

**BY ORDER OF THE COMMANDER
AIR COMBAT COMMAND**

**AIR COMBAT COMMAND
INSTRUCTION 11-245**



5 MAY 2025

Flying Operations

***OPERATIONAL PROCEDURES-
THUNDERBIRDS***

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 11-2, *Aircrew Operations*. This instruction applies to all United States Air Force Air Demonstration Squadron (USAFADS) personnel and activities, including Air National Guard (ANG) or United States Air Force Reserve (USAFR) personnel assigned to the squadron. It covers operational procedures for the USAFADS (Thunderbirds). Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed IAW the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the OPR using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. This publication may not be supplemented or further implemented or extended. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority. Waiver approval for all non-tiered compliance statements is the Commander of Air Combat Command (COMACC) unless otherwise stated in the paragraph of this publication or in governing Department of the Air Force Instructions (DAFIs), Department of the Air Force Manuals (DAFMANs), or Department of Defense Instructions (DoDIs). Submit requests for waivers to Air Combat Command Aerial Events (ACC/A3TA) to be staffed for appropriate Tier waiver approval in accordance with paragraph **1.5**. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the DAF.

SUMMARY OF CHANGES

This document (formerly numbered ACCI 11-401) has been revised in its entirety and should be thoroughly reviewed. COMACC delegation memorandums dated 02 May 2024 and ACCGM 2020-01 have been incorporated as appropriate and are superseded.

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Chapter 1

INTRODUCTION

1.1. General.

1.1.1. This instruction provides the foundation for the administrative and operational procedures specific to the accomplishment of the USAFADS Thunderbirds' mission. This ACCI details the operating concept and coordination procedures for the Thunderbirds. The USAFADS Combined Thunderbird Pilot Syllabus details the required training, including the structure of individual training sorties. It supplements this instruction and applies to all USAFADS demonstration pilots and support personnel. Additional supporting documents include the Thunderbird Support Manual and the USAFADS Operations Manual.

1.1.2. The USAFADS Mission is to “Recruit, Retain, Inspire.” The purpose of the team is to display the capabilities and the pride, precision, and professionalism of the USAF to the general public through three lines of effort: aerial displays, media and outreach, and direct engagement. The USAFADS may develop a vision which supports USAF and DoD strategic objectives and incorporate that into public outreach and engagement opportunities. The United States Air Force Air Demonstration Squadron Commander (USAFADS/CC) has the authority and discretion to direct squadron activities which support the team mission, vision statement, and align with DoD and USAF strategic objectives.

1.2. Organization. This instruction contains information pertaining to responsibilities, waivers, Thunderbirds administration and organization to include officer selection, operational procedures, logistics, public engagement and operational limitations.

1.3. Applicability. This instruction applies to all personnel assigned to the USAFADS. It outlines specific functions, responsibilities, and requirements of members of the USAFADS. **Note:** A copy of this instruction is authorized for each USAFADS member and support personnel, as necessary.

1.4. Responsibilities.

1.4.1. COMACC Responsibility.

1.4.1.1. Certify this publication and any changes.

1.4.1.2. Review the Thunderbird initial Airshow Schedule for two years out during the Planning Phase and forward to Secretary of the Air Force Public Affairs (SAF/PA) for final approval IAW DAFI 35-101, *Public Affairs Operations*, and DoDI 5410.19, Volume 4, *Community Outreach Activities: Ceremonial, Musical, and Aerial Event Support*.

1.4.1.3. Approve changes to the Thunderbird Show Schedule for any schedule that has been previously approved by SAF/PA (see paragraph 3.6.2).

1.4.1.4. Certify the Thunderbirds to perform their demonstration for the public, prior to the start of the Thunderbirds' airshow season. Certification will be accomplished during the Thunderbirds' annual COMACC Approval Show. COMACC certification of the USAFADS constitutes approval to perform demonstrations on behalf of the AF. This certification will be documented and signed via memorandum and kept on file with the unit. USAFADS pilot mission certification does not meet AFMAN 11-2F-16, Volume 2, *F-16-Aircrew Evaluation Criteria*, mission qualification criteria and will not be

maintained via AF Form 8, *Certificate of Aircrew Qualification*, or in Flight Evaluation Folders (FEFs). Pilots can maintain an existing mission qualification upon arrival to the USAFADS until it expires and may acquire or maintain a mission qualification by flying a missionized check-ride meeting AFMAN 11-2F16V2 criteria flying with a combat-coded unit and combat-training (non-demonstration) configured aircraft. Without an AFMAN 11-2F-16V2 mission qualification and associated AFMAN 11-2F-16, Volume 1, *F-16–Aircrew Training*, training currencies, USAFADS pilots are unable to inter-fly in missionized sorties outside the direct flight supervision of a mission-qualified instructor and in a formal mission upgrade status.

1.4.1.5. Approve ACCI waivers and coordinate on any AFI/AFMAN waiver requests prior to submitting them to Headquarters Air Force (HAF) for approval.

1.4.1.6. Approve Officer selections for the Thunderbirds and forward to the Chief of Staff of the United States Air Force (CSAF).

1.4.2. United States Air Force Warfare Center Commander (USAFWC/CC) Responsibility.

1.4.2.1. Coordinate on proposed changes to this publication.

1.4.2.2. Submit proposed Thunderbird schedules for the two years out (Planning Phase) to COMACC through Air Combat Command Director of Operations (ACC/A3) Cc ACC/A3TA IAW the scheduling timeline specified in **Chapter 3** of this ACCI.

1.4.2.3. Submit proposed Thunderbird Schedule changes for any schedule that has been previously approved (Execution Phase) by SAF/PA to ACC/A3 Cc: ACC/A3TA for COMACC approval (delegable no lower than the 57th Wing Commander (57 WG/CC)).

1.4.2.4. Submit waiver requests to Air Combat Command Standardization and Evaluations (ACC/A3TV) for processing, as per paragraph **1.5** of this ACCI (delegable no lower than 57 WG/CC).

1.4.2.5. Forward officer candidate finalists to COMACC for approval.

1.4.2.6. Review Distinguished Visitor (DV) and Orientation Flight requests that require ACC or higher approval and forward to ACC/A3 (Cc: Air Combat Command Flight Management (ACC/A3TB)) for ACC approval IAW DAFMAN 11-401_ACCSUP, *Aviation Management*, Table 5.1 (ACC), and the Delegations of Certain COMACC Authority Memorandum (delegable no lower than 57 WG/CC).

1.4.2.7. Approve Public Affairs Flight requests IAW DAFI 35-101 and associate delegation memos. Prior to operational approval, confirm the proper level of Public Affairs (PA) (Air Combat Command Public Affairs (ACC/PA) or SAF/PA) approval has been attained for the individual. Inform ACC/PA upon operational approval (operational approval delegable no lower than 57 WG/CC).

1.4.2.8. Approve dissimilar aerial photo missions (using military photographers only) involving other U.S. and foreign military jet teams and/or single-ship demonstration teams and inform ACC/A3 (Cc: ACC/A3TA). **Note:** formations with foreign military jet teams conducted as part of a public event are considered an aerial review and require Assistant to the Secretary of Defense for Public Affairs (ATSD(PA)) approval per DAFI 11-209, *Participation in Aerial Events*.

1.4.2.9. Approve dissimilar formation requests with other U.S. military aircraft (using military photographers only) that are conducted in locations not associated with an “event” (e.g., Military Operations Areas (MOAs) or other special use airspace). Ensure non-USAFADS aircrew have attained approval from their approval authority to participate prior to execution and inform ACC/A3 (Cc: ACC/A3TA) (delegable no lower than 57 WG/CC).

1.4.2.10. Review all other dissimilar formation requests and aerial photoshoots not covered by paragraphs 1.4.2.8 and 1.4.2.9 and send to ACC/A3 (Cc: ACC/A3TA) for ACC approval (review delegable no lower than 57 WG/CC).

1.4.3. 57 WG/CC Responsibility.

1.4.3.1. Coordinate on proposed changes to this publication.

1.4.3.2. Coordinate on the following two years proposed airshow schedules.

1.4.3.3. Submit proposed changes to the Thunderbirds schedule to USAFWC/CC to attain COMACC approval. For schedules for two years out (Planning Phase), refer to the scheduling timeline specified in **Chapter 3** of this ACCI.

1.4.3.4. Approve all new Thunderbird demonstration maneuvers and formations and changes to existing Thunderbird maneuvers and formations and inform ACC/A3 (Cc: ACC/A3TA). (**Note:** once approved, the USAFADS/CC will incorporate them into the USAFADS Operations Manual).

1.4.3.5. Coordinate on Thunderbird waiver requests.

1.4.3.6. Approve Orientation flights that allow Wing/CC approval per DAFMAN 11-401_ACCSUP, Table 5.1 (ACC), and the Delegations of Certain COMACC Authority memorandum.

1.4.3.7. Review DV and Orientation Flight requests that require ACC or higher approval and forward to USAFWC/CC for review and staffing to ACC for approval IAW DAFMAN 11-401_ACCSUP and the Delegations of Certain COMACC Authority memorandum.

1.4.3.8. Approve Familiarization Flights for military members according to DAFMAN11-401_ACCSUP, Chapter 5, and the Delegations of Certain COMACC Authority memorandum and inform USAFWC/CC.

1.4.3.9. Review Public Affairs Flight requests IAW DAFI 35-101 and associate delegation memorandums. Prior to forwarding to USAFWC/CC for operational approval, confirm the proper level of PA (ACC/PA or SAF/PA) approval has been attained by USAFADS for the individual IAW DAFI 35-101.

1.4.3.10. Review dissimilar aerial photo mission requests (using military photographers only) involving the USAFADS and other U.S. and foreign military jet teams and/or single-ship demonstration teams and forward to USAFWC/CC for approval.

1.4.3.11. Review dissimilar formation requests with other military aircraft (using military photographers only) that are conducted in locations not associated with an “event” (e.g., MOAs or other special use airspace). Ensure non-USAFADS aircrew have approval from their approval authority to participate and forward to USAFWC/CC for approval.

1.4.3.12. Review all other dissimilar formation requests and aerial photoshoots not covered

by paragraphs [1.4.3.9](#) and [1.4.3.10](#) and forward to USAFWC/CC for review and staffing to ACC for approval.

1.4.3.13. Approve flights in non-USAF aircraft for USAFADS members who are otherwise eligible to fly on U.S. government aircraft, IAW DAFMAN 11-401_ACCSUP and inform Air Combat Command Flight Operations Division (ACC/A3T) (Cc: ACC/A3TB).

1.4.4. ACC/A3 Responsibility.

1.4.4.1. Coordinate on changes to this publication and route changes to COMACC for approval.

1.4.4.2. Coordinate on Thunderbird schedules and associated changes and route to COMACC for approval.

1.4.4.3. Coordinate on any Thunderbird package or waiver request requiring COMACC or HAF-level approval and route to appropriate level for approval.

1.4.5. ACC/A3T Responsibility.

1.4.5.1. Coordinate on all A3 responsibilities in paragraph [1.4.4](#) of this ACCL.

1.4.5.2. Coordinate on all Thunderbird packages requiring A3, COMACC or HAF-level approval.

1.4.6. ACC/A3TA Responsibility.

1.4.6.1. Coordinate on Thunderbird initial build and changes to their annual airshow schedules, IAW the timeline specified in [Chapter 3](#) of this ACCL.

1.4.6.2. Provide staff support for any Thunderbird operational requirements.

1.4.6.3. Review any priorities or requests (e.g., SAF/PA, Air Force Recruiting Service (AFRS), Major Command (MAJCOM), Congressional priorities/interest) submitted to the Thunderbirds for scheduling consideration, then highlight issues and provide background information to the team to effectively incorporate those inputs into the schedule build or schedule change.

1.4.6.4. Coordinate for Mobile Aircraft Arresting System (MAAS) installations, as required. Arresting gear outside of 80 NM) flying distance from airshow location or 80NM flying distance from airshow location to base of intended landing to arresting gear during a deployed show requires a MAAS installed within 80NM total flying distance.

1.4.7. ACC/A3TV Responsibility.

1.4.7.1. Coordinate Thunderbird requests for Standardization and Evaluation related waivers and submit to applicable OPR for approval.

1.4.7.2. Request applicable waiver OPRs include the approved waivers for the Thunderbirds into the source document.

1.4.8. Air Combat Command Communications Directorate (ACC/A6) Responsibility. Process all frequency actions to support USAFADS missions. (Reference DAFI 17-220, *Spectrum Management*).

1.4.9. ACC/PA Responsibility.

1.4.9.1. Provide support for Public Affairs Flights (media and non-media) for the Thunderbirds when requested by USAFADS Public Affairs Officer (USAFADS/PAO). Media Flights and Public Affairs Flights will be conducted IAW DAFMAN11-401_ACCSUP, DAFI 35-101, AFMAN 35-101, *Public Affairs Procedures*, Delegations of Certain COMACC Authority memorandum, and exceptions to policy (ETP).

1.4.9.2. Request Secretary of the Air Force Engagements Division (SAF/PAY) approval of all National-level Public Affairs flier participation IAW DAFI 35-101, AFMAN 35-101, and associated delegation memos.

1.4.9.3. Vet and Approve/Disapprove Public Affairs flier participation (media and non-media) that do not require SAF/PAY approval IAW DAFI 35-101 and AFMAN 35-101 and inform SAF/PAY.

1.4.9.4. Support USAFADS/PAO and SAF/PA in identifying suitable prospects and contacts for national/regional media, hometown heroes and other influential non-media fliers, as appropriate and when requested by United States Air Force Air Demonstration Squadron Public Affairs (USAFADS/PA).

1.4.9.5. Provide support for the Thunderbirds' website, as requested by USAFADS/PA.

1.4.9.6. Amplify messaging, both via website and social media platforms, as appropriate.

1.4.9.7. Develop ACC's Priority List of ACC bases requesting Thunderbird support for their Open House for the year after next and submit to SAF/PA Not Later Than (NLT) 1 July of the year of the request. (e.g., submit the Priority List by 1 July 2023 for ACC bases requesting Thunderbird support for their Open House in 2025).

1.4.10. Air Combat Command Air Operations Squadron (ACC/AOS) Responsibility. Provide launch and delivery control of all Thunderbird transoceanic movements requiring tanker support for Outside the Continental United States (OCONUS) movements (Coronet Missions), as required.

1.4.11. Air Combat Command Judge Advocate (ACC/JA) Responsibility. Ensure United States Air Force Warfare Center Judge Advocate (USAFWC/JA) and 57th Wing Judge Advocate (57 WG/JA) provide comprehensive legal support and services to USAFADS, as needed. Coordinate with ACC/Staff, Air Force Operations and International Law Directorate (AF/JAO) and Secretary of the Air Force General Counsel (SAF/GC), as required.

1.4.12. USAFADS/CC/Leader Responsibility. The USAFADS/CC/Leader (USAFADS/CC) is the commander of the USAFADS and the leader of the USAF Thunderbird demonstration team. His/her responsibilities include the following:

1.4.12.1. Execute the SAF/PA approved airshow schedule and support proposed flight prospects for national/regional media and other influential non-media fliers as appropriate to accomplish the mission of "Recruit, Retain, Inspire."

1.4.12.2. Submit new officer nominees to 57 WG/CC for concurrence prior to COMACC approval.

1.4.12.3. Ensure all Thunderbird aviators are trained IAW Combined Thunderbird Pilot Syllabus.

1.4.12.4. Annually review and update the Thunderbirds Support Manual. Submit a draft

copy with changes highlighted/annotated to ACC/A3TA for review NLT 1 November.

1.4.12.5. Submit requests for Coronet Missions requiring tanker support to ACC/AOS as soon as possible after receiving approval for an overseas deployment.

1.4.12.6. Ensure Thunderbird public outreach and engagements align with DoD and USAF policy directives, talking points, and strategic messaging.

1.4.12.7. Ensure proper level of approval for Familiarization, DV, Orientation, and Public Affairs Fliers (media and non-media) is attained IAW DAFMAN 11-401_ACCSUP, DAFI 35-101, AFMAN 35-101, and Delegations of Certain COMACC Authority memorandum prior to execution.

1.4.12.8. Ensure all Orientation Flights in USAFADS aircraft will be conducted IAW DAFMAN 11-401_ACCSUP, DAFI 35-101, AFMAN 35-101, Delegations of Certain COMACC Authority memorandum, and current ETPs.

1.4.12.9. Approve rear cockpit sortie mission type for all approved guest fliers (demonstration practice, chase, or single-ship) in Thunderbird aircraft.

1.4.12.10. Design and lead the demonstration; submit major changes (e.g., adding a new maneuver) to 57 WG/CC for approval.

1.4.12.11. Oversee all Thunderbird training.

1.5. Waivers.

1.5.1. COMACC is the approval authority for waivers to this ACCI unless otherwise stated. Thunderbird requests for waivers to this ACCI will be submitted through USAFWC/CC to ACC/A3TA. ACC/A3TA will obtain coordination with the applicable Headquarters (HQ) agencies and submit the waivers to COMACC for approval through ACC/A3. ACC agency requests for waivers to this ACCI will be submitted to ACC/A3TA, who will, in turn, coordinate them with the Thunderbirds, and submit them to COMACC for approval through ACC/A3T and ACC/A3.

1.5.2. ACC/A3T will request that any waivers be incorporated into the respective ACCI, AFI, AFMAN, etc., as applicable.

1.5.3. If waivers are not included in the applicable source document, they will remain in effect for the period the waiver is granted or until/unless:

1.5.3.1. 30 days after the approving commander's tour length is over.

1.5.3.2. Subsequent departmental or ACC/SUP AFI "rewrite" render the waivers invalid.

1.5.3.3. USAFADS changes Mission Design Series (MDS).

1.5.3.4. ACC/A3 periodic review or an incident shows cause for reconsideration or rescission.

1.5.4. Any variations or additions to approved waivers must be approved by the appropriate source document OPR and coordinated through the 57 WG/CC, USAFWC/CC, ACC/A3 and COMACC.

1.5.5. Requirements for waivers to local operations (e.g., for Nellis AFB and Creech AFB) will be addressed in the 57 WG publications.

1.6. Approval Authority. Approval authority for changes to this instruction is COMACC. Approval for waivers to the affected ACCIs is COMACC. Approval for waivers to AFIs, AFMANs and other Higher Headquarters (HHQ) source documents will be IAW HAF guidance for the appropriate Tier Level for the waiver in question. Approval authority for all Thunderbird maneuvers and formations is 57 WG/CC.

1.7. Review/Recommended Changes. A bi-annual review of this instruction will be accomplished following the last show of the Commander/Leader's first complete show season. USAFADS/CC's recommendations/ inputs are due by 30 November of the Commander/Leader's first complete show season. USAFADS will submit all proposed changes to 57 WG/CC for coordination to ACC/A3 (Cc: ACC/A3TA) NLT 31 December of the same year to obtain COMACC approval by 28 February of the following year. During the coordination process, all proposed changes will be provided in a separate listing with supporting rationale.

Chapter 2

ADMINISTRATION AND ORGANIZATION

2.1. Squadron Organization. The USAFADS has five broad organizational areas: operations, maintenance, logistics, public affairs, and administration.

2.2. Officer Designations. The Thunderbird officers have the following numerical designations: Commander/Leader (#1), Left Wing (#2), Right Wing (#3), Slot (#4), Lead Solo (#5), Opposing Solo (#6), Operations Officer (#7), Advance Pilot/Narrator (#8), Flight Surgeon (#9), Executive Officer (#10), Maintenance Officer (#11), and Public Affairs Officer (#12).

2.3. Squadron Responsibilities. The USAFADS/CC will assign officers additional duties as required.

2.4. Thunderbird Officer Selection Process. Thunderbird officers will normally serve two-year tours. COMACC may approve a one-year extension for unique circumstances. The exception to tour length is Thunderbird 8. The team will hire a new Thunderbird 8 each year and the previous Thunderbird 8 will transition to a demonstration pilot position (Thunderbird 2, 3, or 6) their second year. That pilot's third year will be as a demonstration instructor pilot (Thunderbird 2, 4, or 5). This flow eases the personal demand on pilots in the Thunderbird 8 position and provides 3 years of continuity on the team **(T-2)**

2.4.1. Selection Criteria: The Thunderbirds, in conjunction with 57 WG/CC and USAFWC/CC, will establish applicant qualification criteria for the following officer positions:

2.4.1.1. Commander/Leader. (Flying Squadron Command Experience Required)

2.4.1.2. Demonstration Pilots.

2.4.1.3. Operations Officer.

2.4.1.4. Advanced Pilot/Narrator.

2.4.1.5. Flight Surgeon.

2.4.1.6. Executive Officer.

2.4.1.7. Maintenance Officer.

2.4.1.8. Public Affairs Officer.

2.4.2. Thunderbirds officers will be selected through a process including records' review, application, interviews, flying evaluation, recommendation by the current Thunderbirds team, nomination by the Commander/Leader, and approval by 57 WG/CC. The Commander/Leader selection process adds additional approvals by USAFWC/CC and COMACC, with final approval by CSAF.

2.4.2.1. The hiring process will begin with Thunderbird 10 sending the hiring message to Air Force Personnel Center (AFPC) and then the AFPC Officer Assignment Team will send an email to all functionals at AFPC in the eligibility window. Applications from interested officers will be sent to Thunderbird 10 and the Thunderbird Hiring Officer. Emails from the applicant's Senior Rater with endorsement will be sent to the Thunderbird Commander/Leader, Thunderbird 10 and the designated Thunderbird Hiring

Officer for further processing.

2.4.2.2. After the deadline for applications, Thunderbird 10 and the designated hiring officer will process applications and provide a recommendation to Thunderbird 1 on those officers selected for the Semi-Finalist round. Unless there are significant negative quality force indicators on the officer or unless the officer does not meet baseline requirements, it is encouraged that most, if not all applicants make the Semi-Final round.

2.4.2.3. Once Semi-Finalists are selected and approved, Thunderbird 10 will prepare emails for notification in the following order:

2.4.2.3.1. 57 WG/CC will send a notification email to the Senior Raters of all Semi-Finalists.

2.4.2.3.2. Thunderbird 1 will send a notification email to all Semi-Finalists.

2.4.2.3.3. Thunderbird 10 will send an email with Rules of Engagement (ROE) and logistics information to all Semi-Finalists.

2.4.2.4. Semi-Finalists are invited to a Thunderbird airshow of their choosing to observe the team's mission and to interact with the Thunderbird team. Semi-Finalist lists will be sent to AFPC Officer Assignment Team to obtain amplifying info on the officers' career timelines, pending assignments, Joint spouse considerations and any additional information pertinent to selection.

2.4.2.5. Immediately after the last Semi-Finalist airshow, the Thunderbird officers will meet to discuss all Semi-Finalist officers and provide a recommendation of Finalists to Thunderbird 1. Thunderbird 1 will notify the 57 WG/CC of the Finalist decision. Prior to notification, Thunderbird 10 will provide a list of Finalists to the AFPC Officer Assignment Team for their final consideration. Any additional information garnered from the AFPC Functional Team that might change the Finalist decision should be brought to the attention of Thunderbird 1 and the Thunderbird officers prior to Finalist notification.

2.4.2.6. Once Finalists are selected and approved, Thunderbird 10 will prepare emails for notification in the following order:

2.4.2.6.1. 57 WG/CC will send a notification email to all Senior Raters with Finalist officers and non-selected officers.

2.4.2.6.2. Thunderbird 1 will send one notification email to all Finalists, and emails to each non-selected officer.

2.4.2.6.3. Thunderbird 10 will send an email with ROE and logistics information to all Finalist officers.

2.4.2.7. Finalist officers will travel to Nellis AFB for "Finalist Week" to complete flying evaluations, "12-man" interviews, general officer interviews, Thunderbird 1 interviews and immerse themselves in the home station mission of the Thunderbird team.

2.4.2.8. Prior to final selection, demo pilot applicants will complete an F-16 flying evaluation of at least one sortie to determine aptitude for higher-level formation skills required to safely execute the Thunderbirds mission. 57 WG/CC may waive the requirement for flying evaluations, but every effort should be made to accomplish prior to final selection. During finalist week, the USAFADS will get priority at the Thunderbird

training range in the Nevada Test and Training Range (NTTR) over all other ACC assets to accomplish these evaluations.

2.4.2.9. Prior to final selection, support officer applicants will complete a support officer “flying evaluation” during which they will assume the duties of the corresponding numbered officer and the Thunderbird officer will shadow them to assess their decision-making skills, ability to handle stress and overall aptitude for the demands of the team mission.

2.4.2.10. Immediately after the Finalist Week, all data will be compiled from all flying evaluations and interviews. Final nominations will be made by the current team and forwarded by the Commander/Leader to 57 WG/CC and USAFWC/CC for concurrence. COMACC is the final approval authority for Thunderbirds officers’ selection IAW paragraph 1.4.1.6.

2.4.2.11. Selection Process Timeline. Ensure finalists are approved by COMACC and announced by the team in a timely manner to allow selectees time to attend the F-16 Transition Course, if required, and meet a Report Not Later Than Date (RNLTD) of 1 October, unless RNLTD is waived by the USAFADS/CC.

2.4.3. Thunderbirds Follow-On Assignments.

2.4.3.1. Officers’ assignments: Officer assignments for Thunderbird Officers who performed honorably, as determined by the Commander/Leader, will be worked between Thunderbird 10 and the AFPC assignment team. The officer will communicate their desires to the Commander in mentoring sessions throughout the officer’s time on the team. Approximately nine months from the end of the officer’s tour, the officer will create a list of three locations and jobs for their next assignment from the projected billet vacancies advertised on their respective Vulnerable-to-Move List (VML). Provided the member’s service on the team was honorable, the Commander/Leader will then give the list to Thunderbird 10 to work with AFPC to secure one of the locations/jobs IAW CSAF Rated Manning Directive priorities. Talent Marketplace will be used throughout the assignment cycle to ensure communication and visibility for assignment preferences.

2.4.3.2. Enlisted assignments: Members assigned to the USAFADS will work with the USAFADS’s Senior Enlisted Leader and First Sergeant to determine next assignment desires and availability. Talent Marketplace will be used throughout the assignment cycle to ensure communication and visibility for assignment preferences.

2.5. Thunderbirds Strategic Advisory Group (SAG): The SAG provides an outside source of advisors and mentors to the Commander/Leader of the USAFADS.

2.5.1. The Commander/Leader will only ask SAG members to share individual attitudes or opinions; soliciting group or consensus recommendations from non-Government personnel requires establishment of a formal committee approved by the DoD under Public Law (PL) 92-463, *Federal Advisory Committee Act*, and DoDI 5105.04, *Department of Defense Federal Advisory Committee Management Program*, and DAFI 90-1401, *Federal Advisory Committee Management Program*. Per DoDI 5105.04, paragraph 2.3.2.3., “Meetings initiated by one or more Federal officials with more than one other individual to obtain advice from individual attendees and not for the purpose of utilizing the group to obtain consensus advice or recommendations.” are permissible without establishing a formal committee.

2.5.2. SAG membership is approved by the USAFADS/CC.

2.5.2.1. The SAG typically consists of four appointed members that include former Thunderbirds and at least one knowledgeable retired senior officer with operational knowledge of the Thunderbirds squadron, but not necessarily a former member of the USAFADS.

2.5.2.2. The retired senior officer(s) – if in the rank of O-7 or above – are not selected via the Highly Qualified Expert – Senior Mentor (HQE-SM) program, since the SAG members will not be involved in the activities covered by that program (war games, warfighting courses, operational planning, operational exercises, and decision-making exercises).

2.5.2.3. Any member of the SAG who is not an employee of the federal government will be issued individual travel authorizations (ITAs) per the Joint Travel Regulation (JTR), as required. The USAFADS/CC will consult with his/her servicing ethics counselor regarding any potential ethics concerns with a non-federal employee, such as a SAG member who is employed by a DoD contractor.

2.5.2.4. The 57 WG/CC will serve as a fifth ex-officio member of the SAG.

2.5.3. The SAG engages at the request of the Commander/Leader on matters that can benefit from the considerable experience of the SAG members.

2.5.3.1. At the invitation of the Commander/Leader, the SAG will convene at regular intervals, approximately once each year, ideally in person and at a time best suited to the Thunderbirds team schedule and other Nellis AFB activity.

2.5.3.2. SAG members are encouraged to travel with the Thunderbirds team to a show site at least once per year.

2.5.3.3. Members of the SAG serve at the pleasure of COMACC with tenures timed to ensure continuity during transition to a new Commander/Leader.

2.5.3.4. Mentors can be most helpful during the transition, while the new leader focuses on the demands of command as well as the intense flying schedule required to master the flying demonstration.

2.5.3.5. Advice from the SAG members in their individual capacities can also assure thoughtful consideration of initiatives emerging from both internal and external sources where history, legacy and tradition must be balanced with generational trends of changing audiences, technology advances, etc.

2.5.3.6. SAG members' experience can provide new ideas about changes to the show sequence, addition of new maneuvers, formations and organizational changes that may have been tried in the past or have safety implications that are not readily apparent.

2.5.3.7. The SAG does not involve itself in operational matters.

2.5.4. The SAG leader will normally report to COMACC, through the Air Combat Command Director of Staff (ACC/DS), at intervals appropriate to keep COMACC informed of SAG activity and to provide an independent assessment of issues that could rise to the ACC or Air Force level.

2.5.5. Funding to support SAG activities will be included in the Thunderbirds' annual funding execution plan.

2.6. Thunderbirds Commander's Leadership Forum: The purpose of the Commander's Leadership Forum is to provide a responsive resource of mentors to the current Thunderbirds Commander/Leader and Thunderbirds team. The goal of the Commander/Leader Forum is to establish and sustain a profound connection with the past and help guide respectful and informed generational change when circumstances suggest such changes are in the best interest of the team.

2.6.1. Forum members are typically former Commanders/Leaders and can be augmented by other former members of the Thunderbirds team of any rank or position.

2.6.2. Any Forum member who is not an employee of the Federal government will be issued ITAs per the JTR, as required. The USAFADS/CC will consult with his/her servicing ethics counselor regarding any potential ethics concerns with a non-federal employee, such as a Forum member who is employed by a DoD contractor.

2.6.3. The Commander's Leadership Forum is not an advisory committee subject to DoDI 5105.04 and DAFI 90-1401. Forum members engage individually or in combination at the request of the Commander/Leader on issues and advice that can benefit from the considerable experience embedded in the Forum; consistent with DoDI 5105.04, paragraph 2.3.2.3, all such interactions between the Commander/Leader and two or more Forum members who are not Government employees will be solely to obtain advice from individual attendees and not for the purpose of utilizing the Forum to obtain consensus advice or recommendations.

2.6.4. At the invitation of the Commander/Leader, Forum members will convene at regular intervals, approximately once each year, at a time best suited to the Thunderbirds team schedule and appropriate to the agenda to be discussed.

2.6.5. Funding to support the Forum will be included in the Thunderbirds' annual execution plan.

2.6.6. Many Forum members are involved with projects and organizations that directly benefit Thunderbirds history, legacy, tradition, and reputation, as well as the team's national and global image.

2.6.6.1. These members are in positions to assist the Commander/Leader with his or her initiatives and projects that require resources beyond the capacity of the team or extend beyond the tenure of a single commander.

2.6.6.2. At no time will Forum members be used to improperly augment the USAFADS' authorized funding or improperly solicit gifts, but they may be permitted to identify unsolicited offers of support. The Commander/Leader will coordinate with the USAFWC/JA to ensure compliance with all fiscal and ethics laws/regulations.

2.6.6.3. Initiatives involving the Thunderbirds legacy may emerge from outside sources. Forum members have the experience and perspective to help the Commander/Leader evaluate such initiatives with appropriate respect for history, tradition, and legacy. These considerations should be undertaken with the objective of robust coordination with the Commander/Leader, while attempting to reduce pressure on the team's time and

resources—minimizing distractions to the Thunderbirds' primary mission.

2.6.7. When Forum members are invited to engage with the Thunderbirds team, such engagements should be reported to the other members by email. This will allow members to stay current on items of interest to the Thunderbirds team. Likewise, each Forum member should attempt to coordinate a visit to a show site during the demonstration season. Visits can be arranged by direct communication with Thunderbird 10.

2.6.8. Members of the Forum should remain engaged with Air Force leadership and convey the abiding interest of the Thunderbirds' alumni in the team's mission and senior Air Force support. Personnel selection and post-tour assignment policies, annual show scheduling, media engagement, overseas demonstration programs, exposure to global political leaders, etc., all have direct reputational impact on the entire USAF.

Chapter 3

OPERATIONS

3.1. General. The unique nature of the Thunderbirds mission demands flexibility and dynamic force employment. The USAFADS/CC may seek waivers or ETPs to established guidance if AFI/AFMAN/ACCI direction prevents or detracts from team precision, team and public safety, and Air Force image.

3.2. References. See [Attachment 1](#) for applicable references.

3.3. Training. Detailed training guides for Thunderbird operations are outlines in the Combined Thunderbird Pilot Syllabus and the USAFADS Operations Manual. This section covers general guidelines for conducting that training.

3.3.1. Responsibilities. The USAFADS/CC is responsible for all USAFADS training. It is his/her responsibility to ensure that all Thunderbird pilots perform safely and meet the standards of aerial demonstrations for the public. If it becomes clear that a Thunderbird pilot will not meet the stringent flying standards or their flying compromises the safety of the demonstration team and the public, the USAFADS/CC has grounds for removal of that pilot from the team. At no time will the reputation of the USAF and the USAFADS be compromised, nor the safety of the viewing public be put in question because of sub-standard flying execution.

3.3.2. F-16 Transition Training. Pilots who are new to the USAFADS and not qualified in the F-16 will receive a full transition checkout at an F-16 training wing, to include an instrument qualification check, and the course-stipulated hours of academics and emergency procedures training.

3.3.3. Training Season. The period from mid-November to mid-March is set aside for training new pilots. Second-year pilots will be designated in writing by the USAFADS/CC to act as instructors/supervisors for first year pilots and are authorized to instruct all applicable maneuvers from both chase and rear cockpit positions; however the Team may schedule flyovers at eligible events during this period, See paragraph [3.8](#).

3.3.3.1. Off-station Training. The USAFADS should conduct off-station training (away from Nellis AFB) during the training season to exercise the deployed operations aspect of their mission. The following factors should be considered when choosing a training location:

3.3.3.1.1. logistical support

3.3.3.1.2. lodging proximity

3.3.3.1.3. limited public impact

3.3.3.1.4. sole-use airspace

3.3.3.1.5. over-the-field (OTF) flying training

3.3.3.1.6. and sufficient facilities for aircraft maintenance, operations and training

3.3.3.2. Joint Training. Precedent shows that conducting joint training between the Thunderbirds and Blue Angels is a unique opportunity to share best practices, accelerate

experience, and foster the relationship between the U.S.s' two premier military demonstration teams. The USAFADS may deploy to the Blue Angels' winter training detachment at Naval Air Facility (NAF) El Centro to conduct joint training. The teams should make efforts to observe each other's briefs and debriefs. Both teams should provide opportunities for members of the other team to fly in backseats during practices and demonstrations rehearsals. Both teams should provide opportunities for members of the other team to fly in backseats during practices and demonstrations rehearsals. Finally, both teams should engage in team-building activities for the purpose of collaboration and relationship building. Finally, both teams should engage in team-building activities for the purpose of collaboration and relationship building.

3.3.4. Training Guidelines. Training guidelines are outlined in the Combined Thunderbird Pilot Syllabus and maneuvers are described in detail in the USAFADS Operations Manual.

3.3.5. Ready Aircrew Program (RAP).

3.3.5.1. The annual F-16 Ready Aircrew Program Tasking Message (RTM) and AFMAN 11-2F-16V1 does not specifically mention the USAFADS and the recommended sortie requirements do not reflect the training needs of the team. Due to the unique flying mission of the USAFADS, the squadron will develop an appropriate RAP that outlines training and currency requirements for USAFADS assigned fliers. This Squadron RAP will be modeled on the F-16 RTM to include ground and flight training requirements outlined in 11-2F-16V1 and will be reviewed and updated biannually after the F-16 RTM is published in October. The USAFADS/CC will ensure the USAFADS RTM is modeled to adequately prepare USAFADS pilots for the Thunderbird mission. USAFADS pilots will accomplish ground training requirements as soon as the Squadron's schedule provides the opportunity.

3.3.5.2. The USAFADS is not expected to complete and submit an End-of-Cycle report IAW the F-16 RTM. Air Combat Command Flight Operations and Training Branch (ACC/A3TO) will treat the USAFADS as a CA/CB/TF coded unit.

3.4. Standardization & Evaluation. The USAFADS will comply with applicable portions of AFMAN 11-202, Volume 2, *Aircrew Standardization and Evaluation Program*, and AFMAN 11-2F-16V2 for administration and execution of its standardization and evaluation program.

3.4.1. USAFADS pilots will accomplish instrument evaluation check flights IAW AFMAN 11-2F-16V2. COMACC certification of the USAFADS constitutes approval to perform demonstrations on behalf of the USAF. This certification will be documented and signed via memorandum and kept on file with the unit. USAFADS pilot mission certification does not meet AFMAN 11-2F-16V2 mission qualification criteria and will not be maintained via AF Form 8 or in FEFs. Pilots can maintain an existing mission qualification upon arrival to the USAFADS until it expires and may acquire or maintain a mission qualification by flying a missionized checkride meeting AFMAN 11-2F16V2 criteria flying with a combat-coded unit and combat-training (non-demonstration) configured aircraft.

3.4.2. USAFADS assigned pilots may accomplish emergency procedures evaluations (EPE) in available Unit Training Device simulators (UTD) or via table-top evaluation when a UTD is not available.

3.4.3. USAFADS/CC will designate second-year Thunderbird pilots as instructor pilots.

Instructor upgrades will be IAW the Combined Thunderbird Pilot Syllabus and will be designated in gradebooks and the Squadron Letter of X's (LoX). An initial instructor AF Form 8 is not required. United States Air Force Aerial Demonstration Squadron Standardization and Evaluations Office (USAFADS/CCV) will place a memorandum explaining Thunderbird instructor pilot duties in that pilot's FEF. United States Air Force Aerial Demonstration Squadron Training Office (USAFADS/DOT) will complete an AF Form 4324, *Aircraft Assignment/Aircrew Qualification Worksheet* updating the crew duty position.

3.5. Flying Hour Program (FHP). The unique mission of the USAFADS drives certain flying requirements to fulfill the Combined Thunderbird Pilot Syllabus and the COMACC approved show season schedule. The F-16 RTM recommended sortie requirements do not translate to Thunderbird flying operations and thus do not apply. The USAFADS/CC is responsible for determining the number of sorties required to adequately prepare the team for certification and public demonstration. The USAFADS will submit an FHP request annually through the 57th Operations Support Squadron (57 OSS). The FHP will be driven by the training season and show season schedule and based on historical average sortie duration (ASD).

3.6. Scheduling.

3.6.1. Training Season Scheduling. The USAFADS/CC has discretion over training season scheduling based on syllabus progression and level of performance. Public demonstrations, with the exception of flyovers, will not be scheduled prior to both the Federal Aviation Administration (FAA) and COMACC certifications. The USAFADS undergoes a FAA certification process, annually. This evaluation occurs at the end of Winter Training at Naval Air Facility El Centro, CA, and gives the squadron the official authorization to perform aerial demonstrations based on aviation safety and regulation standards. In contrast, the annual COMACC certification is the culminating event which allows USAFADS to perform their mission.

3.6.2. Demonstration Scheduling. The demonstration season normally begins mid-March and extends to mid-November. Demonstration scheduling will be divided into two phases: Planning Phase and Execution Phase. Planning phase begins when the team starts to build an initial airshow schedule and runs until the International Council of Air Shows (ICAS) convention prior to starting that planned season schedule. The Execution Phase begins after the ICAS convention and continues through the end of the airshow season. The following policies and scheduling timeline will guide development of the Thunderbird demonstration schedule to maximize mission impact, maintain peak proficiency and provide adequate team rest.

3.6.2.1. The USAFADS will build the airshow schedule two years prior to the season in question (e.g., the 2025 schedule is built in 2023). SAF/PA will forward the vetted list of airshows requesting the Thunderbirds to AFRS for their prioritization and to ACC/A3TA for review. The list will include, at a minimum, show location, POC, primary/alternate dates, expected attendance, and MAJCOM priorities. ACC/A3TA will concurrently review the list and will highlight issues and provide background information to the team in order to effectively incorporate those inputs into the schedule build. Upon AFRS coordination, AFRS will forward their prioritization list to the Thunderbirds (and Cc: ACC/A3TA and SAF/PA) for scheduling considerations. The following considerations

should be taken into account (in no particular order) when building the annual schedule: location factors, logistical considerations, MAJCOMs/AFRS priorities, historical show/location notes/after-action reports, Blue Angels deconfliction, expected crowd size/media outreach, and civilian/military host percentage.

3.6.2.2. The Thunderbirds will coordinate with the Blue Angels to deconflict air show selections. The Thunderbirds may schedule one joint military installation-hosted airshow per year with the Blue Angels during the Planning phase, or during the Execution Phase if no other joint military installation-hosted airshow has been previously planned, without having to request an ETP per the DoD Public Affairs Community Engagement Plan. ETPs to perform at the same non-military shows will be submitted by the 57WG/CC to ACC/A3TA to route to the approval authority.

3.6.2.3. If intending to support a show they have not visited in the past five years, the Thunderbirds will review ACC single-ship demonstration team after-action-reports or show critiques for that location (provided by ACC/A3TA upon request). The airshow will not be scheduled if significant issues are revealed that will have an impact on the Thunderbirds' ability to support that airshow.

3.6.2.4. The Thunderbirds will coordinate with individual airshows to determine if the show site will need to install a MAAS. If it is required, the Thunderbirds will ensure the airshow is aware of that requirement and can comply before putting the show on the schedule. When submitting the schedule to ACC/A3TA for review, Thunderbirds will provide a list of show sites on the proposed schedule that will require a MAAS.

3.6.2.5. The Team should factor geographical separation of sequential shows due to uncertainty of logistical support and in consideration of airframe management.

3.6.2.6. No more than one official demonstration per day will be performed.

3.6.2.7. Fly/Show (Show-Fly) Restrictions.

3.6.2.7.1. To the maximum extent possible, consecutive day show sites must not be separated by more than 500 miles.

3.6.2.7.2. The show at the second day show site must not begin before 1400 hours (local) to allow maintenance crews adequate time for crew rest, aircraft maintenance/preflight, etc.

3.6.2.8. The Thunderbirds will schedule two mandatory 6-day breaks to allow the team to rest and take leave. The first break will be scheduled following COMACC certification and is designed to provide a rest period following the training season. The second break should be scheduled in mid-August to provide the Squadron a "mid-season" rest period.

3.6.2.9. USAFADS/CC will submit the proposed two-year schedule to ACC/A3TA for review/coordination prior to the O-6 level round-table discussions, IAW the scheduling timeline specified below. Include a copy of the Blue Angels' draft schedule, a list of locations that will require a MAAS installation, and a list of known HHQ waivers or ETPs.

3.6.2.10. Airshow Season Scheduling Timeline (See [Table 3.1](#)): The following timeline provides a guide to ensure the schedule for the year after the next year (e.g., planning in 2023 for the 2025 schedule) will be approved in time to be announced at the annual ICAS

Convention. The timeline presented below is for the 2023 build of the 2025 schedule and will be adjusted by ACC/A3TA annually via memo prior to 1 July to accommodate weekends and holidays.

Table 3.1. Air Show Season Timeline.

SUSPENSE	TASK	NOTES
1-July	All DD Forms 2535, <i>Request for Military Aerial Support</i> and MAJCOM rack-and-stacks due to SAF/PA	Any proposed Thunderbird overseas tour plans for the year following next year are due to SAF/PA via the Combatant Command (COCOM) by 1 February and must include funding information, overall costs (to include training hours), and COCOM/CC endorsement.
28-July	SAF/PA list of all eligible shows that requested Thunderbirds sent to AFRS and ACC/A3TA	This list will include: - Show Names - Locations - Primary/Alternate Dates - POCs - MAJCOM Priorities - DAF Inputs - Other pertinent information on the DD Forms 2535
8-August	AFRS sends priority list to SAF/PA, ACC/A3TA, and the Thunderbirds	
8 August– 21 September	SCHEDULE BUILD (IAW guidance in paragraph 3.6.2) (ACC/A3TA concurrently reviews the list of priorities, forwards any comments/considerations to the Thunderbirds, and cc's AFRS and SAF/PA as applicable. Coordination w/Blue Angels schedule is also completed)	
21-September	Thunderbird forward draft schedule and deconflicted Blue Angels' schedule to ACC/A3TA for Action Officer (AO)-level review.	ACC/A3TA will contact AFRS and SAF/PA as applicable
29-September	ACC/A3TA compiles responses from AFRS and SAF/PAY and responds to Thunderbirds	If any ATSD(PA) waivers are requires, ACC/A3TA package and submits to SAF/PAY for approval
6-October	Thunderbirds submits edited draft schedule, including any changes to the Blue Angels schedule to ACC/A3TA for distribution to O-6 level at 57 WG, ACC/A3T, AFRS and SAF/PA for round-table discussion participants.	Any approved ATSD(PA) waivers are incorporated into the schedule prior to round-table
09-13 October	Virtual round-table is discussed	
19-October	Thunderbirds submit final schedule through chain of command for approval	cc ACC/A3TA to begin staff package requirements
1-November	USAFWC send schedule to ACC/A3TA ACC/A3TA staffs package for COMACC approval	
13-November	COMACC approves schedule and forwards to SAF/PA for approval	
27 November	Director, SAF/PA approves schedule on behalf of the Secretary of the Air Force (SECAF) as delegated	
5-December	Thunderbirds schedule is announced at the ICAS Convention and Execution Phase begins for the upcoming season!	

3.6.3. Execution Phase. The USAFADS begins the Execution Phase of their show schedule

immediately after the annual ICAS convention.

3.6.3.1. Show cancellations during the Execution Phase may drive a change in the airshow schedule that requires immediate adjustments to logistics planning to ensure a replacement show can be scheduled, coordinated and planned for. The USAFADS/CC will consider short-notice implications of MAAS scheduling and the ability of a show to logistically support the USAFADS team and may seek recommendations from the 57 WG/CC, USAFWC/CC, ACC/A3TA, AFRS, and SAF/PA to choose an alternative show.

3.6.3.2. Changes to the schedule after SAF/PA approval must be approved by COMACC IAW DAFI 35-101. USAFADS may coordinate with ACC/A3TA while building changes for collaboration/review to help expedite the official approval process once initiated. USAFADS will send official requests for schedule changes through their chain of command to ACC/A3 (Cc: ACC/A3TA) to staff for COMACC approval. If time does not allow for normal staffing, ACC/A3 will attain COMACC's verbal approval for any time-sensitive changes. Upon attaining verbal approval for a change, USAFADS/CC will notify 57 WG/CC, USAFWC/CC, and ACC/A3TA.

3.7. Show Administration & Operations.

3.7.1. Show Administration. Airshows are events susceptible to change or cancellation. While the USAFADS does not organize airshows, the team is important to the industry and maintains a significant amount of corporate knowledge. The Thunderbirds may assist show organizers in understanding factors of hosting the USAFADS and importance of support manual adherence. The USAFADS/CC will decide whether or not to support a show based on insurmountable factors or adherence to the Thunderbird Support Manual. Should a show decide to cancel or the USAFADS/CC elects to not support a show, the Thunderbirds may elect to replace that show with another airshow. If the canceled show is in the current season, the USAFADS/CC will adhere to the Execution Phase guidance in paragraph 3.6.3. Alternate show options will have an approved DD Form 2535 submitted with SAF/PA and will be able to meet the requirements of the Thunderbird Support Manual in the shortened timeline.

3.7.2. Support Manual. Detailed information on pre-show coordination and support requirements is contained in the Thunderbird Support Manual. This manual is reviewed and updated annually at the end of each show season by the USAFADS. The Support Manual will be approved by the USAFADS/CC and released in conjunction with annual ICAS Convention. Prior to release, USAFADS will provide a copy of the reviewed and updated manual to ACC/A3TA in order to ensure the ACC Demo Support Manual and the Thunderbird Support Manual provide consistent guidance where applicable. The Thunderbird Support Manual will be made available to all airshow coordinators in preparation of hosting the Thunderbirds.

3.7.3. Site Survey. After the two-year schedule is approved, the Thunderbirds should conduct site surveys for all show sites with potential logistical/FAA constraints or airfields undergoing significant construction about the aerodrome. Airfields with runways less than 7,000 feet in length will be checked via a ground safety survey as early in the training season as practical. Sites which have never been visited or have not been visited within the last five show seasons will also be surveyed. The check will consist of a ground survey of taxiways, runways, overruns, ramp space, and local obstructions. Special consideration will be given to foreign object damage (FOD) potential. If this survey reveals insurmountable logistics/FAA

problems, any potential airfield hazards and/or an alternate satisfactory base of operations is not available, the airshow will be canceled. Prior to the site survey, the Thunderbirds will review the aerobatic box layout of each show site that requires a site survey to identify potential issues that could prohibit them from performing at that show site or issues that need to be corrected before they can perform at that show site.

3.7.4. Show Operations. The United States Air Force Aerial Demonstration Squadron Operations Officer (USAFADS/DO) will ensure that the Thunderbird Support Manual requirements have been met to a satisfactory level.

3.7.4.1. Advance Team. The Thunderbird Advance Pilot/Narrator or Operations Officer and the #8 Dedicated Crew Chief will normally precede the Demonstration Team as to arrive at least four hours prior to the team. The advance pilot will finalize all demonstration show arrangements, show site commitments, and ensure adequacy of support resources and facilities previously arranged by USAFADS/DO/MA/PA/Orderly Room (CCQ). (e.g., coordination of Crash Fire Rescue, Security, Air Traffic Control, arrival of jets and aerial survey). **(T-3)**

3.7.4.2. Official Demonstration. Official demonstrations are coordinated with COMACC and approved by SAF/PA via the approval processes described in paragraph 3.6.2 of this ACCI. Demonstrations consist of all or parts (weather dependent) of either the High, Low, or Flat show sequences, plus narration, performed primarily for an audience.

3.7.4.3. Demonstration practice. Demonstration practices are complete or partial show sequences performed in restricted airspace or Temporary Flight Restrictions (TFRs) and are not to be confused with airshow “demonstration rehearsals.” A demonstration practice consists of some or all of the High, Low, or Flat demonstration sequence performed to enhance team proficiency. A demonstration practice is not advertised or intended for general public appearance; however, a demonstration practice may be performed for a specific closed/restricted audience.

3.7.4.4. Demonstration rehearsal. Demonstration rehearsals are conducted using the airshow TFR and operating under the airshow FAA Certificate of Waiver and therefore, are subject to the restrictions of FAA Regulation 8900.1, Volume 3, Chapter 6, *Issue of Certificate of Waiver or Authorization for an Aviation Event*. A demonstration rehearsal consists of some or all of the High, Low, or Flat demonstration sequence performed to enhance team proficiency. A demonstration rehearsal is not advertised or intended for general public appearance; however, a demonstration rehearsal may be performed for a specific closed/restricted audience. Demonstration rehearsals are primarily for the airshow to conduct a dress rehearsal of the show sequence timing, emergency response plan, communications plan, and other requirements of the Certificate of Waiver. Regarding flying operations during an airshow rehearsal, the USAFADS/CC in coordination with the Airboss and FAA Inspector in Charge (IIC), will determine whether it is subject to the provision of a practice, rehearsal, or an official demonstration.

3.7.5. Arresting Gear Support. Regardless of runway length, there must be an arresting gear on a runway suitable for F-16 operations within 80NM of the runway that the Thunderbirds will be operating on; otherwise, the show must install a MAAS on a runway suitable for F-16 employment within 80NM total flight distance. The Thunderbirds should inform the airshow director of the following or provide this information in their Support Manual:

- 3.7.5.1. This is a safety requirement which the show site will be required to fund.
- 3.7.5.2. Requirements/instructions for making an arresting gear request are contained in Facilities Criteria (FC) 3-260-18F, *Air Force Aircraft Arresting Systems Installation, Operation, and Maintenance*.
- 3.7.5.3. Show sites should coordinate with local FAA and airport management, as certain types of temporary arrestment equipment may affect civil and commercial operations.
- 3.7.5.4. Arresting gear may be activated from the tower or manually positioned. If they are manually positioned, they must be in place before all scheduled Thunderbird arrivals, demonstration practices, rehearsals, and public performances.
- 3.7.5.5. Airshows should find a hook-equipped aircraft unit to certify the MAAS prior to the Thunderbirds' arrival.
- 3.7.5.6. While building their schedule, the Thunderbirds should determine which show sites will need to have a MAAS installed for their show and for which of those show sites the 57 WG/CC will waive the requirement; this must be reflected on their schedule when they submit it. The Thunderbirds will coordinate with the individual sites to ensure compliance. If, during a later site survey or due to other developments, other shows are identified as requiring a MAAS, the Thunderbirds must notify ACC/A3TA of the requirement.

3.8. Flyovers. USAFADS-assigned aircraft will not normally be used to support flyovers or static display requests. If USAFADS is utilized for a DAFI 11-209 aerial event, an approved DD Form 2535 will be required and the flyover will be incorporated into COMACC demonstration schedule. Funeral and/or memorial flyover guidance is per paragraph 3.8.2 below.

3.8.1. In some cases, the Thunderbirds may elect to execute an aerobatic or non-aerobatic demonstration in conjunction with a flyover. All maneuvers will be in accordance with the approved FAA Maneuvers Package. Aerobatic demonstrations must meet FAA requirements. In either case, use of a Temporary Flight Restriction is highly encouraged.

3.8.2. Funeral and memorial flyovers must adhere to the guidance in DAFI 11-209. Missing Man Formations will be conducted IAW DAFI 11-209_ACCSUP, *Participation in Aerial Events*, paragraph 3.4.7 (including sub-paragraphs) and DAFI 35-101 to ensure compliance with HAF and DoD intent. Missing-man formations at public airshows, sporting events, or inaugurations are prohibited by DoDI 5410.19V4. If a waiver to the directed policy or procedures is required, contact ACC/A3TA who, in turn, will seek permission from the appropriate authority.

3.9. Occupancy of Rear Cockpit. Occupancy of the rear cockpit is at the discretion of the USAFADS/CC with approval levels IAW DAFMAN 11-401_ACCSUP, DAFI 35-101, AFMAN 35-101, DoDI 4515.13, *Air Transportation Eligibility*, Section 8, paragraph 8.2, and the Delegations of Certain COMACC Authority memorandum. The rear cockpit in F-16D models must not be occupied during an official demonstration performance but may be occupied by USAFWC/CC/CV, 57 WG/CC, 57 WG Vice Commander (57 WG/CV), Thunderbird 1-12, orientation fliers, and PA fliers during practices or during airshow rehearsals (with approval of the airshow FAA Inspector in Charge). The USAFWC/CC/CV, 57 WG/CC/CV, and Thunderbird 1-12 may also occupy the rear cockpit during transit flights.

3.9.1. Orientation Flights. For the Thunderbird Orientation Flight program, the term “orientation flights” encompasses familiarization and orientation flights. The approval authority for all orientation flights is IAW DAFMAN 11-401_ACCSUP, Table 5.1 (ACC), and the Delegations of Certain COMACC Authority memorandum.

3.9.1.1. Familiarization Flights. Familiarization flights are intended to familiarize individuals who normally have aviation-related responsibilities with USAF aircraft, aircraft systems, and Thunderbird mission. Thunderbird familiarization flights are for Air Force aviators for the purpose of introducing them to Thunderbird flight operations. Typically, this would be for considering those individuals as future Thunderbird pilots. The USAFADS/CC will decide whether a single-ship flight or flying in the backseat during a demonstration practice is more appropriate. IAW FAA regulations, orientation flights are not approved in official demonstrations.

3.9.1.2. Orientation Flights. Orientation flights are reserved for non-rated military personnel or civilian personnel flown in a flight for purposes of introducing aerobatic maneuvers, F-16 capabilities, and to recognize outstanding performance or contribution to service. Individuals considered as “orientation” fliers are listed in lines 4 - 14 of DAFMAN 11-401_ACCSUP, Table 5.1 (ACC). “Distinguished Visitors” are a specific set of orientation flights for high-level government officials and are covered by lines 1 -2 of that same table. The USAFADS/CC will decide whether a single-ship flight or flying in the backseat during a demonstration practice is more appropriate. IAW FAA regulations, orientation flights are not approved in official demonstrations.

3.9.2. Public Affairs (PA). PA Flights (media and non-media) are for prominent U.S. citizens, celebrities, hometown heroes, civic leaders, news media representatives, local and state government officials, individuals participating in Air Force Recruiting Service Commander (AFRS/CC) approved aviation/Science, Technology, Engineering, and Mathematics (STEM) programs, etc. This includes civic leader tours, civic leader flights, and news media imbeds. PA flights are separate from Orientation flights and are covered by DAFMAN 11-401_ACCSUP and DAFI 35-101 and AFMAN 35-101.

3.9.3. All non-military Orientation and PA fliers will have medical approval and character background checks completed prior to selection. All military Familiarization and Orientation fliers will have medical approval and approval by their commanders prior to flying.

3.9.4. All Orientation and PA fliers will accomplish medical evaluations and briefing with Thunderbird 9, PA briefing with USAFADS/PAO, emergency parachute training, and F-16 egress training.

3.9.5. Maneuvers flown during orientation flights must be IAW the USAFADS Operations Manual.

3.9.6. Approval Authorities: Approval of Familiarization flight participants is 57 WG/CC. Approval of Orientation flight participants is IAW DAFMAN 11-401_ACCSUP. Approval of PA flights is IAW DAFMAN 11-401_ACCSUP, DAFI 35-101, and AFMAN 35-101. Send all PA flight (media and non-media) approval requests to ACC PA/PAC (acc.pac@us.af.mil). Send DV and Orientation Flight requests that require ACC or higher approval to ACC/A3 (Cc: ACC/A3TB).

3.9.7. USAFADS pilots may receive orientation rides in non-USAF aircraft upon approval

from the authority that controls that non-USAF aircraft and the 57 WG/CC IAW DAFMAN 11-401, *Aviation Management*. 57 WG/CC will inform ACC/A3T and Cc: ACC/A3TA.

3.10. Dissimilar Formations and Aerial Photo Missions. The USAFWC/CC is the approval authority for USAFADS aircraft involvement in dissimilar aerial photo missions (military photographers only) involving the USAFADS and other U.S. and foreign military jet teams and/or single-ship demonstration teams. The USAFWC/CC is also the approval authority for USAFADS aircraft involvement in dissimilar formation requests with other U.S. military aircraft that are conducted in locations not associated with an “event” (ex. MOAs or other special use airspace). Approval authority for all other Dissimilar Formations (single/multi-MAJCOM during aerial events and all formations with multi-service/nation and civilian aircraft (in formation or as the photo aircraft)) regardless of location/event is ACC/A3 IAW DAFI 11-209_ACCSUP and Delegations of Certain COMACC Authority memorandum.

3.10.1. Coordination with appropriate approval levels for the other aircraft and/or single-ship demonstration teams involved in the photo shoot must be accomplished (i.e., 1 FW would have to approve the F-22 Single-Ship Demonstration Pilot to participate in the photo shoot; Royal Canadian Air Force Snowbird’s approving authority would have to approve the Snowbirds to participate in the photo shoot, etc.).

3.10.2. All other dissimilar formations/aerial photo missions with other than USAFADS aircraft require an approval briefing with the USAFADS/CC that includes participants, flight location, altitudes, speeds, photo angles, forecast weather, communications plan, contingencies, and emergency procedures.

3.10.3. Aerial photo missions are flown to capture and recognize excellence in human achievement and will not be flown for the purposes of promoting non-military show sites, organizations, businesses, or products. USAFADS/PAO is responsible for reviewing all photos prior to public release.

3.11. Safety Observer (RSO).

3.11.1. Qualified RSOs should be present anytime maneuvers are planned below 2,000 feet Above Ground Level (AGL). RSOs will be trained by the Support IP IAW the Combined Thunderbird Pilot Syllabus and applicable range regulations. The USAFADS/CC may elect to continue training if a RSO is not available. For official demonstrations, the RSO must be present per paragraph **6.3.1**.

3.11.2. Video Requirements. The USAFADS will have dedicated cameras, video recorders, and monitors, etc., to support all events. Aerobatic flights conducted below 2,000 feet AGL should be recorded to the maximum extent possible.

3.12. Briefing and Debriefing.

3.12.1. Briefing. Thorough flight briefing is essential for safe and effective execution of jet team demonstrations and team progression throughout the season. Briefings are at the discretion of the USAFADS/CC, but will, at a minimum, include the following: mission objectives, weather & Notices to Airmen (NOTAMs) review, emergency procedure/safety topic review, and a maneuver fly-through.

3.12.2. Debriefing. All flights will be thoroughly debriefed using ground and cockpit video review, GPS tracking lines when available, and timing and notes sheets. Debriefing will, at a

minimum, consist of objectives review, safety of flight occurrences, airspace deviations, maximum G annotation and any other significant events.

3.12.3. Post Demonstration Report. At the completion of a show deployment or at the completion of an airshow on multi-stop trips, the Commander/Leader (or designated representative) will provide a post demonstration report. This report will be sent to the 57 WG/CC, 57 WG Director of Staff (57 WG/DS), United States Air Force Weapons Center Executive Officer (USAFWC/CCE) and ACC/A3TA. The report will include, as a minimum:

3.12.3.1. Thunderbirds Post-Show Summary

3.12.3.2. LOCATION (Airfield Identifier):

3.12.3.3. DATE/TIME/SHOW TYPE:

3.12.3.4. CROWD ESTIMATE / DVs:

3.12.3.5. MEDIA FLIGHTS:

3.12.3.6. LOGISTICS:

3.12.3.7. NOTES / REMARKS

3.12.4. Cockpit Video Review. Cockpit video review is a critical aspect of performance assessment. Review by higher echelons of Command can provide another objective assessment of performance and reinforce a culture of critical self-assessment and attention-to-detail. Cockpit video review will be at the discretion of 57 WG/CC and COMACC. Thunderbird video review will at no time be delegated to staff at any level.

3.13. Communications. Use of UHF and VHF Radios. The USAFADS have two UHF and three VHF frequency assignments dedicated for their exclusive use throughout the United States and its possessions. Chief, DAF Spectrum Management (AF/A2/6CO) will process temporary requests for additional frequencies submitted by the requesting unit, IAW DAFI 17-220.

Chapter 4

LOGISTICS

4.1. General. The USAFADS requires significant logistical support to execute its mission. USAFADS personnel will coordinate with appropriate DoD and civilian agencies to support execution of the Thunderbirds mission.

4.2. Responsibilities. The Thunderbird Commander/Leader is responsible for mission coordination and execution. The Thunderbirds should seek ACC staff assistance as required. If logistical challenges attributed to non-ACC MAJCOMs impede execution of the USAFADS schedule and mission, the USAFADS/CC should engage with ACC chain of command via 57 WG/CC.

4.3. Airlift Support. Airlift support is required for transportation of USAFADS support personnel and equipment to and from demonstration show sites. Airlift priority is determined by United States Transportation Command Commander (USTRANSCOM/CC) and included in the JTR. Support is requested from Air Combat Command Air Force Engineering and Technical Services Division (ACC/A4T) by USAFADS/DO after demonstration commitments have been established. ACC/A4T validates the request, and it is routed to USTRANSCOM, and finally to Tactical Air Control Center (TACC), where the airlift is given a mission number. TACC then tasks the appropriate unit. The USAFADS should, to the maximum extent, be supported with 1 C-17 as opposed to 2 C-130s to minimize travel time, decrease complicated load plans, and most importantly, keep transportation costs to a minimum.

4.4. Air Refueling Support. The Thunderbirds should request support from 618th Air Operations Center (618 AOC), after demonstration commitments are established, by providing the following: refueling tracks or ALTRV, ARCT, number of aircraft and offload. Submit refueling requests to 618 AOC after demonstration commitments are established.

4.5. Thunderbird Aircraft Maintenance.

4.5.1. USAFADS aircraft will be maintained IAW applicable Technical Orders (T.O.s) and MAJCOM guidance and instructions. See paragraph 6.2 for USAFADS specific aircraft modifications.

4.5.2. The following maintenance requirements are waived to enable mission execution.

4.5.2.1. Weapons systems inspections required by T.O. 1F-16CJ-6, *Scheduled Inspection and Maintenance Requirements*, related to aircraft gun maintenance and AIM-9 missile launcher inspections.

4.5.2.2. The requirements in T.O. 1F-16CJ-2-94JG-30-3, *Organizational Maintenance Weapons Suspension USAF Series F-16C/D Aircraft Blocks 50 and 52*, to connect wing weapons pylon electrical connectors. USAFADS wing pylons are only used to load travel pods and electrical connection is not required.

4.5.2.3. The USAFADS is authorized manual lift procedures for weapons pylons at show sites that are unable to acquire MJ-1 lift trucks.

4.5.2.4. Aircraft grounding during Thunderbirds ground show procedures, to include limited redball operations (i.e., charging Jet Fuel Starter (JFS) bottles in the event of a

JFS no start).

4.5.2.5. The following deviations from T.O. 1F-16CJ-6WC-1, *Combined Preflight/Postflight, End-Of-Runway, Thruflight, Launch and Recovery, Alert Inspections, Quick Turnaround, Basic Postflight, And Walkaround Before First Flight of Day Inspection Workcards USAF Series F-16C/D Aircraft Block 52 (LM Aero)*, are authorized to test Thunderbirds ground show procedures:

4.5.2.5.1. CARD 4-009, Step 6. CONNECT HEADSET/MICROPHONE EXTENSION CORD.

4.5.2.5.2. CARD 4-014, STEPS 1-3: COMM OUT SIGNALS TO SIGNAL TESTING OF THE EMERGENCY POWER UNIT.

4.5.2.5.3. CARD 4-015, STEPS 1-3: CHECKS OF THE MAIN FUEL SHUTOFF VALVE.

4.5.2.5.4. CARD 4-018, STEP 1. VERIFY NACELLE EJECTOR AIRFLOW.

4.5.2.5.5. CARD 4-032, STEP 1B: ROLLOVER CHECKS.

4.5.2.5.6. CARD 4-032, STEP 1C. CONNECT HEADSET/MICROPHONE EXTENSION CORD.

4.5.2.5.7. CARD 4-033, STEP 1: EMERGENCY POWER UNIT CHECKS during aircraft recovery.

4.5.2.5.8. CARD 4-033, STEP 2: INSTALL MAIN LANDING GEAR GROUND LOCKS during recovery.

4.5.2.5.9. card 4-035, STEP 1: HYDRAULIC SYSTEM CHECKS.

4.5.2.5.10. CARD 4-036, STEP 1: VERIFY NACELLE EJECTOR AIRFLOW.

4.5.2.5.11. CARDS 2-002 THROUGH 2-022: END OF RUNWAY PROCEDURES.

4.5.2.6. USAFADS maintenance is authorized to use Show Chocks. Show Chock dimensions are (12”L x 5.5”W x 3.5”H).

4.5.2.7. USAFADS are not required to adhere to the 180-day wash cycle for aircraft IAW T.O. 1-1-691, *Cleaning and Corrosion Control and Prevention Aerospace and Non-Aerospace Equipment*, and T.O. 1F-16CJ-23, *Corrosion Control USAF Series F-16C and F-16D Aircraft Blocks 50 and 52*, WP004.

4.5.3. The provisions in paragraph 4.5 will be reviewed annually by United States Air Force Aerial Display Squadron Quality Assurance (USAFADS/QA) to determine applicability or identify changes that would affect these provisions.

Chapter 5

PUBLIC ENGAGEMENT AND OUTREACH

5.1. General. The Thunderbirds mission requires connection with the public along three lines of effort: aerial demonstrations; media coverage and outreach; and direct engagement. The USAFADS/CC is responsible for these lines of effort and may develop a vision, which aligns with DoD and USAF priorities, that is the underlying theme in Thunderbirds outreach. USAFADS/CC will ensure any Thunderbird public outreach and engagements align with DoD and USAF policy directives and talking points.

5.2. Public Affairs/Media Flights. USAFADS/CC will decide when and in what capacity a flight will be generated for public outreach purposes. Approval of those Public Affairs Flights (media and non-media) is IAW DAFMAN 11-401_ACCSUP, DAFI 35-101, AFMAN 35-101, and the Delegations of Certain COMACC Authority memorandum. USAFADS/PAO may coordinate directly with ACC/PA, SAF/PA, or ACC/A3TB as appropriate for those approvals.

5.3. Gift-In-Kind Requests and Other Legal Issues/Reviews. USAFWC/JA will review Thunderbird requests for Gift-In-Kind and other requests requiring HHQ legal review.

Chapter 6

OPERATIONAL LIMITATIONS AND REQUIREMENTS

6.1. General. This chapter delineates the operational limitations specific to the USAFADS. The goal is a professional flying program which pays maximum attention to safety and orderly operational procedures.

6.2. USAFADS F-16 Features. The Thunderbird F-16s will be modified with the features necessary to the performance of a professional air demonstration. Specific modifications will be coordinated with Air Combat Command Directorate of Logistics, Engineering, and Force Protection (ACC/A4). Current modifications include:

6.2.1. Smoke System. The smoke system consists of multiple components. There are two switches; one that arms the system and a second to dispense smoke. The Arm switch is mounted on the right console; the Dogfight/Missile Override switch on the throttle can then be positioned to dispense smoke. A smoke oil drum replaces the ammunition drum, a smoke accumulator replaces the gun barrels, an electric pump replaces the firing mechanism and a loading receptacle replaces the rounds counter. Smoke lines were added from the accumulator to the exhaust nozzle, internal to the fuselage.

6.2.2. Hack Clock. A standard stopwatch is attached to the glare shield. The stopwatch is necessary because many maneuvers, particularly Solo maneuvers, are based upon timing and depend on an accurate time hack. The stopwatch is mounted to the left side of the glare shield.

6.2.3. Rear View Mirrors. Mirrors can be installed on the towel racks on the left and right side of the cockpit (optional).

6.2.4. Thunderbirds paint scheme. The Thunderbirds will maintain the approved Thunderbird paint scheme in a presentable manner.

6.2.5. Heads-Up Display (HUD) Control Panel and wiring harness. The Thunderbird HUD control panel has been relocated to the left forward console to enable ease of use during flying operations.

6.2.6. Lap Belt modification. A wider lap belt has been installed to provide wider contact area to reduce pressure on the pilot's abdomen during inverted and negative G flight.

6.2.7. Bad Wolf recording system. The Digital Video Recorders (DVR) have been replaced with a recording system known as Bad Wolf that records HUD video onto standard USB-A flash media drives. The Multi-Functional Display (MFD) feeds have been capped and cannot be recorded.

6.2.8. A fixed GoPro mount has been attached to the glare shield right of the HUD and opposite of the Hack Clock.

6.2.9. Several other aircraft items have been removed to enable ease of operation or because they are not used in Thunderbird operations. Removed items include the JFS doors and actuators, Satellite Communications (SATCOM) components, Internal Data Modem, KY-58, KIV-6 IFF, ALR-56M, ALE-47 chaff and flare system, internal Night Vision Imaging Spectrometer (NVIS) lighting, utility lights and the Helmet Mounted Cueing System Quick

Disconnect Connector.

6.3. Aircraft and Safety Guidelines.

6.3.1. General. A ground RSO must be present for all official demonstrations.

6.3.2. Weather Minimums for the Three Types of Demonstrations. These weather minimums will not be waived, except as provided in the Flat Show.

6.3.2.1. High Show Minimums. Factor clouds must be at or above 6,500 feet AGL and 5NM and remain so throughout the demonstration.

6.3.2.2. Low Show Minimums. Factor clouds must be at or above 3,500 feet AGL and 5NM and remain so throughout the demonstration.

6.3.2.3. Flat Show Minimums. Factor clouds must be at or above 1,500 feet AGL and 5NM and remain so throughout the demonstration. When the cloud conditions for the Flat Show are observed to be less than 2,000 feet AGL, but at or above 1,500 feet AGL, and forecast to remain so throughout the demonstration period, the USAFADS/CC may elect to fly a Flat Show after careful consideration of the environment and location conditions.

6.3.2.4. Transitions. The Commander/Leader may transition the demonstration sequence between show types should the weather conditions change during the demonstration. The demonstration pilots, RSO and the Narrator will acknowledge the change of the show sequence.

6.4. Pilot Flight Authorization. Only the trained Diamond pilots and two Solo pilots will fly demonstration aerobatics. The Advance Pilot/Narrator and Operations Officer will not perform low altitude Thunderbird aerobatic maneuvers of any kind unless associated with photo chase maneuvers. The Thunderbird pitch-up to landing is authorized provided they are trained, documented, and current to perform the maneuver. When flying incentive/DV/Public Affairs orientation flights, the Operations Officer, and Advance Pilot shall follow USAF and ACC guidance for F-16 operations and aerobatic maneuvers.

6.5. Ground Operating Procedures. Thunderbird ground operational procedures will be described in the USAFADS Operations Manual.

6.5.1. Taxi Interval. Taxi spacing of 150 feet staggered or 300 feet in trail creates excessive space between aircraft when maneuvering around airfield showlines and detracts from the precision the USAFADS represents in the demonstration. To balance aircraft safety, ground safety and expeditious taxi to and from the show line, the USAFADS may direct spacing of 75 feet in offset trail and 35 feet in echelon staggered formation from preceding Thunderbird aircraft. "Echelon" taxi places the pitot boom 5 feet from the stab of the preceding aircraft for each pair of aircraft.

6.5.2. Runway Requirement. Minimum required runway length is 7,000 feet of usable runway surface. Runway length less than 7,000 feet requires approved F-16 arresting gear on the operating runway.

6.6. Takeoffs. All takeoffs will be performed IAW AFI and T.O. guidance, except as provided/described in this ACCI. All formation takeoffs must comply with the following restrictions:

6.6.1. Maximum of two aircraft if the runway is less than 125 feet wide, but at least 100 feet

wide.

6.6.2. Single-ship only on runways less than 100 feet wide.

6.6.3. Maximum crosswind component is 15 knots.

6.6.4. Maximum tail wind component is dependent on Takeoff and Landing Data.

6.6.5. USAFADS pilots may execute a 10-second afterburner “lightning” takeoff when one or more of the following conditions exist: crosswind component exceeds formation takeoff limits; standing water on the runway; turbulence is expected; runway width/condition deems a formation takeoff inadvisable; demonstration sequence requires an expedition rejoin after takeoff.

6.7. G-Awareness Exercise (G-Ex). A G-Ex will be accomplished during the takeoff maneuvers for all pilots. If a takeoff maneuver is not performed, the Clover Loop Opener or Flat Opener with the Delta Blue-Out will fulfill the requirements of the G-Ex. Single-ship sorties will accomplish a G-Ex in accordance with AFMAN 11-2F-16, Volume 3, *F-16—Operations Procedures*, and Air Force Tactics Techniques and Procedures (AFTTP) 3-3.F-16, *Combat Aircraft Fundamentals-F-16*.

6.8. Maneuvers. Each year the USAFADS team will perform FAA approved maneuvers in sequence for one of three shows (High, Low, Flat). The show will be approved by COMACC (typically in March) for public demonstration and the current sequence will be maintained by the USAFADS/DO. The USAFADS team will not publicly perform any aerobatic maneuvers not included in the FAA maneuvers package. The maximum number of aircraft in formation aerobatics is six.

6.8.1. Novel Maneuvers. New aerobatic maneuvers will be submitted to the 57 WG/CC and FAA for approval. The submission will include at a minimum:

6.8.1.1. Narrative description of proposed maneuver.

6.8.1.2. Entry, exit and interval parameters.

6.8.1.3. Target Airspeed, Target Altitude, Target G with appropriate power settings.

6.8.1.4. Formation position specific maneuver descriptions.

6.8.1.5. Abnormal Procedures to include specific abort procedures by formation members.

6.8.1.6. Radio calls and appropriate communications procedures.

6.8.1.7. Rules and considerations specific to a particular show sites.

6.8.2. Modifications. The USAFADS/CC is the approval authority for team members flying in different positions of the formation. The USAFADS/CC is the approval authority to modify portions of approved profile maneuvers (entry position, approach angle, airspeed, power setting, etc.) if environmental conditions (weather, terrain, congested areas, man-made objects, etc.) prevent the safe execution of the profile (e.g., turn direction of stinger break cross, offset of delta 360 for terrain feature) without changing the actual approved maneuvers. The USAFADS/CC will ensure that all pilots and the RSO are briefed of the changes and a fly-through of contingencies and outs are appropriately addressed.

6.9. Maximum Speed. The maximum speed during any aerial demonstration is .95 Mach (M) unless performed in supersonic airspace (Edwards AFB, Holloman AFB) and approved by Base Commander, Show Director, Airboss and FAA IIC.

6.10. Recoveries & Landings. Trail recoveries are approved for up to four aircraft per flight at a location without established trail recovery procedures. If the flight is larger than a 4-ship and a trail recovery is planned, the flight will coordinate separate flight clearances to establish flights of four or less aircraft. When planned, the flight brief will include discussions for missed approach, climb-out, spacing requirements and lost communications. All USAFADS demonstration pilots will use a standardized sequence for pitch-up to landing.

6.11. Use of F-16 “Turtle back” for Storage. USAFADS pilots are authorized to stow luggage items in the F-16 turtle back during cross-country deployment and redeployment sorties. Items will not be stored in the turtle back during demonstration rehearsals or performances. Pilots will ensure that no luggage interferes with the air vent scoop and all bags will be closed and secured to prevent content spillage.

DAVID G. SHOEMAKER, General, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFMAN 11-202V2, *Aircrew Standardization and Evaluation Program*, 30 August 2021

AFMAN 11-2F-16V1, *F-16–Aircrew Training*, 26 June 2024

AFMAN 11-2F-16V2, *F-16–Aircrew Evaluation Criteria*, 8 February 2019

AFMAN 11-2F-16V3, *F-16–Operations Procedures*, 4 February 2020

AFMAN 35-101, *Public Affairs Procedures*, 7 December 2020

AFPD 11-2, *Aircrew Operations*, 31 January 2019

AFTTP 3-3.F-16, *Combat Aircraft Fundamentals-F-16*, 17 January 2020

DAFI 11-209, *Participation in Aerial Events*, 20 May 2021

DAFI 11-209_ACCSUP, *Participation in Aerial Events*, 10 August 2022

DAFI 17-220, *Spectrum Management*, 8 June 2021

DAFI 35-101, *Public Affairs Operations*, 20 November 2020

DAFI 90-1401, *Federal Advisory Committee Management Program*, 22 February 2023

DAFMAN 11-401, *Aviation Management*, 27 October 2020

DAFMAN 11-401_ACCSUP, *Aviation Management*, 30 July 2021

DoDI 4515.13, *Air Transportation Eligibility*, 22 January 2016

DoDI 5105.04, *Department of Defense Federal Advisory Committee Management Program*, 6 August 2007

DoDI 5410.19V4, *Community Outreach Activities: Ceremonial, Musical, and Aerial Event Support*, 29 September 2021

FAA Regulation 8900.1V3, *General Technical Administration*, Chapter 6, *Issue a Certificate of Waiver or Authorization for an Aviation Event*, 20 October 2020

FC 3-260-18F, *Air Force Aircraft Arresting Systems Installation, Operation, and Maintenance*, 28 October 2015

PL 92-463, *Federal Advisory Committee Act*, 6 October 1972 (as amended)

T.O. 1-1-691, *Cleaning and Corrosion Control and Prevention Aerospace and Non-Aerospace Equipment*, 1 July 2003

T.O. 1F-16CJ-23, *Corrosion Control USAF Series F-16C and F-16D Aircraft Blocks 50 and 52*, 27 March 2018

T.O. 1F-16CJ-2-94JG-30-3, *Organizational Maintenance Weapons Suspension USAF Series F-16C/D Aircraft Blocks 50 and 52*, 28 March 2018

T.O. 1F-16CJ-6, *Scheduled Inspection and Maintenance Requirements*, 25 February 2022

T.O. 1F-16CJ-6WC-1, *Combined Preflight/Postflight, End-Of-Runway, Thruflight, Launch and Recovery, Alert Inspections, Quick Turnaround, Basic Postflight, And Walkaround Before First Flight of Day Inspection Workcards USAF Series F-16C/D Aircraft Block 52 (LM Aero)*, 6 March 2020

USAFADS Combined Thunderbird Pilot Syllabus, 18 October 2022

Prescribed Forms

None

Adopted Forms

AF Form 8, *Certificate of Aircrew Qualification*

AF Form 4324, *Aircraft Assignment/Aircrew Qualification Worksheet*

DAF Form 847, *Recommendation for Change of Publication*

DD Form 2535, *Request for Military Aerial Support*

Abbreviations and Acronyms

ACC—Air Combat Command

ACCI—Air Combat Command Instruction

AFB—Air Force Base

AFPC—Air Force Personnel Center

AFRS—Air Force Recruiting Service

AFTTP—Air Force Tactics Techniques and Procedures

AGL—Above Ground Level

ANG—Air National Guard

AO—Action Officer

AOC—Air Operations Center

AOS—Air Operations Squadron

ARCT—Air Refueling Control Time

ASD—Average Sortie Duration

CA—California

CC—Commander

COMACC—Commander of Air Combat Command

CSAF—Chief of Staff of the United States Air Force

CONUS—Continental United States

DD—Department of Defense (in reference to Department of Defense Forms only)

DoD—Department of Defense
DODI—Department of Defense Instruction
DV—Distinguished Visitor
DVR—Digital Video Recorders
EPE—Emergency Procedures Evaluations
ETP—Exception to Policy
FAA—Federal Aviation Administration
FEF—Flight Evaluation Folder
FHP—Flying Hour Program
FOD—Foreign Object Damage
G-Ex—Gravitational acceleration Exercise
GPS—Global Positioning System
HAF—Headquarters Air Force, includes the Secretariat and the Air Staff
HHQ—Higher Headquarters
HQ—Headquarters
HQE-SM—Highly Qualified Expert – Senior Mentor
HUD—Heads-Up Display
ICAS—International Council of Air Shows
IIC—Inspector in Charge
ITA—Individual Travel Authorizations
JA—Judge Advocate
JTR—Joint Travel Regulation
LoX—Letter of X's
M—Mach
MAAS—Mobile Aircraft Arresting System
MAJCOM—Major Command
MDS—Mission Design Series
MFD—Multi-Functional Display
MOA—Military Operations Area
NAF—Naval Air Facility
NLT—Not Later Than
NM—Nautical Miles

NOTAM—Notice to Airmen
NTTR—Nevada Test and Training Range
NVIS—Night Vision Imaging Spectrometer
OCONUS—Outside the Continental United States
OTF—Over the Field
PA—Public Affairs
PAO—Public Affairs Officer
RAP—Ready Aircrew Program
RNLTD—Report Not Later Than Date
ROE—Rules of Engagement
RSO—Range Safety Officer
RTM—Ready Aircrew Program Tasking Message
SAG—Senior Advisory Group
SAF—Secretary of the Air Force
SATCOM—Satellite Communications
SGE—Special Government Employee
STEM—Science, Technology, Engineering, and Mathematics
TACC—Tactical Air Control Center
TFR—Temporary Flight Restrictions
T.O.—Technical Order
UHF—Ultra High Frequency (Range)
USAFADS—United States Air Force Aerial Demonstration Squadron
USAFR—United States Air Force Reserve
USAFWC—United States Air Force Warfare Center
USTRANSCOM—United States Transportation Command
UTD—Unit Training Device
VHF—Very High Frequency (Range)
VML—Vulnerable-to-Move List

Office Symbols

57 WG/CC—57th Wing Commander
57 WG/DS—57th Wing Director of Staff
57 WG/JA—57th Wing Judge Advocate

ACC/A3—Air Combat Command Director of Operations
ACC/A3T—Air Combat Command Flight Operations Division
ACC/A3TA—Air Combat Command Aerial Events
ACC/A3TB—Air Combat Command Flight Management
ACC/A3TO—Air Combat Command Flight Operations Training
ACC/A3TV—Air Combat Command Standardization and Evaluations
ACC/A4—Air Combat Command Directorate of Logistics, Engineering, and Force Protection
ACC/A4T—Air Combat Command Air Force Engineering and Technical Services Division
ACC/A6—Air Combat Command Communications Directorate
ACC/AOS—Air Combat Command Air Operations Squadron
ACC/CC—Commander, Air Combat Command
ACC/DS—Air Combat Command Director of Staff
ACC/JA—Air Combat Command Judge Advocate
ACC/PA—Air Combat Command Public Affairs
AF/A2/6CO—Chief, DAF Spectrum Management
AF/JAA—Air Force General Law Division
AFRS/CC—Air Force Recruiting Service Commander
ATSD(PA)—Secretary of Defense for Public Affairs
SAF/GC—Air Force General Counsel
SAF/PA—Secretary of the Air Force Public Affairs
SAF/PAY—Secretary of the Air Force Engagements Division
USAFADS/CC—United States Air Force Aerial Demonstration Squadron Commander
USAFADS/CCV—United States Air Force Aerial Demonstration Squadron Standardization and Evaluations
USAFADS/DO—United States Air Force Aerial Demonstration Squadron Operations Officer
USAFADS/DOT—United States Air Force Aerial Demonstration Squadron Training Office
USAFADS/MA—United States Air Force Aerial Demonstration Squadron Maintenance Officer
USAFADS/PA—United States Air Force Aerial Display Squadron Public Affairs
USAFADS/PAO—United States Air Force Aerial Demonstration Squadron Public Affairs Officer
USAFADS/QA—United States Air Force Aerial Display Squadron Quality Assurance
USAFWC/CC—United States Air Force Weapons Center Commander
USAFWC/CCE—United States Air Force Weapons Center Executive Officer

USAFWC/CV—United States Air Force Weapons Center Vice Commander

USAFWC/JA—United States Air Force Weapons Center Judge Advocate

USTRANSCOM/CC—United States Transportation Command Commander

Terms

Aerobatic Box—The airspace (laterally and vertically) at an airshow where aerobatic flight is authorized.

Blue Angels—The United States Navy Aerial Demonstration Team.

COMACC Approval Show—An annual USAFADS (Thunderbirds) Demonstration flown for the purpose of having the Commander of Air Combat Command certify the Thunderbirds' performance prior to the start of the Thunderbirds' air show season.

Coronet Mission—A specialized mission to allow fighters to traverse long distances (normally over water) safely when the fighters do not have enough fuel to traverse the distance without air refueling support, often refueling numerous times before reaching their destination.

Delta Formation—The Thunderbirds' standard 6-aircraft formation used for flyovers (fly-bys) and during their airshow demonstration.

Demonstration practice - Demonstration practices are performed in MOAs, Special Use airspace etc. A demonstration practice consists of some or all of the High, Low, or Flat demonstration sequence performed to enhance team proficiency. A demonstration practice is not advertised or intended for general public appearance; however, a demonstration practice may be performed for a specific closed/restricted audience.

Demonstration Rehearsal - Demonstration rehearsals are conducted using the airshow TFR and operating under the airshow FAA Certificate of Waiver and therefore, are subject to the restrictions of FAA Regulation 8900.1 Volume 3, Chapter 6, *Issue of Certificate of Waiver or Authorization for an Aviation Event*. A demonstration rehearsal consists of some or all of the High, Low, or Flat demonstration sequence performed to enhance team proficiency. A demonstration rehearsal is not advertised or intended for general public appearance; however, a demonstration rehearsal may be performed for a specific closed/restricted audience.

e-Publishing—Central web site for accessing, viewing, downloading or ordering physical and electronic products processed by AFDPO. Information on product development and links to other agency publications are also provided on the e-Publishing web site (www.e-publishing.adf.mil).

Fly-Show—The term used to describe when the Thunderbirds fly from one show site (after performing there the day before) to another show site and fly a show at the new location on the same day—the opposite of a Show-Fly.

Headquarters Air Force (HAF)—The HAF is comprised of both Secretariat and Air Staff offices.

Hometown Hero Flights—Backseat F-16D flights provided to a local hero at an airshow.

ICAS Convention—The International Council of Air Shows annual convention for air show performers and air show directors. The primary purpose is for air shows to hire performers to

perform at their upcoming air shows. The convention also provides a venue for dispersing/sharing pertinent information to air shows and performers for the upcoming air show season.

Marine Expeditionary Unit—The Marine version of the Air Force Red Horse Squadron—they install mobile aircraft arresting systems at air show.

Office of Primary Responsibility (OPR)—The originating office for a publication; the author of the publication is an individual within the OPR. OPRs are solely responsible for the accuracy, currency, and integrity of their publications and forms.

Red Horse Squadron—An Air Force or Air National Guard Civil Engineering squadron that installs mobile aircraft arresting systems on runways that do not have a permanent arresting gear system on site or within 80NM of show site.

Show—Fly--The term used to describe when the Thunderbirds perform a show at one location and after the show fly to a new location to perform at the next day.

Step-Down Altitude Program—A program designed to allow the Thunderbirds to gradually step down to lower altitudes as they gain more proficiency in flying their air show aerobatic routine profile.

Thunderbirds—The United States Air Force Aerial Demonstration Team

Thunderbird Application Message—An annual message released by the Thunderbirds requesting applications from qualified officers interested in becoming a Thunderbird.

Thunderbird Support Manual—A manual developed by the Thunderbirds that lays out all the support requirements (lodging, rental cars, maintenance, logistical, operational, security, public affairs, and others) that need to be met by an airshow that will be hosting the Thunderbirds during the year.

Attachment 2

THUNDERBIRD MANEUVER PACKAGE

A2.1. Thunderbird Maneuver Package. The USAFADS will develop a maneuver package that is designed to provide FAA monitors and air show representatives with a pictorial display of all demonstration maneuvers which may be used by the Thunderbirds. The maneuvers package will include the High, Low and Flat show maneuvers, as well as a typical show site with Thunderbird maneuvering airspace and minimum dimensions for an acrobatic box depicted. **(T-2)**

A2.2. FAA Maneuvers Package Review and Certification. The proposed maneuvers package will be provided to the FAA Aviation Events Inspection Division for review prior to the scheduled FAA certification demonstration. The USAFADS should schedule the FAA certification prior to the COMACC certification.

A2.3. FAA Final Approval and Letter of Approval (LOA). The Thunderbird Maneuver Package will be included or linked to on the FAA's National Aviation Events Program website along with the FAA LOA indicating the USAFADS are approved to perform the included maneuvers for a public audience.