicholas.le_tourneau.1@us.af.mil)

MSgt Brady Pummel (Team Superintendent)  
Comm: (757) 225-9972 or DSN: 575-9972  
Cell: (720) 272-9423  
E-mail: [brady.pummel@us.af.mil](mailto:brady.pummel@us.af.mil)

TSgt Eric Talman (Team Chief)  
Comm: (757) 764-5028 or DSN: 574-5028  
Cell: (804) 380-6236  
E-mail: [eric.talman@us.af.mil](mailto:eric.talman@us.af.mil)

SSgt Michael Bowman (Team Public Affairs Officer)  
Comm: (757) 764-5028 or DSN: 574-5028  
Cell: (760)-200-6283  
E-mail: [michael.bowman.23@us.af.mil](mailto:michael.bowman.23@us.af.mil)

## **F-16 Single-Ship Demo Team Contact Information:**

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

Maj Taylor “FEMA” Hiester  
Comm: (803) 895-9342 or DSN: 965-9342  
Cell: TBD: Call above number. If no answer, call Team Sup or Team Chief  
Cell and they will contact the Demo Pilot. Or use Demo Pilot’s e-mail.  
E-mail: [taylor.hiester.1@us.af.mil](mailto:taylor.hiester.1@us.af.mil)

MSgt Deandra Baker (Team Superintendent)  
Comm: (803) 895-5440 or DSN: 965-5440  
Cell: (276) 690-0881  
E-mail: [deandra.baker@us.af.mil](mailto:deandra.baker@us.af.mil)

TSgt Joshua Butcher (Team Chief)  
Comm: (803) 895-5436 or DSN: 965-5436

Cell: (240) 661-1620  
E-mail: [joshua.butcher.1@us.af.mil](mailto:joshua.butcher.1@us.af.mil)

Demo Team Public Affairs Representative  
SrA Steven Cardo  
Cell: 239-289-5537  
Email: Primary: [steven.cardo@us.af.mil](mailto:steven.cardo@us.af.mil)  
Secondary: [stevengcardo@gmail.com](mailto:stevengcardo@gmail.com)

### **F-35 Single-Ship Demo Team Contact Information:**

F-35 Demo Team  
7438 Canberra Dr.  
Bldg 40, Room 110  
Hill AFB, UT 84056

Maj Melanie “Mach” Kluesner  
Comm: (801) 777-2551/2556 or DSN 777-2551/2556  
Cell: (901) 679-2948  
E-mail: [melanie.kluesner@us.af.mil](mailto:melanie.kluesner@us.af.mil)

MSgt Trey MacLaughlin (Team Superintendent)  
Comm: (801) 777-2551 or DSN: 777-2551  
Cell: (720) 315-0790  
E-mail: [trey.maclaughlin@us.af.mil](mailto:trey.maclaughlin@us.af.mil) or [treymaclaughlin405@gmail.com](mailto:treymaclaughlin405@gmail.com)

TSgt Jeffrey Williams (Team Chief)  
Comm: (801) 777-2556 or DSN: 777-2556  
Cell: (251) 709-2274  
E-mail: [jeffrey.williams.67@us.af.mil](mailto:jeffrey.williams.67@us.af.mil) or [jeffwilliams2128@gmail.com](mailto:jeffwilliams2128@gmail.com)

SSgt Zachary Rufus  
Comm: (801) 775-6747 or DSN 775-6747  
Cell: (469) 245-7219  
E-mail: [zachary.rufus@us.af.mil](mailto:zachary.rufus@us.af.mil) or [zachrufus22@icloud.com](mailto:zachrufus22@icloud.com)

Or

SrA Nicholas Rupiper  
Comm: (801) 775-6747 or DSN 775-6747  
Cell: (707) 494-2965  
E-mail: [nicholas.rupiper@us.af.mil](mailto:nicholas.rupiper@us.af.mil) or [nyk.rupiper@gmail.com](mailto:nyk.rupiper@gmail.com)

## **Heritage Flight Schedulers / Coordinators:**

### **Air Force Heritage Flight Foundation**

Mr. Tommy Williams

Cell: (817) 913-0702

E-mail: [tommy@airforceheritageflight.org](mailto:tommy@airforceheritageflight.org)

### **Heritage Flight Pilots**

Contact Mr. Tommy Williams at the AFHFF (see above) for HF Pilots' contact information. The following is a list of the current ACC-approved and qualified AFHFF pilots for Show Season 2025.

Greg "BA" Anders

James "Jim" Beasley, Jr.

Dan Friedkin

Charles "Tuna" Hainline

Steve "Stevo" Hinton

Tommy "Limiter" Williams

Bruce "Doc" Winter

### **MacDill Aux Field**

Range Control Operations Officer: Mr. Buck MacLaughlin

Email: [charles.maclaughlin.1@us.af.mil](mailto:charles.maclaughlin.1@us.af.mil)

DSN: 968-2902

COM: (813) 857-7109 or (813) 828-2902

Airfield Manager: (813) 453-6641

MacDill AFB Scheduling: (813) 828-4642

MacDill Aux Fire Department Alarm Room: (863) 452-4225 Fire department radio: UHF 292.2.

### **FAA**

National Air Show Coordinator: Mr. Eric Stout

Cell: (678) 378-6387

Email: [eric.stout@faa.gov](mailto:eric.stout@faa.gov).



