BY ORDER OF THE COMMANDER S AIR COMBAT COMMAND UNITED STATES AIR FORCES IN EUROPE AND PACIFIC AIR FORCES

COMBAT AIR FORCE INSTRUCTION 21-165

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Maintenance

AIRCRAFT FLYING AND MAINTENANCE SCHEDULING PROCEDURES

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 21-1, *Managing Aerospace Equipment Maintenance*; AFI 21-101, *Aerospace Equipment Maintenance Management*; and AFI 21-101_COMBAT AIR FORCES (CAF) Supplement. It establishes policy and assigns responsibility for the operations group (OG), maintenance group (MXG), and mission support group (MSG) commanders to develop and execute aircraft flying and maintenance programs. This instruction prescribes policies and procedures governing aerospace equipment maintenance management for Air Combat Command (ACC), Pacific Air Forces (PACAF) and United States Air Forces in Europe (USAFE). It applies to all ACC, USAFE (including Royal Air Force (RAF) Fairford and all Munitions Support Squadron (MUNSS) sites) and PACAF bases. Only the following bases are exempt from applicability, Yokota, Hickam, Ramstein, RAF Mildenhall and Mobility Air Forces (MAF) units at Kadena and Elmendorf who will follow the MAF Sup. The maintenance backshop squadrons, MOS and MXG staff agencies at Kadena and Elmendorf will follow the CAF Sup unless otherwise stated. It applies to these organizations and personnel that maintain aircraft, aircraft systems, equipment, support equipment, and components regardless of Air Force Specialty Code. It provides a broad management framework for the Group Commanders to adjust procedures to compensate for mission, facility, and geographic differences of the units. This instruction does not apply to the Air National Guard (ANG) or Air Force Reserve Command (AFRC); however, CAF Classic Associate units will comply with the guidance provided within this instruction. The reporting requirements in this publication (unless otherwise specified) are exempt from licensing in accordance with (IAW) AFI 33-324, *The Information Collections and Reports Management Program; Controlling Internal, Public, and*

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SUMMARY OF CHANGES

This instruction has been significantly updated and should be reviewed in its entirety. The importance of the annual flying hour program development has been addressed, as well as the need to understand look-back and standard business rules. Furthermore, the 20 hour overfly of the flying hour program will no longer be authorized without ACC/A3 approval. In addition, annual attrition has been revised to include 4 years of historical data and application on locally generated flying hour templates in support of developing the annual plan. Further, this instruction places responsibility on AMXS/MXS flight chiefs to compute and forward manpower requirements to MMA for incorporation into the annual plan. This instruction adjusts the monthly timeline, redefines the use of 'F' on the monthly plans and provides an updated MSE chart for use.

Chapter 1

MANAGEMENT PHILOSOPHY

1.1. Scheduling. Aircraft flying and maintenance scheduling is a planned, methodical approach to achieving maintenance and flying goals. The weekly flying and maintenance schedule directly dictates the workload of a major portion of wing personnel from flightline mechanics to dining facility personnel. The wing flying-hour program is directly tied to wing funding and the readiness of aircrews and aircraft to perform their war-time mission. This is one of the most important documents the wing produces so the right resources must be dedicated to producing an effective and efficient plan. Units that do not have a wing flying-hour program must make every effort to follow the guidelines set forth to achieve aircrew readiness and maintain fleet health. Lack of a flying hour program does not preclude a unit from developing a sound long range plan.

1.2. Scheduler. In some wings, operations scheduling is an additional duty for a lieutenant or captain. Optimally, Operations Schedulers should be assigned to the function for a minimum of 1 year. Remember, these are the wing experts at building the plan and everything they do directly impacts the operations (ops) tempo of the wing. Committing personnel for at least a year will improve consistency and the opportunity to meet the flying-hour program while efficiently executing the mission, increasing effective pilot training and reducing turbulence for the wing.

1.3. Collocate. Communication and understanding the impact of program decisions can be better understood when operations and maintenance schedulers are collocated. This option is a proven method but care must be exercised to ensure that collocation does not interfere with their respective functions and organizational/leadership structure.

1.4. Annual Plan. The annual plan is the most important element of the flying-hour program. With smart planning, programming and updating of the immediate (in-year) and long-range (out-year) programs, the difficulties of managing this program can be reduced. Time and energy invested in building a solid annual plan can return big dividends to wing personnel. Unfortunately, too often many wing operations and maintenance schedulers do not fully understand the program and do not invest the time to do it right the first time. This is a result of lack of appropriate exposure and directive instructions (AFI/ACCIs), familiarization and position experience. As a result, many programs are developed and submitted without proper planning or foresight. Programs that are not developed with careful planning and foresight waste an inordinate amount of resources in preparation and may cause the unit to fall short of meeting their flying-hour goals.

1.5. Planning. The more planning factors that can be built into the flying schedule, the more stability you will have to meet the operations and maintenance workload. Additionally, maintenance schedulers can target maintenance resources and use them more efficiently to reduce the variation within the scheduling process. It is critical that Plans, Scheduling and Documentation (PS&D) along with maintenance analysis, validate the monthly maintenance, personnel and facility capability study then cross-check this with the flying-hour program to ensure the program is supportable. If the unit's mission cannot be supported within the unit's organic capacity limitations, then changes must be made to ensure successful execution. Always be mindful that resources (personnel, aircraft, and equipment) are not over-tasked. When capability is exceeded, notify squadron and group senior leadership so the plan can be adjusted to

meet objectives. Remember, failure by the schedulers to make appropriate inputs and properly project capabilities could force the wing or squadron to try to execute an unsupportable program.

1.6. Deployments. As the program is developed, schedulers should always consider the time required to prepare for deployments. Scheduling normal flying or surges in the days immediately preceding a deployment/temporary duty (TDY) may impact the ability of maintenance personnel to prepare the aircraft appropriately. Personnel need time to prepare for deployments (pre-deployment briefs, out-processing and personal business). Furthermore, resuming normal operations too quickly after returning to home station is a sure way to deplete your resources, wear down your personnel and fail to meet your programmed goals.

1.7. Unscheduled Events. Solid planning is the key to success, but unexpected events can influence or cause turbulence to the scheduling process. For example, poor winter weather has forced units to heavily weight their programs toward the good weather months via planned attrition. However, weather being what it is--unpredictable; it may not materialize as planned. If this occurs, units are then faced with a dilemma; maintain the sortie utilization (UTE) plan as is or overfly the program. The recommended solution is to take advantage of the unexpected "good" weather and fly. However, care must be exercised not to exceed the maintenance capability for the sake of getting ahead. If you overfly or underfly the approved program by more than 10 percent, then units must consider reflowing the balance of their flying program.

1.8. Overflys. In developing the reflow, care must also be exercised to ensure sufficient sorties/hours remain in the months from which the sorties/hours are removed. This will ensure unit tasking and operational training requirements are met. Banking "extra" sorties and hours prior to the summer months will possibly allow more latitude in leave scheduling and offer personnel some downtime. Schedulers should understand the look back capability that operators have to help them understand the limitations of banking sorties. Finally, "Overflys" of programmed sorties and hours must be coordinated fully between your OG and MXG.

1.9. Planning Impacts. It is imperative maintenance schedulers understand and appreciate operational requirements and how they impact planning efforts. The operations scheduler must understand and appreciate how his/her decisions will impact, not just maintenance, but all wing agencies supporting the mission. For example, a single configuration change can take 2 to 4 hours and as many as six people. This change will have a definite impact on maintenance's ability to manage work shifts, repair aircraft and perform preventive maintenance.

1.10. Program Changes. The point of contact for changes that impact the overall yearly flying program is Operations and Training Division (ACC/A3T). All changes that impact the overall programmed hours or sorties must be approved by ACC/A3T. If the changes do not affect the overall program, a copy of the reflow must be provided to ACC/A3T to ensure that the correct numbers are being reported at the local, MAJCOM and Air Staff level.

1.11. Surges. Although not as common in recent years, one method for generating a high number of sorties and hours is a sortie surge. Surges, if properly planned and executed, can potentially lessen the impact of "summer" high sortie UTE rates due to the restrictive nature of the "winter" operating environment. That is, by surging, a large portion of the required monthly program can be accomplished in a short period of time. In turn, this allows for a significantly lower UTE rate for the remainder of the month. At the same time, carefully executed surges can have a positive effect on unit esprit de corps. Following are some tested basic principles that go a long way toward developing a successful surge program.

1.11.1. Surges must never be treated nor executed as a casual or "spur of the moment" event. Surges should be built into a unit's annual flying program and advertised base-wide. In turn, the program should include target sortie goals, planned dates and backup dates. Future planning does several things. First, the entire base is aware that something non routine is going to occur at a point in time and they need to plan and program their activities accordingly. Second, the maintenance community, by knowing when surges are programmed, can ensure the force is properly managed so that preventative maintenance actions are properly scheduled and the aircraft phase/inspection flow is managed in preparation for the surge. Third, personnel resources can be managed to ensure maximum availability of the maintenance force to support the surge.

1.11.2. Surges are a significant base event and, as such, can be disruptive to base activities. Therefore, the surge must be worth the effort. In this light, short-notice, 1-day surges are often, counterproductive. The extensive preparation beforehand, and recovery afterwards, often outweighs the advantages of a 1-day surge. It is often impossible to justify the effort for a "surge" that produces very little in return. On the other hand, a lot of energy is expended to ensure local generated exercises are successful. A surge falls into the same category and requires the same planning effort to be successful.

1.11.3. Be aware that sortie surges can have a negative impact on your training program and your hourly program. Sortie durations are normally shortened to facilitate the surge and as such aircrew training benefits often drop in relation to the sortie duration. Finally, with the focus on efficient use of flying hours surges are less common, however there is still a benefit to executing a well thought out surge as long as the cost is understood by operations and maintenance.

1.12. Utilization (UTE). In units tasked to fly out an annual flying-hour program, UTE is instrumental in ensuring success. UTE is a measure of performance--the goal the wing is trying to achieve. To ensure success, you must publish the program and make sure the people understand it. You must also track program progress by squadron and reward the people when the goal is reached. Remember, do not chase flying-hours. Track the ASD. It is the link between sorties and flying hours.

1.13. So what should you do?

1.13.1. Plan what you fly and fly what you plan.

1.13.2. Agree on the basics and write it down: Standard flying window, Rules of Engagement (ROE) for surges, night flying, Cross Country (XC) sorties, weekend duty, quiet hours, training days, standard configurations, minimum/standard turn times, XC ROE, crew ready/step minimums, standard turn times, quick turn times, etc.

1.13.3. Establish/publish and designate required approval authority for AF Form 2407, *Weekly/Daily Flying Schedule Coordination*, scheduling changes (If it is too easy to change the schedule, it will not be built right the first time).

1.13.4. Aircraft should rarely be “added”. If aircraft are added because maintenance cannot provide enough front lines, something else is wrong and most likely the problem is being compounded. There is a domino effect: How many more aircraft will you add to the “broke” pile before you call “knock it off?”

1.13.5. Closely monitor the flying window. The window drives shift scheduling, but be aware, operations and maintenance are not the only agencies involved in sortie generation. Petrol, Oils, and Lubricants (POL), Air Traffic Control (ATC), Weather and many others will assist in the effort. Supervision must cover the entire flying window and then some. The length of the flying window determines effectiveness of maintenance "fix" shift. Turbulence in the flying window equals stress on the flightline--keep it consistent throughout the week. Combining a late start today with an early start tomorrow hurts maintenance efforts!

1.13.6. It is vital in the management of the isochronal inspection concept. This communication ensures aircraft are available for their scheduled dock input and available to meet mission requirements.

1.13.7. Ensure your maintenance schedulers are consolidating aircraft -6 maintenance inspections, time changes, and Time Compliance Technical Order (TCTO) requirements as much as possible to maximize aircraft availability and reduce excessive maintenance downtime.

1.13.8. Insist on a well-crafted short- and long-term plan. A unit cannot plan what they do not know. Conversely, a unit that fails to plan--plans to fail. In tanker and airlift units, scheduling flexibility is the key to success with adherence to sound maintenance management and policy.

1.13.9. Do not reconfigure aircraft between turns/go's unless there is an overwhelming need to do so. Work with your operations counterpart to fly the same configuration for the entire week, if possible. Reconfiguring drains manpower from troubleshooting, repairing, inspecting, servicing, launching and recovering.

1.13.10. Do not allow weekend duty to become routine. Weekend duty should be based on standard business rules and aircraft should not be worked unless there is no other option to replace a Monday flyer. It has become common for XCs to return on a weekend, however the cost to maintenance must always be understood if the plan is to resume flying the first normal duty day after return. Remember, to return on a weekend you must call multiple people in from a variety of base agencies to support the return and recovery.

1.13.11. Review the next weeks flying window length. It should be looked at from both the squadron and wing perspective.

1.14. You may have problems if some of the following are evident within your program:

1.14.1. The "lead operations scheduler" changes too frequently (i.e., week-to-week or month-to-month).

1.14.2. AF Form 2407 is approved by whoever is around.

1.14.3. Late landings or early take-offs are the norm.

1.14.4. You are reconfiguring instead of servicing in the turn unless circumstances dictate.

1.14.5. Fix rates down, deviations are up, ground aborts and cannibalization rate are on the rise.

1.14.6. No attention given to the number of hours required and the number of jets that can be phased in a given month.

1.14.7. Flying shift is fixing aircraft.

1.14.8. Major/numerous changes to next week's flying.

1.14.9. The maintenance schedule does not receive the same attention as the flying schedule.

1.14.10. Maintenance Scheduling Effectiveness is 100% but there are many overdue inspections.

1.14.11. Weekend duty is the norm rather than the exception.

1.14.12. Technicians do not know what time they are coming to work tomorrow.

1.14.13. Everyone believes they know scheduling and the TTP is used as justification.

1.15. Approach. It is imperative you know your schedulers and their backgrounds and you understand and monitor their programs. Remember, this is not an art or science, just a planned approach to mission accomplishment. Balance is the key to managing mission requirements with maintenance capabilities.

Chapter 2

GENERAL RESPONSIBILITY AND POLICY

2.1. Responsibilities. Commanders at all levels are responsible for compliance with this instruction.

2.2. Policy. This instruction provides procedures and audit methods for units to develop their flying and maintenance scheduling program and analyze their effectiveness. It is intended to be a local tool for operations and maintenance activities to use in support of their programs. Reviewing reasons for deviating from the flying and maintenance schedule will allow wing commanders (WG/CC) and staff to evaluate unit flying program and scheduling procedures. Higher Headquarters (HHQ) management attention is directed to those areas beyond a unit's control.

2.3. Objectives. This instruction allows units the flexibility to meet mission requirements through effective flying and maintenance scheduling. Scheduling evaluation procedures provides an audit trail to identify problems in flying and maintenance schedules. The primary purpose of unit scheduling assessment is to evaluate the effectiveness of the unit's flying program in support of combat capability.

2.4. Applicability. This publication is applicable to all CAF units possessing or supporting CAF aircraft, including contractor maintained aircraft.

2.5. Reporting Requirements. Units will use the Integrated Maintenance Data System (IMDS) reporting procedures or the Maintenance Information System (MIS) supporting that weapon's platform. This includes contractor-maintained, wing assigned aircraft. In the event that the contractor is not obligated to utilize the MIS, the MXG commander is responsible to ensure all reporting procedures are followed. MAF units deployed to a combatant command reporting through CAF will continue to use G081 for tracking and scheduling deployed assets or equipment.

2.6. Standards. Standards and goals assist commanders in assessing the effectiveness of unit performance. The CAF aircraft maintenance scheduling effectiveness standard is 95 percent. There are two aircraft flying scheduling effectiveness (FSE) standards developed by HQ ACC/A4QJ, approved by HQ ACC/A4, and provided to the user each September. Overall FSE rate is measured using recorded deviation data as outlined in **Chapter 4**. Operations and Maintenance (O&M) FSE rate includes deviations only in the maintenance and operations categories.

2.7. Waivers. Waiver authority for this publication rests with HQ ACC/A4Q. ACC waiver requests are submitted by the WG/CC with USAFE or PACAF A4Q coordination if applicable. See **Attachment 2**, Waiver/Change Request Format.

2.8. Standardization. Wings will develop a supplement to this instruction standardizing scheduling practices for the wing and each assigned mission design series (MDS). Minimum topics will include standardized flying windows, specific surge rules, quiet hour policies, cross country take-offs and returns, minimum turn times, crew ready times, etc. In addition, include local schedule input and publishing deadlines along with any wing unique requirements.

2.9. Airframe Capability and Scheduling. To ensure accurate projection of operations and maintenance capacity, units will compute airframe capabilities using **only** the number of Primary Aircraft Inventory (PAI) aircraft; do not include Backup Aircraft Inventory (BAI) or Attrition Reserve aircraft (AR). Operational and training schedules will be based on the capability of PAI aircraft to execute the schedule. The OG/CC and MXG/CC will ensure BAI and AR aircraft are not computed when building the flying program.

2.10. Alert Aircraft. Aircraft Maintenance Unit (AMU) officer in charge (OIC) and Production Superintendent will ensure aircraft entering or coming off alert are managed to avoid Hangar Queen candidacy as a result of extended idle alert periods. Maintenance Management Analysis (MMA) will review sortie performance and reliability trends of aircraft coming off alert/immediate response (IR) and present performance analysis to affected AMU maintenance operations and MOF maintenance operations.

2.11. Electronic Publishing. Plans and schedules may be published via electronic means (e.g., web pages, share point sites or E-mail) provided operations security is not compromised. Normal daily operations and training schedules are FOUO and should not be restricted to classified systems.

Chapter 3

FLYING AND MAINTENANCE SCHEDULING PROCEDURES

3.1. Flying and Maintenance Planning Cycle. The objective of the flying and maintenance planning cycle is to execute the wing flying hour program (FHP) consistent with operational requirements (AFI 11-102, *Flying Hour Program Management*) and maintenance capabilities. These procedures enhance operations and maintenance interface. The flying and maintenance planning cycle begins with the annual allocation of flying hours. For additional information on flying hour allocation and planning procedures for CAF units refer to AFI 11-102. Maintenance schedulers must understand operational needs to determine supportability and operations schedulers must consider maintenance capabilities. Maintenance and Operations schedulers will develop a proposed annual flying plan balancing both operational requirements and maintenance capabilities. The annual plan, detailed by month, will evaluate the capability of maintenance to support the annual flying hour program. The plan will be coordinated and consolidated by OSS Current Operations Flight operations scheduling and forwarded to the current operations flight commander, AMXS/CC and Maintenance Operations Officer (MOO), Munitions Officer/Munitions Control, MOS/CC, MOF/CC and MOF PS&D. The printed wing plan will include an assessment of the wing's ability to execute the flying hour program. The plan will be presented to the OG and MXG CCs for approval before being approved by the WG/CC. Commit the fewest number of aircraft possible to meet programmed UTE rate standards and goals. The annual plan is further refined into quarterly/monthly operations and maintenance plans and then into weekly schedules using the guidelines contained in the following sub-paragraphs.

3.1.1. The number and length of sorties are of prime consideration in planning to meet programmed UTE rate standards/goals based on Flying Hour Program Development to support the operational course syllabus.

3.1.2. Principal areas of concern are in the overall flying schedules. For mission accomplishment and improved efficiency, the following must be considered: maximize crew training on all flights, plan alternate missions when possible, ensure configurations and fuel loads are accurate, establish launch and recovery patterns, and utilize historical attrition data.

3.2. The Proposed Flying Hour Program Requirements.

3.2.1. Proposed FHP Process. The Proposed FHP process initiates funding and a unit's FHP for the next fiscal year. MOF PS&D and OSS/OSO lead the development of their Wing's Proposed FHP. It's critical that all operational requirements are reviewed and weighed against maintenance capability factors. Units will ensure thorough coordination with all assigned squadrons and aircraft maintenance units prior to ACC submission.

3.2.1.1. Developing the Proposed FHP response: MOF/PS&D and OSS/OSO will ensure the Proposed FHP process is initiated **NLT 15 March**. MOF PS&D will request that MMA accomplish an airframe, personnel, and facility capabilities assessment using locally generated templates; there are no ACC approved templates. The capabilities are due back to MOF PS&D no later than the last workday of March. This process identifies operational requirements and maintenance capability for the next fiscal year. Units will perform the following steps prior to submitting their Flying Hour Program to ACC/A3T.

3.2.1.2. MOF MMA will develop an initial airframe, personnel and facility capability study.

3.2.1.3. MOF PS&D will refine the initial MMA airframe capability by applying projected maintenance requirements to the historical data. MOF PS&D will provide copies of the capability study to each Operating Squadron (OS) operations scheduling AMU OIC/NCOIC, AMXS/CC/MOO and to MXS/CC/MOO.

3.2.1.4. NLT 5 duty-days after OSS/OSO receives the "Proposed FHP" message, OSS/OSO will provide MOF PS&D a copy of "Proposed FHP" message and a breakdown of operational requirements to include at a minimum the following data:

3.2.1.4.1. O&M days

3.2.1.4.2. Sorties/hours (hourly & Sortie) required (programmed)

3.2.1.4.3. Sorties/hours Scheduled (programmed + attrition provided by MMA and based on 4 years of historical data)

3.2.1.4.4. Average sorties per O&M day

3.2.1.4.5. NLT 15 duty days after OSS/OSO receives the "Proposed FHP" message, MOF PS&D will provide Proposed FHP maintenance capability projections in a monthly format to OS operations officer, AMU OIC/NCOIC, AMXS/CC/MOO. Projections include "Proposed FHP" operational requirements, an assessment of maintenance's ability to support the monthly contract requirements, and an overall assessment of the unit's maintenance capability to meet the annual flying hour program.

3.2.1.5. NLT 25 duty days after OSS/OSO receives the "Proposed FHP" message, MOF PS&D will gather the AMXS and OS coordinated responses to the Proposed FHP message and forward them to OSS Current Operations Flight operations scheduling section for consolidation into a comprehensive package that includes a breakdown of the following items by OS/AMU:

3.2.1.6. Utilization (UTE) rates.

3.2.1.6.1. Hourly UTE (HUTE) rates are the number of hours an aircraft must fly per month in order to meet the annual requirement. HUTE rates will be computed by month for the entire fiscal year for contracted (required) hours and scheduled hours. The HUTE rate equals the number of hours per month divided by the number of Primary Mission Aerospace Vehicle Inventory (PMAI) aircraft.

3.2.1.6.2. Sortie UTE (SUTE) rates are the number of sorties an aircraft must fly per month in order to meet the annual requirement. SUTE rates will be computed by month for the entire fiscal year for contracted (required) sorties and scheduled sorties. The SUTE rate equals the number of sorties per month divided by the number of PMAI aircraft.

3.2.1.6.2.1. Aircraft Authorizations:

3.2.1.6.2.1.1. HQ USAF specifies the PMAI for each unit in the USAF Programs: PA, Aerospace Vehicles and Flying Hours.

3.2.1.6.2.1.2. Units projected to possess less aircraft than authorized may be assigned a revised PMAI or Chargeable Aircraft Authorization (CHRG) for UTE and flying hour computations. The CHRG will be displayed for each applicable unit in allocation messages.

3.2.1.7. Sorties contracted/scheduled per day. Compute the number of sorties (hours) required per O&M day to meet the operational requirement using the formula: Number of sorties (hours) required divided by number of O&M days in a given month. Sorties (hours) per day will be computed by month for each operational squadron/AMU.

3.2.1.8. Monthly scheduled sorties. Compute monthly scheduled sortie requirements using the formula: (Number of sorties or hours required) divided by (1 minus the attrition factor). Example: 1,000 sorties or hours required divided by (1 minus 0.15) equals 1,177 sorties or hours to schedule. Remember to round any part up to the next whole sortie.

3.2.1.9. Phase/Periodic/Isochronal (ISO) inspection dock capability. Compute the number of Phases/Periodic/ISO inspections to be accomplished in order to meet operational requirements for each AMU, by month, for the entire fiscal year. Compute dock capability using the formula (number of O&M days) divided by (number of PH/PE/ISO days) multiplied by (number of available docks) multiplied by (inspection cycle).

3.2.1.10. MOF/PS&D will compute and provide the phase/ISO dock capability projection. This projection will be reviewed with AMXS and MXS supervision. Compute dock capability using the formula (number of O&M days) divided by (number of PH/PE/ISO days) multiplied by (number of available docks) multiplied by (inspection cycle) an example (20 O&M days/5 day phases X 1 phase dock X 400 hour inspection cycle = 1600 hours). This number correlates to how many airframe inspection hours maintenance can support in a given month.

3.2.1.11. NLT 30 duty days after OSS/OSO receives the "Proposed FHP" message**,** MOF PS&D and OSS/OSO will co-chair a Proposed FHP meeting with all required agencies. Agencies will include but are not limited to AMXS, MXS, MUNS, MSG (i.e. Fuels) and OS. Capability studies and operational requirements will be discussed and reviewed. Any maintenance, operational, or support shortfall will be noted and briefed to the MXG, OG and MSG CCs.

3.2.1.11.1. MOF PS&D and OSS/OSO will compile the airframe, personnel, and facility capability studies, operational requirements (paragraph **3.2.1.4**), and any noted shortfall. A package will be prepared and briefed to group commanders (OG/MXG/MSG) prior to Wing/CC final approval. Once approved, the OG and MXG will provide ACC/A3T/A4Q a coordinated "Proposed FHP" response message. The message will depict the operational requirements by month for the next fiscal year and provide an overall capability statement of the unit's ability to meet the plan. Maintenance and operational shortfalls will be noted and explained.

3.2.1.11.2. NLT 35 duty days after OSS/OSO receives the "Proposed FHP" message, once compiled, packages will be presented to the MSG, OG and MXG/CCs (or equivalents) before being presented to the WG/CC for final approval. MOF

PS&D will review the comprehensive package submitted to OSS Current Operations Flight operations scheduling section and provide feedback to AMU OIC/NCOIC, AMXS/CC/MOO and MXG/CC if required. Final assessments of maintenance capabilities to support the operations "Proposed FHP" projections are then sent to ACC/A3TB and ACC/A4Q. The "Proposed FHP" response message is due to ACC/A3T NLT the "Propose FHP" message suspense date.

3.3. COMBAT AIR FORCES (CAF) Baseline Allocation Message. Once COMACC approves a unit's Proposed FHP response, the CAF Baseline Allocation message will become the contract between CAF (ACC) and the unit. This message will be forwarded to the unit **NLT 1 Sep** each year and will be the basis for the unit's annual flying and maintenance planning process.

Note: Except for emergencies or HHQ tasking at year-end (e.g., hurricane evacuations or air sovereignty scrambles), **UNIT FLYING HOUR PROGRAMS WILL NOT BE OVERFLOWN WITHOUT ACC/A3 APPROVAL**. Unit commanders are not required to "zero out" their annual flying hour program at the end of the fiscal year. The last flying day of the year should be planned and flown as a normal flying day keeping in mind that the program cannot be overflown.

3.4. Annual Maintenance Planning Cycle. The annual planning cycle develops the wings maintenance and operation plan to support/sustain the FHP established by the CAF Baseline Allocation message. MOF PS&D and OSS/OSO leads the development of their wing's annual plan. Both maintenance and operations are required to refine their requirements and re-evaluate their capability to support the FHP. It is critical that all factors are considered and operational requirements are balanced with maintenance capability throughout the year. MOF/PS&D will identify all major maintenance impacting airframe availability using IMDS/MIS products, such as Time Distribution Index (TDI), Planning Requirements (PRA), and Workable TCTO Report background products to determine long-range maintenance requirements. MOF/ PS&D & MMA will review capability studies for accuracy. OSS/OSO will validate O&M days and their requirements for accuracy.

3.4.1. Developing the Annual Plan: MOF/PS&D and OSS/OSO will ensure the annual planning process is initiated NLT **15 March** and their Final Flying Hour Program (Proposed FHP response) message is submitted to ACC/A3T/A4Q NLT the "Propose FHP" message suspense date. Units will ensure the following steps prior to submitting their final Flying Hour Program (Annual plan).

3.4.2. MOF/PS&D and MMA build and validate all capability studies which includes airframe, personnel, facility and phase/ISO dock projections. AMXS/MXS Flight chiefs will compile personnel data and forward to MMA for inclusion into the personnel capability portion of the study. The studies will be reviewed and analyzed with AMXS and MXS supervision. Capability shortfalls will be noted and briefed to the MXG/CC.

3.4.2.1. MOF/MMA will provide updated attrition factors to MOF PS&D and OSS/OSO using a minimum of 4 years of historical local data. If a unit does not have 4 years of historical data to compute attrition, contact ACC/A4QJ for further guidance.

3.4.2.2. MOF/PS&D will provide all known major maintenance which includes but is not limited to: Programmed Depot Maintenance (PDM), Phase/ISO, Refurbishment, and major modification schedules.

3.4.2.3. MOF PS&D will calculate and provide an average aircraft availability per month and projected UTE rate.

3.4.2.4. OSS/OSO will validate their monthly breakdown of hours and sorties (based on RAP/contingency/curriculum requirements) in the baseline allocation message and provide maintenance the following planning factors:

3.4.2.4.1. TDYs (if known).

3.4.2.4.2. Exercises (if known).

3.4.2.4.3. Safety, training, UTE, family, and all non-O&M days.

3.4.2.4.4. O&M days.

3.4.2.4.5. Sorties/hours required (programmed). Yearly requirement broken out by month.

3.4.2.4.6. Sorties/hours Scheduled (programmed + attrition). Attrition is based on 4 years of historical data provided by MOF/MMA unless operations empirical data exists. Yearly requirement broken out by month

3.4.2.4.7. Average sorties per O&M day.

3.4.2.4.8. Suggested turn pattern.

3.4.2.4.9. Configuration/munition requirements.

3.4.3. NLT 15 duty days after OSS/OSO receives the "Proposed FHP" message, MOF/PS&D and OSS/OSO will chair an annual planning meeting with all required agencies. Agencies will include but are not limited to AMXS, MXS, MUNS, OS and MSG (i.e., Fuels servicing). Capability studies, operational requirements and planning factors will be reviewed and validated during this meeting. Maintenance and operational shortfalls will be noted and briefed to the MXG/CC and OG/CC.

3.4.4. NLT 30 duty days after OSS/OSO receives the "Proposed FHP" message, MOF/PS&D and OSS/OSO will prepare and brief the wing's annual maintenance and flying hour program to the group commanders (MXG/OG/MSG) prior to Wing/CC approval. Once Wing/CC approved, the OG and MXG will provide ACC/A3T/A4QJ a coordinated final Flying Hour Program message. The message will depict the operational requirements by month for the next fiscal year and provide an overall capability statement of the unit's ability to meet the plan. **Note:** If maintenance or operational capability does not exist to meet peacetime operational requirements due to split peacetime/AEF operations, or if an operational event impacts a unit's ability to execute, the unit has the option to revise their Flying Hour Program. This can be accomplished when submitting their annual plan or they can reflow sorties/hours quarterly, as required. Changes to the total hours/sorties on the CAF Baseline allocation message require justification by the unit.

3.5. Quarterly Scheduling:

3.5.1. Quarterly scheduling starts with the operational requirement for flying hours, UTE rate, airframe availability, alert, and other related scheduling data. The OS operations officer provides these requirements to AMU OIC/NCOIC, MUNS Control NCOIC/Munitions OIC and PS&D NLT the first weekly scheduling meeting the month prior to the effective quarter. AMU supervision and the OS operations officer discuss the requirements and identify any LIMFACs at the scheduling meeting before the quarter being scheduled. Launch/recovery blocks, sortie flow timing, etc., are established based on training ranges (TR) and air refueling (AR) allocations.

3.5.2. Schedulers ensure quarterly plans are as detailed and accurate as possible at the time of preparation. Forecast and monitor requirements for the current and next 2 months. Include known special missions, depot maintenance input and output schedules, higher headquarters commitments, and lateral command support requirements.

3.5.2.1. Use the following priority to determine which objectives to support if a lack of resources prevents meeting requirements:

3.5.2.1.1. Alert Commitments.

3.5.2.1.2. Higher-headquarters directed missions.

3.5.2.1.3. Training.

3.5.3. The OG/CC and MXG/CC jointly chair a quarterly meeting (calendar quarter, Oct - Dec, Jan - Mar, Apr - Jun, Jul - Sep) NLT the monthly meeting (can be held in conjunction with) prior to the effective quarter and may be held in conjunction with the weekly scheduling meeting. The intent of the quarterly meeting is to ensure both operations and maintenance are continuing to look past the current month not to add an additional meeting. A rolling 3-month plan briefed each month meets the intent of the quarterly scheduling process. OSS Current Operations Flight operations scheduling compiles, coordinates, and briefs the quarterly plan to include operational requirements, support capability, and difficulties expected. Once an approved quarterly plan is established, OSS Current Operations Flight operations scheduling will forward a copy to OS, AMXS, MOS, OG, and MXG/CCs along with all scheduling agencies. The plan will be posted so it may be viewed by both maintenance and operations. When changes to the quarterly plan are required to achieve the unit objectives, make necessary adjustments to the monthly and weekly plans while keeping within unit capabilities.

3.6. Monthly Scheduling:

3.6.1. Monthly plans refine quarterly requirements. Forecast and monitor requirements for the current and next 2 months. Include predictable maintenance factors based on historical data along with other inputs, such as flow times for maintenance, turnaround times and parts replacement schedules from the long-range plan. Additionally, include all known operational events (e.g., exercises, deployments, and surges) to determine maintenance capability to meet operational requirements.

3.6.1.1. Long-range maintenance plans will be developed in as much detail as possible. All maintenance requirements will be consolidated into a single long-range plan using AF Form 2401, *Equipment Utilization and Maintenance Schedule*, or computer generated

product. As a minimum, the long-range plan shows the current month and the next 2 months' known flying and maintenance requirements. Known maintenance requirements are defined as any maintenance event that impacts aircraft availability and maintenance events requiring management attention to ensure smooth flow of scheduling/completion. **Maintenance events should be consolidated during a single down period to the greatest extent possible.** As a minimum, include calendar inspections that prevent operational utilization for that day(s) flying schedule, calendar time change items, TCTOs in workable status, PDM schedules, training aircraft, cannibalization aircraft, and aircraft ISO/PE/Phase inspections. The expectation is not to generate locally developed codes to identify each different special inspection, TCI, and TCTO but to clearly identify what scheduled action prevents operational use. Document this on the AF Form 2401 or computer generated product. Other maintenance requirements, such as engine changes, hourly requirements, inspections, training aircraft and cannibalization aircraft will be posted as they become known or planned. Add Alternate Mission Equipment (AME) inspections to the long-range plan if the aircraft is scheduled to stay in that configuration to ensure the inspections are included in the monthly and weekly schedules. Refine monthly and weekly schedules to ensure the quarterly plan objectives are met.

3.6.2. The OS operations officers and AMU OIC/NCOIC will review their applicable portion of the monthly and weekly schedule prior to submission to MOF PS&D. To optimize aircraft and munitions support, MXS, AMXS and OS commanders will ensure the number of aircraft committed to the schedule and/or munitions configurations are minimized and standardized. Use the following sequence of actions to ensure monthly planning results in a contracted flying schedule. The monthly planning process is as follows:

3.6.2.1. NLT the first weekly OG/MXG scheduling meeting of the month, the OPS officer provides AMU OIC/NCOIC, MUNS Control/Munitions officer and AMU PS&D with the estimated operational needs for the following month in as much detail as possible. Include known take-off times, landing times, the flying hour window and munitions configurations. If the take-off and landing times are unknown, block turn patterns are required.

3.6.2.2. NLT the third weekly OG/MXG scheduling meeting of the month, the AMU OIC/NCOIC tells the OPS officer whether requirements can be met or limitations exist which may prevent successful fulfillment of requirements. MUNS control NCOIC/ Munitions officer tells the OPS officer whether munitions requirements can be met or limitations exist. Make adjustments to the proposed monthly flying and maintenance plan to satisfy maintenance and operational requirements.

3.6.2.3. NLT the last weekly OG/MXG scheduling meeting of the preceding month, operations and maintenance formalize next month's plan prior to presenting it to the WG/CC for approval.

3.6.3. During the monthly meeting, OS scheduling outlines past accomplishments, status of flying goals, problems encountered, and detailed needs for the next month.

3.6.3.1. AMU/AMXS outline projected maintenance capability, and aircraft/equipment availability. MUNS control NCOIC/Munitions officer outlines projected munitions supportability.

3.6.3.2. Operational requirements and maintenance capability scheduling conflicts that are not solvable by planned alternatives will be arbitrated by the group and wing commanders to decide what portion of the schedule will be executed.

3.6.4. All agencies will submit their monthly plan inputs to MOF PS&D before presentation to the WG/CC. When the proposed monthly flying schedule contract is agreed upon and approved by the WG/CC, it is included as a portion of the monthly flying and maintenance schedule. The monthly flying and maintenance schedule is published/distributed NLT 5 duty days prior to the beginning of the effective month. Automated methods are acceptable (ensure security requirements are met).

3.6.5. The sortie/flying hour contract specifies the number of sorties and hours required to be flown. The contract is the final resolved product between operational requirements and maintenance capabilities. The total forecasted attrition factor will be considered and added to the required sorties to ensure fulfillment of the contract. The annual required sorties for the month, plus the historical attrition factor (note paragraph **8.1**: MXG approved revised attrition is also permitted), is the basis for the development of the monthly flying and maintenance schedules. Attrition sorties are not substitutes for capability shortfalls; they are figured against the contract. The monthly flying schedule will reflect the number of sorties contracted, the number of attrition sorties added, and the number of sorties scheduled for each unit.

Note: The calendar in **Table 3.1.** is an example month and represents when group and wing level quarterly, monthly, and weekly scheduling meetings should be held. The calendar also illustrates when maintenance and operations requirements must be met. **Each unit may hold scheduling meetings at times during the week/month convenient to the organization, as long as the timelines in this instruction are met.**

3.6.6. Included in the monthly flying and maintenance schedule are:

3.6.6.1. A detailed monthly operations utilization calendar which specifies total aircraft flying hours, total sorties and missions, alert requirements, and scheduled sortie or mission requirements, daily turn plans for each MDS by squadron, group, or wing.

3.6.6.2. Maintenance workload requirements.

3.6.6.3. Transient work schedule, if applicable.

3.6.6.4. Aircraft scheduled inspections, deployments, TCTOs, engine changes, time changes, contract or depot maintenance, washes, corrosion control, training aircraft, and alert commitments. It is not mandatory for the letter "F" (F2, F3, etc…) to be printed on the AF Form 2401 or computer generated form to reflect the number of sorties each aircraft is scheduled to fly. If the unit does not use this option, the schedulers must ensure that prime and spare aircraft are available to support the scheduled requirements. **As a minimum, automated Forms must reflect all required entries and standardized for each MDS.**

3.6.6.5. Support equipment (SE) scheduled inspections, contract or depot maintenance, TCTOs, time changes, washes, and corrosion control.

3.6.6.6. Avionics and other off-equipment maintenance to include scheduled inspections, TCTOs, assembly or repair operations.

3.6.6.7. Engine in-shop inspections, time changes and all other maintenance needs.

3.6.6.8. Munitions, photo, electronic countermeasures and other mission loading or configuration requirements, including ammunition changes.

3.6.6.9. Total ordnance requirements for aircraft support listed by quantity and type. Include the following statement in the schedule for units with munitions: "The types and quantities of munitions listed in this schedule, plus previous expenditures, do not exceed AFI 11-212, *Munitions Requirements for Aircrew Training,* authorized allowances."

3.6.6.10. Tanks, racks, adapters, and pylons and war reserve materiel scheduled inspections, TCTOs, assembly, or repair operations.

3.6.6.11. Quality Assurance (QA) scheduled inspections listed by type and quantity unless published separately by QA.

3.6.6.12. If known as confirmed requirements, include special activities, such as commander's calls, group TDYs, unit physical training program, UTA weekends and other unit formations.

3.6.6.13. Monthly training schedules (i.e. FTD, MTF), if not published separately.

3.6.6.14. Detailed support requirements, as applicable, including:

3.6.6.14.1. Petroleum, oil, and lubricants (POL) servicing.

3.6.6.14.2. Supply requirements.

3.6.6.14.3. Food service requirements.

3.6.6.14.4. Fire department requirements.

3.6.6.14.5. Security requirements.

3.6.6.14.6. Civil engineer requirements.

3.6.6.14.7. Airfield operations requirements.

3.6.6.14.8. Nuclear munitions maintenance schedule.

Table 3.1. Unit Planning/Scheduling Meeting Example Month.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					Ops provide next week's requirement to maintenance (2 duty days before OG/MXG meeting).	1
2 Week 1	3	4 OG/MXG Weekly Scheduling Meeting. Ops provides requirements for next month/quarter to AMU OIC/ NCOIC AMXS maintenance operations/MUNS Control NCOIC/ Munitions Officer.	5	6 WG/CC approves next week's plan.	7 Distribute next week's plan. Ops provide AMU OIC/NCOIC & AMXS maintenance Operations/MUNS Control NCOIC/ Munitions Officer with following quarter/ week ops requirements.	8
9 Week 2	10	11 OG/MXG Weekly-Scheduling Meeting. Quarterly plan briefed.	12	13 WG/CC approves next week's plan.	14 Distribute next week's plan. Ops provides following week's requirements to maintenance.	15
16 Week 3	17	18 OG/MXG Weekly Scheduling Meeting. AMU OIC/NCOIC/AMXS maintenance Operations/MUNS Control NCOIC/ Munitions Officer tells ops if next month's/quarter's requirements can be met.	19	20 WG/CC approves next week's plan.	21 Distribute next week's plan. Ops provide following week's requirements to maintenance.	22
23 Week 4	24	25 OG/MXG Weekly Scheduling Meeting. Monthly/Quarterly plan briefed. Distribute next month's plan.	26	27 WG/CC approves next week's/month's plan.	28 Distribute next week's plan. Ops provide following week's requirements to maintenance.	29
30	31					

NOTE: The calendar above is an example month and represents when group and wing level quarterly, monthly, and weekly scheduling meetings should be conducted and when maintenance and operations requirements must be met. Each unit may hold scheduling meetings at times during the week/month convenient to the organization, as long as the timelines in this instruction are met.

3.7. Weekly Scheduling:

3.7.1. Weekly scheduling is the final refinement to the monthly plan and results in the weekly flying and maintenance schedule. Its execution is measured by the procedures outlined in this instruction. The OS operations officer, AMU OIC/NCOIC, and AMXS Maintenance Operations review the proposed weekly flying and maintenance schedule with OS, AMXS, MXS and MUNS Control/Munitions officer prior to presenting it to the OG/MXG commanders. The group approved schedule will be submitted to the MOF PS&D for consolidation prior to submission to the wing commander. MOF PS&D reviews the schedules for adequate utilization of aircraft and proper scheduling of maintenance requirements. Weekly scheduling meetings will be conducted at the group and wing level as follows:

3.7.1.1. The OG/CC and MXG/CC, or their designated representatives, will chair the group meeting to consolidate and review proposed flying and maintenance plans. The OG and MXG will review the past week's accomplishments, negotiate alternatives, and approve refinements to the coming week's schedule.

3.7.1.2. The WG/CC will chair a weekly scheduling meeting at which the OG and MXG/CCs will present the flying and maintenance plan for approval; the MSG/CC will also attend this meeting. MOF PS&D ensures a completed (paper or electronic) copy is submitted to the WG/CC (or equivalent) at the weekly scheduling meeting.

3.7.1.2.1. At the scheduling meeting, evaluate the past week’s accomplishments, to include Flying and Maintenance Scheduling Effectiveness, maintenance scheduling challenges and refinements to the coming week's schedule.

3.7.2. NLT 2 duty days before the weekly scheduling meeting, the flying squadron operations officer gives the AMU OIC/NCOIC, AMU PS&D, EMS/CMS/MXS maintenance operations and MUNS Control/Munitions Officer the following information:

3.7.2.1. Aircraft take-off and landing times.

3.7.2.2. Configuration requirements.

3.7.2.3. Munitions requirements by quantity and type.

3.7.2.4. Fuel loads.

3.7.2.5. Special or peculiar mission support requirements.

3.7.2.6. Alert requirements.

3.7.2.7. Exercise vulnerability.

3.7.2.8. Deployments.

3.7.2.9. Off base sorties.

3.7.2.10. On-equipment training requirements.

3.7.2.11. Other special requirements.

3.7.2.12. Nuclear munitions maintenance schedule.

Note: When one maintenance unit supports more than one flying unit at a base, the OS operations officers will consolidate and de-conflict those requirements and submit a

single operational requirement to maintenance. This will ensure operational requirements do not exceed aircraft availability and maintenance capability.

3.7.3. Operations and maintenance schedulers discuss weekly needs and arrive at an acceptable, coordinated schedule for group commanders' review.

3.7.4. OG/CC and MXG/CC present the proposed flying schedule to the WG/CC for approval. If an agreement cannot be reached before the weekly scheduling meeting, the problem is referred to the WG/CC for decision. Once approved and signed by the WG/CC, OG/CC, and MXG/CC, the flying schedule is the final planning guide for both operations and maintenance and is a contract and every effort will be made to execute the schedule as printed.

3.7.5. MOF PS&D ensures distribution of the schedule to each appropriate activity and workcenter NLT 1200L Friday. Units conducting night flying operations should distribute the schedule as soon as possible but NLT 1400L Friday. Automated methods are acceptable (ensure security requirements are met). Once printed in the weekly flying and maintenance schedule, the aircraft or equipment is made available to meet that schedule. MOF PS&D records maintenance scheduling deviations and forwards computations to MMA weekly for publication in the monthly maintenance summary as outlined in **Chapter 5**. The maintenance operations center (MOC) reports flying scheduling deviations.

3.7.6. Units publish a weekly schedule for normal home base operations, deployments, (to include a printed schedule at the deployed locations, weapons training or detached site), and planned sortie surges. Units operating by daily ATOs will publish a schedule IAW paragraph **3.7** and filed as a weekly schedule after execution. Included in the weekly flying and maintenance schedule are:

3.7.6.1. Sortie sequence numbers, aircraft tail numbers (primary and spares), scheduled take-off and landing times, aircraft or equipment scheduled use times, configurations, fuel loads and special equipment requirements.

3.7.6.2. Spare aircraft requirements are based on projected aircraft first sortie logistics losses. Spare requirements are computed and printed by day for each unit in the weekly flying and maintenance schedule. See Chapter 8 for factors used to determine spares.

3.7.6.3. Scheduled maintenance actions by aircraft and equipment serial number to include inspections, TCTOs, time changes, contract and depot inputs, engine changes, washes or corrosion control, documents review, deferred discrepancies and hours remaining to phase/ISO. A job control number/event ID will be printed in the weekly flying schedule for each scheduled maintenance event.

3.7.6.4. Required pre-inspection and other maintenance meeting schedules (Phase/Isochronal inspections, Contract Field Team (CFT)/Depot Field Team (DFT) etc) to include minimum attendees.

3.7.6.5. Wash facility use.

3.7.6.6. Training requirements plus aircraft and equipment in support of these requirements.

3.7.6.7. Aerospace Ground Equipment inspection/maintenance schedule by type, serial number or identification.

3.7.6.8. Include the following statement in the schedule for units with munitions: "The types and quantities of munitions listed in this schedule, plus previous expenditures, do not exceed AFI 11-212 authorized allowances." This statement eliminates the need for submitting certificates of authorization when ordering munitions to support the flying schedule.

3.7.6.9. A list of new or revised publications, T.O. indexes, inspection work cards, checklists and -6 codebooks, including release/change dates. Automated systems will be used, if available.

Note: The AF Form 2402, *Weekly Equipment Utilization and Maintenance Schedule*, is used as a summary of the week. The AF Form 2403, *Weekly Aircraft Utilization/ Maintenance Schedule*, is more finite in the depiction of aircraft utilization and maintenance. Electronic versions or computer generated product of the above forms are authorized. Whatever forms are used, all requirements must be entered. Weekly schedules may be published electronically provided local security requirements are met.

3.8. Changes to the Weekly Schedule:

3.8.1. Types:

3.8.1.1. Para Change - Pen-and-Ink. **The pen-and-ink AF Form 2407 is not intended to be used as a tool to extend the scheduling process by another day.** Pen-and-ink changes made to next week's schedule, submitted to the MOC by 1600 hours Friday prior to the affected week, or at the daily maintenance scheduling/production meeting, whichever occurs first are authorized (exception: NLT 2 hours after the last landing during printed wing night flying weeks). They are non-reportable and become part of the printed weekly flying schedule. An AF Form 2407 (either hard copy or electronic version) is required stating the changes are pen-and-ink. AF Form 2407s that fail to meet these deadlines will not be considered pen-and-ink. **Note**: The intent of the pen-and-ink AF Form 2407 is to correct minor errors and not complete revisions of the previously Wing/CC approved schedule.

3.8.1.1.1. Unit Training Assembly (UTA) Weekends. During scheduled UTA Weekend flying for classic Association units are allowed to accomplish pen-and-inks on the last scheduled fly-day (Saturday or Sunday). Approved pen-and-ink changes will be made to next week's schedule prior to 1600 hours local or 2 hours after the last landing during scheduled/published night flying.

3.8.1.2. Approved pen-and ink changes are non-reportable and become part of the printed weekly flying and maintenance schedule. An AF Form 2407 or electronic substitution is required stating the changes are pen-and-ink.

3.8.1.3. Tail Number Swaps. Tail number swaps should be used to prevent reconfigurations and unnecessary expenditures of work hours when the primary aircraft is not mission-capable by its scheduled take-off time. Every effort is made to make the aircraft tail number swaps at the daily maintenance production meeting the day prior to the aircraft scheduled flight and entered on the AF Form 2407. All tail number swaps made at the daily maintenance production meeting are entered on an AF Form 2407 for audit and analysis purposes.

3.8.1.4. Configuration. Configurations will be finalized at the daily maintenance production meeting and documented on an AF Form 2407. To prevent excessive expenditures of work hours, configuration changes made after the daily maintenance production meeting and prior to the first crew ready time the next day, require an AF Form 2407 coordinated through the required agencies.

3.8.2. Procedures. The initiator of AF Form 2407 will include the specific reason for each change. Any change to the printed schedule will require an AF Form 2407 with the following exceptions:

3.8.2.1. A change to the original printed take-off or landing time of 15 minutes or less.

3.8.2.2. A change of aircrew names, ranges, or airspace.

3.8.2.3. Any change arising after the first crew ready time for the affected AMU for that day unless adding aircraft or sorties, or expanding the flying window.

3.8.2.4. Changes made during the daily maintenance production meeting also require an AF Form 2407. The agency requesting the change initiates the AF Form 2407 and coordinates it through the affected production superintendent, AMU OIC/NCOIC, AMXS maintenance operations, operations squadron operations officer, operations group, Munitions Control, maintenance group, and wing staff agencies, as applicable (i.e., MOC, PS&D, etc..). Coordinate changes affecting munitions requirements with Munitions Control to ensure proposed munitions changes can be met. The requested changes should be coordinated prior to the daily maintenance production meeting to allow sufficient time to determine supportability of the change.

3.8.2.5. Changes arising after the first crew ready time for the remainder of the flying day, such as tail number swaps, do not require an AF Form 2407; however, these changes will be coordinated by telephone or radio with all affected agencies. **EXCEPTION: Any aircraft, sortie added to the flying schedule and any sortie duration changes that extends flying or landing beyond the flying hour window will be coordinated using an AF Form 2407.**

3.8.2.6. After coordination, a copy of the AF Form 2407 is filed in the MOC. The MOC will ensure MMA receives all AF Form 2407s for deviation accounting. AF Forms 2407 will be disposed of IAW RDS.

3.8.2.7. MOF PS&D will input all pen-and-ink changes in IMDS/MIS operational events subsystem using procedures in AFCSM 21-565V2, *Operational Event Subsystem*. After the Friday daily maintenance production meeting, MOC will input all changes (non-pen-and-ink). Maintenance Debrief will input utilization data for all sorties considered "flown as scheduled" (i.e. FCF/OCF, X/C returns, surge second and subsequent goes). Any AF Form 2407 coordinated changes made after pen-and-inks have been made and posted to IMDS/MIS by MOF PS&D will be input by MOC into the Maintenance Information System (MIS).

Note: Use of the AF Form 2407 does not negate the recording of deviations.

3.8.3. AF Form 2407 Approval Authority. All AF Form 2407 changes that add aircraft and/or sorties or increase the flying window require both OG and MXG commander (or group level representative, designated in writing by group commander) approval. All other

AF Form 2407 changes will be approved by the affected squadron commander(s) (or designated representative). The MOC will coordinate higher headquarters directed taskings that require immediate execution. Electronic coordination is acceptable provided receipt is acknowledged and the sender enters the name of the person notified and the date/time on the AF Form 2407.

3.8.3.1. Pen-and-ink AF Form 2407 also require OG and MXG approval. The group approved pen-and-ink AF Form 2407 is required because pen-and-ink AF Form 2407 change the schedule/contract signed at the weekly scheduling meeting and becomes the new basis for deviation recording.

Chapter 4

FLYING SCHEDULING EFFECTIVENESS (FSE)

4.1. Purpose. This chapter defines flying schedule deviations and provides formulas for computing FSE. FSE is a tool to identify those processes within the wing's control that can be improved to help drive down turbulence for both the operator and maintainer.

4.1.1. A cornerstone of successful flying scheduling and execution is an understanding of how the schedule is executed versus how it was planned to be executed. These differences in scheduled versus actual events are only recorded in the execution phase of the scheduling process and are called deviations. Deviation data must be recorded so that follow-up analysis can identify the appropriate corrective actions if any are needed. Without deviation data, this analysis is impossible. Deviation data recording and analysis is the beginning of the process that will in the end, improve unit's flying operations. The unit is responsible for documenting deviations to the weekly flying and maintenance schedule and determining the cause for each deviation. Deviations must be coordinated with the appropriate squadron/AMU before being assigned to a specific category. Schedule deviations that result from a sequence of events will be assigned a primary cause. A determination of the primary cause will be made by the parties involved to arrive at a unit position. The OS, AMU OIC/AMXS and MOF operations officers or enlisted equivalents, will monitor deviations to ensure they meet the criteria in this publication. When conflicts arise, leadership of involved units will resolve them at the lowest level. All deviations will be recorded as described in this publication.

4.1.2. Flying Scheduling Effectiveness (FSE). This leading indicator is a measure of how well the unit planned and executed the weekly flying schedule. The flying scheduled developed by tail number is the baseline upon which the FSE is derived by comparing each day's deviations. Deviations that decrease the FSE from 100% include: Scheduled sorties not flown because of maintenance, supply, operations; adds, deletes, and ground aborts; scheduled sorties that take-off more than 30 minutes prior to scheduled take-off; scheduled sorties that take-off more than 15 minutes after their scheduled take-off time. Disruptions to the flying schedule can cause turmoil on the flightline, send a ripple effect throughout other agencies, and adversely impact scheduled maintenance actions.

4.2. Requirements. Flying scheduling effectiveness computation and deviation recording are required for all CAF assigned aircraft. Reporting procedures are contained in **Chapter 7** of this publication.

4.3. Flying Schedule Deviations.

4.3.1. Schedule deviations apply to the printed weekly flying and maintenance schedule, even though a coordinated change is accomplished using an AF Form 2407. When a unit coordinates a change to the printed weekly flying schedule, using an AF Form 2407, the unit is informing everyone of the changed information and deviations will be recorded as appropriate. **Multiple deviations against a single line entry will not count towards FSE except for (a) additions that air or ground abort, (b) additions that cancel, (c) added aircraft/sorties that take-off late, and (d) late take-offs that air abort.** The AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document***,** is the official source document for take-off and landing data. For all deviations, the person recording the deviations in IMDS/MIS

will provide a detailed explanation in the remarks section and a Job Control Number/Event ID in IMDS (screen 350) or MIS for all maintenance CX, GAA, GAB, GAC (as defined in **4.3.2**), AA, AI, and FE (as defined in **4.3.3**) . Flying schedule deviations fall into one of the following categories:

4.3.2. Ground Deviations. Ground deviations are events occurring before aircraft take-off. All ground deviations are recorded in IMDS/MIS and used in flying scheduling effectiveness calculations unless otherwise noted. Specific ground deviations are:

4.3.2.1. Ground Abort (GA). A aircraft that cannot take off due to maintenance. A third alpha character is added to further define the deviation:

4.3.2.1.1. **(GAA)** . Ground abort, before engine start, maintenance.

4.3.2.1.2. **(GAB)** . Ground abort, after engine start, before taxi, maintenance.

4.3.2.1.3. **(GAC)** . Ground abort, after taxi, maintenance.

4.3.2.2. Addition (AD). A sortie or aircraft added to the schedule not previously printed on the weekly schedule, will be recorded against the agency (OP, MX, HQ) requesting the additional sortie or aircraft. Sorties added to the schedule will be used in Total Sorties Scheduled for Flying Scheduling Effectiveness computation. Aircraft added to the schedule will not be used as a part of the Total Sorties Scheduled for Flying Scheduling Effectiveness computation; however, aircraft adds (i.e. added spares) will be captured in the FSE Calculated-Deviations computation.

4.3.2.2.1. Functional Check Flights (FCF) and Operational Check Flights (OCF) whose primary purpose is to perform maintenance checks are not addition deviations but will be coordinated using AF Form 2407. FCF/OCF sorties and sorties originating off-station without home-unit support will be considered "flown as scheduled" without recording deviations. FCF "chase" aircraft, when accompanying FCF/OCF training or checkout sortie for single seat MDS only (i.e. A-10) will be considered "flown as scheduled" without recording deviations. The FCF "chase" is for FCF qualified operator to conduct and/or evaluate training/checkout only.

Note: All additions will be coordinated using the AF Form 2407 and approved IAW paragraph **3.8.3.**

4.3.2.3. Cancellation (CX). An aircraft or sortie removed from the printed schedule for any reason prior to crew show. **For hard line sorties (sorties supporting other defense customers), cancellations occur when it is determined the originally scheduled mission cannot be met.** For training sorties, if the sortie can launch and recover during the squadron's flying window and perform its original mission, a cancellation is not recorded. If any sortie does not launch within the late take-off criteria, a late take-off is recorded.

4.3.2.4. Early Take-off (ET). An early take-off is a scheduled sortie launching more than 30 minutes prior to the published take-off time. **EXCEPTION**: Do not record early take-off deviations for hot pit turn sorties.

4.3.2.5. Late Take-off (LT). A late take-off occurs when a scheduled sortie becomes airborne more than 15 minutes after the scheduled take-off time. If the printed tail number is a ground abort and is replaced with a spare that takes off late, only the late

take-off is computed in FSE. Another example is if an aircraft landed late, after the published landing time, and subsequently takes off late due to insufficient time to turn the aircraft, the late take-off deviation is recorded to the original cause for the late landing, such as, operations. Commanders must consider the impact when a sortie takes off late and the aircraft is scheduled to turn to another sortie that day. It may be best to shorten the sortie duration after a late take-off and land at the scheduled landing time, rather than fly the scheduled duration, due to a higher priority mission later in the day.

4.3.2.5.1. **EXCEPTION**: RQ-4, U-2, C-130 series, C-135 series, E-3, E-4, E-8, and B-1 weapon systems will use 30 minutes for late take-off.

4.3.2.6. Spare (SP). A spare is a designated aircraft on the printed schedule to be used in case a scheduled primary aircraft cannot fly its scheduled sortie. Spare aircraft can also include aircraft that are scheduled to fly in sorties later in the day, have aborted from an earlier sortie, have flown earlier or released after FCF/OCF. Do not count printed spares flown in scheduled lines as deviations when computing FSE.

4.3.2.7. Tail Number Swap (TS). Tail swaps are changes to the printed flying schedule involving aircraft tail numbers printed on that day's schedule. Tail swaps may be made up to crew show time. Tail swaps made after crew show are recorded as spare. The MOC must be notified of all tail swaps and record all tail swaps in IMDS/MIS. Do not count Tail Number Swaps as deviations when computing FSE. Below are specific examples of tail swaps:

4.3.2.7.1. Changing aircraft in printed line numbers with printed spare aircraft.

4.3.2.7.2. Changing aircraft in printed line numbers to different printed line numbers.

4.3.2.7.3. Changing aircraft in printed line numbers to any previously flown aircraft. For example, tail swaps are allowed for aircraft after release from OCF/FCF or XC return aircraft.

4.3.3. Air Deviations. Air deviations are events occurring after take-off. They are recorded in IMDS/MIS but are not included in FSE calculations. Ground deviations take precedence over air deviations. Air deviations fall into the following categories:

4.3.3.1. Air Abort (AA). An air abort is an aircraft/sortie that cannot complete its mission for any reason. Air aborts are considered a sortie flown against the flying hour program when reporting total sorties flown, but may not be considered a successful sortie based on mission effectiveness by operations to meet RAP/training/contingency requirements. Air aborts will be coded to the agency or condition that caused the aborted mission.

Note: Effective mission decisions will be made by operations; however, a non-effective mission decision by operations does not necessarily mean an air abort occurred as defined in ACCI 21-118. For example, if one planned mission task out of a planned five tasks is not completed or operations flies an alternate mission (adversary, drone, etc..) and does not return the aircraft immediately to maintenance, the sortie should not be coded as an air abort if operations later determines, based on the original mission profile, the sortie was non-effective. The Air Abort rate is a maintenance indicator and as a measure of re-work (sorties reflown).

4.3.3.2. Air Abort, IFE (AI). An air aborted aircraft/sortie with a situation resulting in an in-flight emergency declared by the aircrew.

4.3.3.3. Early Landing (EL). An early landing is an aircraft/sortie landing more than 30 minutes before the scheduled landing time. Early Landing deviations are not used when computing FSE.

4.3.3.4. IFE (FE). An aircraft/sortie with a situation resulting in an in-flight emergency declared by the aircrew after the mission is accomplished.

4.3.3.5. Late Landing (LL). A late landing is an aircraft/sortie landing more than 15 minutes after the scheduled landing time. If the sortie originated on time, record any subsequent late take-off or cancellation against the agency that caused the late landing. If the extended sortie did not originate on time, record any subsequent sortie deviation against the agency that caused the original delay. Late landings are not included in FSE calculations.

4.3.4. Ground Aborts. A ground abort by itself is not a deviation from the flying schedule, but can cause a deviation such as lost sortie or late take-off. A ground abort is an event after crew show time preventing a "crew ready" aircraft from becoming airborne. Ground aborts will be recorded to the responsible agency or condition that caused the aircraft to abort. Ground aborts are categorized as GAA, GAB, GAC, operations, HHQ, weather, sympathy, other, etc. For maintenance ground aborts do not use cause code MTx, only use GAA, GAB, or GAC. For example, if an aircraft ground aborts and the sortie is not replaced by a spare, the lost sortie is a deviation towards FSE. Ground aborts on FCFs or OCFs will be recorded in IMDS/MIS, but not used when computing FSE.

4.3.4.1. If a ground aborted aircraft is replaced by a spare, and the spare can meet the mission requirements, the original aircraft will be coded as a **"spare ground abort." Note:** This is not used in computing FSE.

4.3.4.2. If the original aborted aircraft is launched on the original scheduled mission, but exceeds the 15-minute late take-off criteria, the sortie will be recorded as a late take-off.

4.3.4.3. If the aircraft lands, takes fuel via the hot pits, incurs an NMC condition after completion of hot pit refueling (receptacle disconnected) and can no longer continue, a ground abort is recorded.

4.3.4.4. If an aircraft ground aborts and is replaced by a spare and the spare ground aborts causing the sortie not to be flown, both ground aborts will be counted in the overall ground abort rate, the lost sortie will be considered cancelled and included as the deviation in FSE. The first ground abort would not be used in computing FSE.

Table 4.1. Common Flying Scheduling Effectiveness Deviation Determination Matrix.

Event	Is the deviation		Remarks
	Recorded in IMDS/MIS?	Calculated in FSE?	
Pen-and-Ink changes to the schedule are made on an AF Form 2407 (IAW paragraph 3.10.1.1)	No	No	Pen-and-Ink changes are not deviations and are considered part of the printed schedule. See paragraph 3.8.1.1
Take-off or landing time is changed after approved Pen-and-Ink submissions via AF Form 2407	Yes	Yes	See paragraphs 3.8.1. Calculation in FSE is determined by late and early criteria in paragraphs 4.3.2.3 and 4.3.2.4.
Aircraft configuration is changed after approved Pen-and-Ink submissions via AF Form 2407	No	No	These changes will be tracked locally to prevent reoccurrence and get a true picture of the total scheduling turmoil.
A sortie is added to the flying schedule (excluding OCFs/FCFs, XC return)	Yes	Yes	Paragraph 4.3.2.1
A sortie is added for an OCF/FCF/OCF/FCF "Chase"	No	No	These are considered flown as scheduled, paragraph 4.3.2.1.1
A sortie is canceled	Yes	Yes	Once the decision is made to cancel the sortie, it is a cancel. If a decision is made after the cancel to go ahead and fly the sortie, it becomes an added line. Paragraph 4.3.2.2.
A sortie is determined to be non-effective	No	No	Not a deviation. The determination is made by operations and has no bearing on FSE. Paragraph 4.3.3.1
A take-off is determined to be late	Yes	Yes	Paragraph 4.3.2.4
A take-off is determined to be early	Yes	Yes	Paragraph 4.3.2.3
A landing is determined to be early or late	Yes	No	A late landing may result in a late take-off on a subsequent sortie. See paragraph 4.3.3.5. to determine the cause of the subsequent late take-off.
During a surge, more sorties are flown than were printed and the statement "Sortie Surge" is NOT printed in the remarks section of the affected day's flying schedule	Yes	Yes	Sorties printed in the weekly schedule will be flown as printed. Additional sorties not printed will be considered added lines. Paragraphs 4.3.2.1. & 4.10.1

During a surge, more sorties are flown than were printed and the weekly schedule contains "Sortie Surge" in the remarks section of the affected day	No	No	During planned and printed surges and combat sortie generations, additional lines are considered flown as scheduled. Paragraph 4.10.1.5.
During a surge, an aircraft turn sortie takes off early or late	No	No	Units should track late take-offs of turn sorties locally during surges to prevent reoccurrence. Late take-offs are recorded for surge first go sorties. Paragraph 4.10.1.4
Maintenance is performed during a stop in a continuation sortie and the mission continues	Yes	Yes	An "add" is recorded for the subsequent sortie. Be sure the added line is designated as a continuation sortie to prevent further deviations for other scheduled stops. Paragraph 4.10.2.
A sortie is added to the schedule for weather attrition	Yes	No	Paragraph 4.5.2.
A sortie is canceled at any time due to weather	Yes	Yes	Prior to crew show it is a cancel, after crew show, it is a weather abort. Paragraphs 4.3.2.2 & 4.3.4
A spare aircraft printed on the flying schedule is used in a printed line.	Yes	No	Paragraph 4.3.2.6
An aircraft in the printed schedule is swapped with an aircraft in another printed line	Yes	No	Paragraph 4.3.2.6.2
An aircraft not printed in the flying schedule is used in a printed line. (excluding aircraft already flown that day such as OCF/FCF, X-Country returns)	Yes	Yes	One deviation is recorded for the added aircraft. The result is the same as adding an aircraft as a spare, then tail swapping it into a printed line. Paragraph 4.3.2.1
An aircraft not on the printed flying schedule is added as a spare.	No	Yes	Counts as a FSE deviation even if the aircraft does not fly. This has to be manually done by MMA because there is no required IMDS/MIS transaction that captures this. Paragraph 4.3.2.1
An aircraft not printed in the flying schedule that has flown that day is flown/used in a printed line	Yes	No	Examples include previously flown FCF/OCF aircraft as well as cross country returns. Paragraph 4.3.2.6.3
A ground abort is replaced with a another aircraft/spare on the printed schedule	Yes	No	Both the ground abort and spare action will be recorded in IMDS/MIS. If the replacement aircraft takes-off on time, no

			deviation is recorded. Paragraph 4.3.4.1
A printed aircraft ground aborts and is replaced with an aircraft **NOT** on the printed schedule and the second aircraft also ground aborts and the original aircraft is fixed, takes off late, and flies the sortie.	Yes	Yes	The original aircraft is recorded as a ground abort and late take-off. The second aircraft is recorded as an "add" and a ground abort. Ground aborts in themselves are not deviations calculated in the FSE rate, but are calculated in the ground abort rate. Paragraphs 4.3.2.2; 4.3.2.4 & 4.3.4.4

4.4. Deviation Causes. Deviations will be assigned a primary cause. See guidance in paragraph 4.1.1. to resolve questions concerning assigning deviations between maintenance and operations. Deviations will be assigned one of the following causes:

4.4.1. Maintenance (MT_). Deviations resulting from aircraft discrepancies, unscheduled maintenance, or for actions taken for maintenance consideration.

4.4.2. Operations (OP_). Deviations resulting from operations/aircrew actions, mission changes causing an early/late take-off, or cancellation including substitution/aircrew illness (including short notice aircrew physical/mental disqualification), and over-stressing the aircraft. OP_ are also deviations resulting from unit controlled operations factors including those caused by mission/load planning, life support, intelligence, base operations, range scheduling, and passengers.

4.4.3. Supply (SU_). Deviations resulting from a Partially Mission Capable Supply or Not Mission Capable Supply condition or for late Supply or POL delivery. See AFMAN 23-110, *USAF Supply Manual*.

Note: The actual time required for installation will be considered.

4.4.4. Higher Headquarters (HHQ). Deviations resulting from a higher headquarters tasking including closing of low level routes/ranges or external customer driven mission change. When an aircraft that was scheduled for a higher headquarters directed alert or off-base mission is replaced by a spare refer to paragraph **6.5** for unit options.

4.4.5. Weather (WX). Deviations resulting from weather conditions such as sorties canceled because of severe weather conditions. For example, if an aircraft taxied to the end of runway and the wing commander cancels all flying due to weather, the deviation is a weather abort. Sorties/Aircraft cancelled prior to crew show are weather cancels.

4.4.6. Sympathy (SY). Deviations occurring when a flight of two or more aircraft, under the command of a flight leader or instructor pilot are canceled, aborted, or late due to a cancellation, abort, or delay of one of the aircraft in the flight or a supporting flight. Flights engaged in Dissimilar Air Combat Tactics training that are delayed by the other flight will record the delay as sympathy. Sorties, which are to replace sympathy aborts or cancellations on the same day, will be recorded as sympathy additions. Sorties lost caused by the aircraft's scheduled mated tanker/receiver/mission event will be recorded as sympathy. Examples of

mission events are: loss of release times, tanker support, Minimum Interval Take-Off causing take-off delay or cancellation, deviations caused by another unit's or command's support should be coded as SY deviations.

Note: Deviations caused by aircraft/missions earlier scheduled lines will be assigned to the cause of the earlier deviation, not SY.

4.4.7. Air Traffic Control (AT). Deviations resulting from air traffic control problems (for example, flight clearance delays, tower communication failure, conflicting air traffic, runway change, or runway closure).

4.4.8. Other (OT). Deviations resulting from unusual circumstances not covered by other causes listed. OT may include:

4.4.8.1. Malfunctions, failures, or necessary adjustments to equipment undergoing tests or evaluations associated with Operational Testing and Evaluation (OT&E), Development Testing and Evaluation (DT&E), or Initial Operational Testing and Evaluation (IOT&E).

4.4.8.2. Unusual circumstances such as bird strikes, damage during air refueling, and unscheduled alert swap out.

4.4.8.3. Equipment, non-CAF. Deviations caused by National Airborne Operations Center or Air Intelligence Agency or Air Force Material Command equipment, and other non-CAF support and equipment.

4.4.9. Utilization Day (UTE). Commander's authorized management deletions IAW paragraph **4.5.3**

4.4.10. Exercise, Higher Headquarters (XEH). Deviations resulting from higher headquarters directed exercises, including alarm/force protection conditions.

4.4.11. Exercise, Local (XEL). Deviations resulting from wing/unit directed exercises, including alarm/force protection conditions.

4.5. Scheduling Exceptions:

4.5.1. Limited Number of Possessed Aircraft. AMUs with 11 or fewer possessed aircraft of a particular MDS, or 50% of their possessed aircraft deployed, are authorized to schedule tail numbers daily. Units may consider alert/IR aircraft and aircraft in possession code PJ or PR as non-possessed when applying the 11 or less rules. Units will print aircraft tail numbers in the weekly schedule. Aircraft tail numbers may be changed at the daily maintenance production meeting using AF Form 2407 without recording deviations **(sorties added or canceled are chargeable)**. Immediately following the daily maintenance production meeting, the selected aircraft tail numbers for the next day's flying schedule will be entered in IMDS/MIS. Once tail numbers are selected at the daily maintenance production meeting, normal deviations will be recorded. Although aircraft tail numbers may be changed at the daily meeting, maintenance and flying scheduling effectiveness is measured against the printed weekly schedule. **Aircraft tail number changes will be chargeable against FSE after tail numbers are confirmed during the daily maintenance production meeting.**

Note: No additional sorties may be added under this scheduling option without addition deviation rules being applied as applicable in paragraph **4.3.2.1.**

4.5.2. Adverse Weather. Units may add sorties to the flying schedule to make up for weather losses. Sorties will only be added to the schedule when the planned weather attrition for the month, prorated daily, has been exceeded for that month. The number of sorties added will not exceed the difference between the planned weather attrition and actual weather losses. Sorties added for weather that do not exceed prorated weather attrition, are not included in OP-MT-FES-Rate. (**EXAMPLE:** Planned weather attrition for the month equals 30 sorties. On the 10th O&M day of the month (of 20) a unit's weather losses are already 30 sorties. The unit may add 15 sorties (weather "adds"). The maintenance schedule and the ability of maintenance to support the additional requirements must be carefully considered before adding sorties. Under no circumstances will the number of sorties added for weather exceed the difference between actual weather losses and the prorated expected weather losses for the month. (See Chapter 8 for example of computing weather attrition for the flying schedule).

4.5.3. Achievement of Utilization (UTE) Rate. Utilization management is accomplished throughout the month. Attrition should be closely monitored and a determination to adjust the number of sorties required should be made before each weekly schedule is developed. This practice ensures an even sortie flow, eliminates excessive maintenance actions and limits the number of sorties canceled. The OG/CC is responsible for the flying program and, in coordination with the MXG/CC, can add or cancel sorties anytime during the month. However, flying scheduling effectiveness will be recorded when changing the weekly schedule. The OG/CC, in coordination with MXG/CC and MSG/CC, is encouraged to modify or cancel all or part of the schedule when they are reasonably assured the UTE rate goal for the month will be met. Sorties may be cancelled for UTE management during the last five O&M days of the month and will be recorded as "UTE." Sorties cancelled for UTE are not included in FSE. See AFI 11-102 ACCSUP for UTE rate development policy.

4.5.4. Achievement of Student Training Goals (TF coded and Flying Training Units only). The squadron commander may, when an OS has achieved its monthly training goal, adjust the weekly printed flying schedule. Mission take-off times, configurations, etc., may be changed without incurring deviations. All changes will be made at the daily maintenance production meeting and will be documented on an AF Form 2407. Once the schedule has been changed, normal deviation reporting applies. This option allows units the flexibility to maximize use of those sorties originally scheduled for student training.

4.5.5. Year End Closeout. During the last 15 O&M days of the fiscal year, units are permitted to selectively add/cancel scheduled sorties to manage the end-of-year flying hour closeout. These additions/cancellations will be recorded as "UTE." This provision is intended to help units gradually close out end-of-year flying without creating hangar queen aircraft and unintentionally exceeding the UTE rate. Sorties cancelled for UTE are not included in FSE. However, sorties requiring munitions support should be evenly distributed throughout the fiscal year to preclude a high demand for munitions support during the month of September. IAW AFI 21-201, *Conventional Munitions Maintenance Management*, semi-annual inventories must be started and finished in the months of March and September.

4.6. Combat Sortie Generation. Combat sortie generations are conducted to exercise the wing's ability to meet to the unit's combat sortie generation tasking under current war plans and contingency operations.

4.6.1. For scheduled combat sortie generations, publish the weekly flying schedule as a normal schedule. On the days the unit plans to exercise annotate scheduled exercise on the flying schedule and AF Form 2402, AF Form 2403 or electronic version. If an unannounced exercise is initiated, the remainder of the printed weekly schedule may be canceled and may be deleted from IMDS/MIS by the AMU PS&D.

4.6.2. Combat sortie generation will usually include operations using Air Tasking Orders. See paragraph **4.7** for ATO procedures.

4.6.3. When a scramble launch scenario is used, a launch "window" will be established for each line number or block of line numbers. Normal deviations will be assessed against all sorties.

4.6.4. Sorties lost due to required scenario responses such as chemical warfare condition black, airfield attacks, etc., will be recorded as "XEH or XEL."

4.6.5. If more sorties are flown than line numbers printed, those sorties will be considered flown as scheduled.

4.6.6. Once the objectives established by higher headquarters or the commander have been met, the remainder of that day's schedule may be canceled/deleted from IMDS/MIS by the MOF PS&D.

4.6.7. At the termination of the combat sortie generation, the unit's originally printed weekly flying schedule may be revised, canceled, or replaced with a new weekly schedule without recording deviations. If revised or replaced, the flying schedule must be coordinated before resuming normal operations. Normal deviation reporting procedures will apply once finalized.

4.7. Air Tasking Order. The Air Tasking Order (ATO) can contain mission numbers, on-status time/time on target and configurations. A daily flying schedule, including aircraft tail numbers for the first lines and spares, will be finalized and confirmed to operations and the maintenance operations center not later than 2 hours prior to the first on-status/take-off time. The new published schedule derived from the ATO, is applicable to all affected organizations and no AF Form 2407 is required to implement the new schedule. All changes after the new schedule has been published, up to the first unit crew show time, will be documented and coordinated on an AF Form 2407. Unlike a planned sortie surge, early and late take-offs are recorded on second and subsequent sorties, unless an ops change is made to the ATO. Normal deviations will be recorded against all sorties using the new published schedule derived from the ATO.

Note: All sorties (to include exercise ATOs published via SIPR net) launched under "Classified ATOs" will be considered flown as scheduled. Classified ATO lines that are missed will be recorded as cancels in the MIS. Cancellations will be loaded into the MIS once the sortie is declared cancelled regardless of actual scheduled take-off time and ground aborts will be recorded in MIS.

4.7.1. Alert Sorties. Sorties flown from alert because of a higher headquarters exercise, active air or practice scramble, or committed to fly from alert on the printed weekly schedule will be considered sorties flown as scheduled. Ground aborts will be recorded in MIS however no deviation is recorded against FSE, but the ground abort is recorded in MIS.

4.8. Unscheduled Tasking. When a unit is tasked with an unscheduled higher headquarters tasking or self-initiated tasking (mobility exercises or weather evacuations), or other services tasking which significantly impacts the printed weekly flying schedule, the printed schedule may be revised or deleted from IMDS/MIS by MOF PS&D and replaced with a new weekly schedule without recording deviations. For weather evacuations, the schedule will be cancelled in IMDS/MIS, not deleted, so the data is available for historical attrition.

4.8.1. If the schedule is revised or canceled and reprinted, the following procedures will be used:

4.8.1.1. Normal deviation reporting procedures will be followed once the revised/reprinted schedule has been finalized. The revised schedule will be finalized a minimum of 2 hours before the first scheduled launch.

4.8.1.2. Once the tasking terminates, the original schedule may be used or it may be revised for the tasking period, as required. If the schedule is revised, the coordinated schedule must be completed prior to resuming normal operations. Normal deviation reporting is used once the revised or reprinted schedule is finalized.

4.8.1.3. Normal deviation reporting procedures will be followed after a take-off time is established to a tasking by higher headquarters or other services.

4.8.2. If the unscheduled tasking has an adverse impact on the monthly UTE rate goal, the commander has the option to adjust the monthly sortie UTE rate goal.

4.8.3. An unscheduled tasking or actual combat operations may include use of an ATO. Deviations for all aircraft will be recorded IAW this instruction. For AMC aircraft assigned to a CENTAF AOR/CAF base for contingency support, deviations will be reported IAW AMC guidance.

4.9. Test and Evaluation. Wings responsible for the scheduling of OT&E, DT&E, or IOT&E aircraft are authorized to deviate from the published schedule for aircraft, which are engaged in these programs without incurring a deviation. They may adjust, formalize the test requirements, and select aircraft tail numbers up to 12 hours before the first scheduled OT&E/DT&E/IOT&E launch of the day. Deviations will be recorded based on the adjusted daily test schedule and as prescribed in this publication.

4.10. Scheduling Options to Maximize Sortie Production.

4.10.1. **Planned Sortie Surge.** Units may plan to produce sorties at a higher than normal rate. A unit may also use a planned sortie surge when the rest of the unit is deployed to a different location. A planned sortie surge is not considered a combat sortie generation or an unscheduled tasking. It should be conducted in a manner that takes full advantage of training opportunities inherent in a period of increased operations and maintenance activity. The number of sorties will be determined by training objectives and established by the OS and AMXS commanders. Printed sortie surge rates will exceed the daily sortie rate (average contracted sortie per O&M day based on the applicable monthly sortie/flying hour contract) of the unit by at least 50 percent, but not less than the contract required sorties scheduled on the monthly contract/plan. For example, if a unit normally flies 22 sorties in a day, to qualify for a surge, that same unit would schedule at least 33 sorties for the surge day. The statement "Sortie Surge" must be printed in the remarks section of the affected day’s flying schedule to

add sorties without incurring deviations. This option is for surge operations only; units will NOT use this option solely to provide take-of and land flexibility.

4.10.1.1. Surge scheduling scenarios should task maintenance and flying organizations realistically. For example, flat lining a surge is often not a feasible option. For example, scheduling a 12-ship to reach 60 sorties by turning the same 12 aircraft to fly 5 goes (12-ship turned 5 times) is often an unfeasible plan. Units should plan to get the maximum number of sorties possible from each aircraft committed to the schedule.

4.10.1.1.1. Units should be cognizant of historical break rates and spare constraints when scheduling surges. Spares are quickly used up during surges and once spares are exhausted the capability to meet surge goals is severely limited.

4.10.1.2. Extreme care must be exercised to avoid creating a backlog of unscheduled maintenance actions when scheduling sortie surges.

4.10.1.3. Aircraft tail numbers, take-off times, line numbers, and configurations will be printed in the weekly schedule for each aircraft's first sorties of each day. Include the statement "sortie surge" in the remarks section for each affected day.

4.10.1.4. Only line numbers are required on the weekly schedule for subsequent sorties (i.e., the total number of sorties/line numbers the unit intends to fly). Other data such as take-off times, configurations, and missions may be printed as required by the unit. To the greatest extent possible, the day prior, units should try to confirm subsequent sorties NLT the daily maintenance production meeting.

4.10.1.4.1. However, early and late take-offs are not recorded on second and subsequent sorties. For all other deviations, normal deviation reporting applies.

4.10.1.5. If more sorties are flown than what was intended (i.e., line numbers printed), these sorties will be considered flown as scheduled. All line numbers printed in the weekly schedule must be flown or normal deviation will be applied.

4.10.2. Continuation Sortie. A continuation sortie is a sortie containing scheduled operations stops. Maintenance provides support limited to chocking the aircraft and fire/safety observer and the aircraft engines/Auxiliary Power Unit (APU) must remain running. **EXCEPTION:** C-130 aircraft, engines may be shut down to upload/download aircrew. Continuation sorties are designed to accommodate training events, optimize aircraft use and minimize maintenance manpower expenditure. Continuation sorties will be clearly identified in the published weekly flying schedule. This scheduling option is intended to allow the exchange of aircrew/passengers with minimal maintenance participation and aircraft possession does not return to maintenance. The initial crew on the sortie will brief the follow-on crew at the aircraft. Units may add continuation sorties onto scheduled sorties to make up for sorties lost earlier in the same week without recording deviations. Do not include these added continuation sorties in FSE unless there were no lost sorties earlier in the week. If no sorties were lost in the same week, the added continuation sortie will be an "add" deviation in FSE. **Note:** No maintenance or servicing is performed during the stop. Returning the aircraft to maintenance terminates the continuation sortie. This scheduling option is not applicable to fighter and attack aircraft.

4.10.3. Engine Running Crew Change (ERCC). The ERCC sortie is used to optimize aircraft use. It involves turnaround of an aircraft incorporating partial or full crew change between two separate sorties. **The difference between ERCC and continuation sorties is minor maintenance and servicing can be performed between sorties and since each is a separate sortie, deviations apply to each sortie.** An aircraft is scheduled to fly an ERCC sortie in the published weekly schedule, upon landing, crew members are changed at the aircraft with at least one engine running. Minimum ground time should be scheduled between sorties. The crew of the first sortie must brief the crew of the second sortie at the aircraft. Other aircraft on the published flying schedule or previously flown aircraft not on the flying schedule (OCF, FCF, adds) can be tail swapped into the second sortie. For example, if two aircraft are scheduled to land at approximately the same time, either aircraft could ERCC to the later sortie. **EXCEPTION:** C-130 aircraft, engines may be shut down to upload/download aircrew. **Note:** This scheduling option is not applicable to fighter and attack aircraft.

4.11. Flying Scheduling Effectiveness Computations. Compute monthly flying scheduling effectiveness rate by aircraft mission and design using the formulas below: AFRC CAF-gained units will follow CAF instructions for scheduling effectiveness computation.

4.11.1. Total Sorties Scheduled = Total sorties flown plus (+) cancellations minus (-) Additions (added sorties only).

4.11.2. *Adjusted-Sorties-Scheduled = Sum of total sorties scheduled (home base, off station or deployed) minus (-) UTE cancellations.

4.11.3. *Calculated-Deviations = Sum of all deviations (including added aircraft) minus (-) air deviations, aircraft tail swaps, aircraft printed spare actions, ground aborted sorties flown by spare aircraft (on-time), and UTE cancellations/additions.

4.11.4. OP/MT-Deviations = Sum of all Calculated-Deviations recorded using OP_ or MT_ as the deviation cause code (include GAA, GAB and GAC).

4.11.5. Overall-FSE-Rate = Adjusted-Sorties-Scheduled minus (-) Calculated-Deviations divided by Adjusted-Sorties-Scheduled times 100.

4.11.6. *OP-MT-FSE-Rate = OP/MT-Deviations divided (/) by Adjusted-Sorties-Scheduled times (*) 100.

Chapter 5

MAINTENANCE SCHEDULING EFFECTIVENESS

5.1. Purpose. Maintenance Schedule Effectiveness (MSE). This is a leading indicator that measures the unit's ability to plan and complete scheduled maintenance events (i.e. inspections, periodic maintenance, etc.) and scheduled use of maintenance resources (Static/IR/Alert Prep, Training Aircraft, etc.) on-time per the maintenance plan. ACC goal for MSE is 95 percent. A low MSE rate may indicate a unit is experiencing a high rate of turbulence on the flightline or in the back shops. This indicator is primarily used as reliability indicator for maintenance managers assessing the unit's capacity to execute the scheduled maintenance plan.

5.1.1. A cornerstone of successful maintenance scheduling and execution is an understanding of how the schedule is executed versus how it was scheduled to be executed. These differences in scheduled versus actual events are only recorded in the execution phase of the scheduling process and are called deviations. Deviation data must be recorded so that follow-up analysis can identify the appropriate corrective actions if any are needed. Without deviation data, analysis is impossible. Deviation data recording and analysis is the beginning of the process to continually improve the scheduling and execution process that leads to improved unit flying operations. The unit is responsible for documenting deviations to the weekly flying and maintenance schedule and determining the cause for each deviation. Deviations must be coordinated with the appropriate squadron/AMU before being assigned to a specific category. Schedule deviations that result from a sequence of events will be assigned a primary cause. A determination of the primary cause will be made by the parties involved to arrive at a unit position. The squadron operations officer and the AMU OIC/AMXS maintenance operations, along with MOF maintenance operations, will monitor deviations to ensure they meet the criteria in this publication. When conflicts arise, leadership of involved units will resolve them at the lowest level. All deviations will be recorded as described in this publication.

5.2. Computations:

5.2.1. Compute the aircraft MSE using scheduled maintenance events in the printed weekly schedule. In order to make this data valuable it is important that the integrity of the data be maintained. The IMDS/MIS database will be used to determine whether or not the maintenance actions were completed on time. For example, if a maintenance event is scheduled in the weekly flying and maintenance schedule for Monday through Wednesday, IMDS/MIS must show completed before Thursday for credit. For maintenance events extending into the next week, credit for completion is based on the last day of the scheduled event (to 2400 on the last day of the scheduled event). **Note:** Periodic, Phase and ISO inspection completion will be measured using the completion date of the inspection as noted on the maintenance page. AMXS and MXS supervision will standardize the scheduled duration of the inspection for each MDS based upon the work card deck and fix phase critical path data determined from 4 years of IMDS/MIS historical data provided by MMA and Phase/ISO supervision assessments. Standardized durations will be documented and forwarded to MOF PS&D.

5.2.2. The MXG/CCs may select additional areas (such as Aerospace Ground Equipment, Avionics Intermediate Shop, Alternate Mission Equipment, static, training aircraft etc.) for local scheduling effectiveness tracking. The unit will establish standards for these additions. When reported to HHQ these locally selected areas will not be included in aircraft MSE rates.

5.2.3. MOF PS&D will implement procedures for reviewing and recording scheduled maintenance actions daily, forward this data to maintenance analysis weekly for computation and publication. Daily review will be accomplished by MOF PS&D and will not be delegated.

5.2.4. When a unit is tasked with a combat sortie generation, unscheduled tasking, unannounced exercise/real world contingency, or HHQ exercise that significantly impacts the printed weekly maintenance schedule, the plan may be revised or reprinted without incurring deviations. Utilizing MSE deviation **Table 5.1**, normal deviation reporting procedures will be followed once the revised or reprinted plan is finalized. The unaccomplished portion of the original maintenance schedule that was revised will not be included in the scheduling effectiveness formula.

5.2.4.1. Units may revise or reprint the following day's or remainder of that week's maintenance schedule to compensate for adverse weather. This adjustment should be used only in extreme cases and recorded on an AF Form 2407. Once changed, normal deviation reporting procedures will apply.

5.2.5. Squadron commanders will coordinate to cancel and reschedule maintenance actions to coincide with the portion of the flying schedule that was canceled after the unit or OS has achieved the UTE rate goal for the month. These canceled maintenance actions will not be included in MSE computations.

Table 5.1. MSE Deviations and Functions

DEVIATION	**FUNCTION**
Maintenance (MX)	Actions canceled to adding aircraft to the flying schedule, lack of manpower, equipment or as a result of mismanagement.
Operations (OP)	Actions cancelled or not completed on-time for operational considerations or as a result of adding aircraft to the flying and maintenance schedule to meet operations requirements. This also includes maintenance events not completed due to operations group actions. For example, Life Support Section not completing scheduled maintenance as published in the wing weekly flying and maintenance schedule.
Higher headquarters (HHQ)	Actions canceled or not completed as a result of higher headquarters tasking from outside of the wing.
Weather (WX)	Actions canceled or not completed as a result of weather conditions.
Supply (SU)	Deviations that result from verified parts back order condition.
Other (OT).	Aircraft impounded after publication of the weekly schedule, unscheduled major maintenance where the scheduled maintenance action cannot be accomplished because of tech data restrictions, aircraft off base and unable to return or as a result of Productivity/Utilization Goal Days
Low Observable (LO)	Scheduled maintenance events not accomplished specifically because LO restoration exceeded the original ETIC; actions not completed due to inaccessibility or not power capable
EXCEPTION: Any scheduled maintenance for an aircraft that is possessed by depot/PDM/CFT/DFT, that is not complied with because the aircraft is not released for possession as scheduled to the owning unit does not count toward MSE computations. **** Reference ACCI 21-118 for MSE computations**	

5.2.5.1. Formula: **Overall Maintenance Scheduling Effectiveness Rate = Total Points Earned Divide by Total Points Possible x 100.**

5.2.5.1.1. **To obtain only the OP-MX MSE rate**, treat events with deviations in categories other than OP or MX as if they were not missed.

Table 5.2. Maintenance Scheduling Effectiveness Computation.

SCHEDULED EVENT	**A WEIGHTED POINTS**	**B NUMBER OF EVENTS**	**C POSSIBLE POINTS (A x B)**	**D COMPLETED SCHEDULED**	**E POINTS EARNED (A x D)**
Periodic/Isochronal/ Phase Inspections	5				
Home Station Checks/Hourly Post Flights	5				
Engine Changes	5				
Time Changes	4				
TCTOs	4				
Corrosion Control/ Paint	4				
Special Inspections	3				
Document Reviews	2				
Delayed Discrepancies	3				
Total Points Possible:_____			Total Points Earned:_____		
Total O&M Points Possible:_____			Total O&M Points Earned:_____		

Chapter 6

DEPLOYED OPERATIONS AND OFF-STATION SORTIES

6.1. Purpose. This chapter establishes rules and procedures used in planning, executing, evaluating, and reporting of unit flying and maintenance schedules at deployed locations where unit maintenance is provided. Sorties flown at deployed locations where no parent unit maintenance is provided are considered off-station sorties. If parent unit support is deployed, this is considered the same as home station support and normal deviation reporting applies. Limited launch support is not considered parent unit maintenance.

6.2. General. Normal deviation reporting applies to deployed operations except as noted in this chapter. Data from deployed operations will be transmitted or forwarded back to home station and included in unit totals IAW ACCI 21-118.

6.3. Scheduling. In addition to the procedures for home station scheduling and reporting, deployed units will use the following procedures when developing a weekly flying schedule and reporting deviations:

6.3.1. Separate block(s) of sortie sequence numbers will be assigned for deployment location(s).

6.3.2. When a spare aircraft is launched for a scheduled deployment to a Forward Operating Location (FOL), the options in paragraph **6.5.1** apply to the home station and deployment location flying and maintenance schedules.

6.3.3. **Additions and cancellations at deployed locations, which are required to accomplish specific aircrew training requirements and make optimum use of available range time, are considered flown as scheduled.** This does not relieve operations and maintenance from developing a viable and realistic flying schedule at the deployed location. The primary purpose of this flexibility is to allow the unit to make up non-effective sorties to ensure accomplishment of the deployment training plan. Procedures for changing the weekly schedule in **Chapter 2** apply to deployment location flying and maintenance schedules. Additions and cancellations caused by ineffective planning are recorded.

6.3.4. When operating at a deployed location using a daily ATO, follow procedures outlined in paragraph **3.7** of this instruction.

6.4. Deployed Daily Activity Report. Required information for deployed ACC units will be transmitted to home station IAW applicable unit deployment plans. If required, refer to ACCI 21-118, Chapters 3 - 5 for further guidance.

6.5. Off-Station Sorties. Off - station sorties are those sorties flown from other than home station and parent unit maintenance is not provided (e.g., cross-country sorties). Units will publish sorties planned while off station. Take-off and landing times may be TBD when supporting another unit and the specific times are unknown at the time of publishing. The following paragraphs outline the rules that apply to higher headquarters alert or off-station sorties:

6.5.1. When a spare is launched to the off-station/cross country location in place of the originally intended aircraft, one of the following options applies.

6.5.1.1. Option 1. The originally scheduled prime aircraft, which remained on base, may fly the sorties of the departed aircraft for the remainder of the week without recording FSE deviations. However, maintenance scheduling effectiveness is based on the published weekly schedule.

6.5.1.2. Option 2. The sorties may be tail-swapped with a printed spare aircraft on each day's schedule.

6.5.2. When an aircraft is off-station and cannot return to home station for its scheduled sortie, a deviation will be recorded for the reason the aircraft was unable to return. The reasons will be specific, i.e., maintenance, operations, weather, etc.

Note: If the off-station aircraft can fly its scheduled mission from its location, no deviation is recorded.

6.6. Deployed MOF PS&D Support Operations.

6.6.1. NLT 7 days after arrival of a new units arrival, MOF PS&D Superintendent will visit all decentralized scheduling activities and provide technical assistance as needed.

6.6.2. Units will follow home station guidance.

6.6.3. Homestation AVDOs will perform AVDO duties on deployed aircraft unless the possession changes to the deployed location. With homestation AVDO approval, CENTAF MOF PS&D will make MIS inventory/status transactions and coordinate message requirements with homestation AVDOs. If possession changes, CENTAF, MOF PS&D will perform all AVDO duties.

6.6.4. Units will use CAF/MAF supplement to AFI 21-101 and CAFI 21-165 to develop weekly schedules and for FSE/MSE reporting.

6.6.5. When deploying or deployed to the CENTAF AOR, units in addition to CAFI 21-165 guidance will also follow AFI 21-101_USCENTAFSUP1 pre-deployment and deployment guidance.

Chapter 7

FLYING SCHEDULING REPORTING PROCEDURES

7.1. Purpose. This chapter provides instructions on flying scheduling reporting procedures. The flying schedule must be loaded in IMDS/MIS to track scheduling and deviation data. Once loaded, the IMDS Daily Mission Schedule background report (IMDS screen 361) or proposed maintenance plan background report (IMDS screen 361) provides detailed base-level retrieval of flying and maintenance schedule retrieved from IMDS. IMDS/MIS will also be used to provide higher headquarters reporting of aircraft utilization.

7.2. Responsibilities:

7.2.1. The MXG/CC will ensure procedures are established to verify the accuracy of all scheduling and deviation data.

7.2.2. MOF PS&D section will publish the weekly flying schedule IAW Chapter 3 of this publication on AF Forms 2400 series or computer generated products. The MOF PS&D will load the weekly flying schedule into IMDS/MIS by 1600L Friday (exception: 2 hours after the squadrons last landing during printed wing night flying weeks) for the following week using the procedures in AFCSM 21-565V2. Refer to paragraph **4.5.1** of this instruction for daily tail number scheduling procedures.

7.2.3. The MOC will review the on-line IMDS debriefed sortie recap, screen 174, and the IMDS background products daily *Accomplishment Utilization Report (Screen 362), Deviation Detail Listing (Screen 181), Deviation Summary Inquiry (Screen 173) and Uncompleted Operational Events (Screen 719),* daily to ensure accuracy of deviation reporting. The MOC will also review Uncompleted Operational Events, IMDS screen 719, daily to ensure uncompleted sortie lines are deleted using Operational Events Delete IMDS screen 883, if necessary after coordination with debrief section and MOF PS&D. The MOC will record additions, cancellations before crew show, late and early take-offs and landings, and Tail Swaps in IMDS as deviations occur.

7.2.3.1. The debrief section will record aborts and in-flight emergency incidents in IMDS during the IMDS automated debriefing process. After a primary aircraft ground aborts and is replaced by a spare, debrief sections will ensure that the deviation code is recorded as a Spare deviation with the appropriate cause code {SP/GAA (GAB, GAC)} against the original aircraft; debrief sections will not record the deviation as a Ground Abort {GA/GAA (GAB, GAC)} against the original aircraft that was replaced by a spare. Analysis will count SP/GAA (GAB, GAC) as one ground abort deviation but will not count this against FSE (see paragraphs **4.3.2.5** and **4.3.4**). For all other spare and ground abort deviations procedures debrief will follow procedures in paragraph **4.3** Weapons systems not utilizing IMDS will use the applicable MIS to make appropriate inputs and to retrieve required data.

7.2.3.2. The MOC will coordinate with both the flying squadron and AMU on all changes and deviations to the daily flying schedule to assist in determining correct debriefing status codes. The MOC will provide sortie sequence numbers and sortie numbers to the squadron/AMU for all additions and cross-country sorties. Sortie numbers assigned to a specific tail number must be in sequential order (for example sortie

number 101 must be used on a specific tail number before sortie number 102). Unique sortie sequence numbers will be developed for deployed sorties.

7.2.4. The following instructions apply to IMDS screen 474, *Cause Code Table*; 342, *Operational Event Cancellation*; 343, *Operational Event Tail Number Swap/Tail Number Spare*; and 350, *Deviation, Start/Stop/Correction Abort/Delete*. The Ground Deviation Code block cannot be blank. Enter one of the following codes or one of the ground deviation codes in AFCSM 21-565V2:

Table 7.1. Ground Deviation Codes and Functions CODE FUNCTION

7.2.5. All deviations should be recorded and should have the following code to indicate the deviation:

Table 7.2. Category Codes and Functions.

CODE	FUNCTION
C	Chargeable Deviations for FSE (all deviations are recorded, but not all are chargeable against the FSE see paragraph 4.11)
N	Non-chargeable Deviation for FSE, see paragraph 4.11

7.2.6. Cause Code. Enter one of the following codes to indicate the reason for a deviation or the agency, which caused a deviation. These codes must be entered into the IMDS Cause Code table as outlined in AFCSM 21-565V2. The maintenance indicator block is left blank when loading the following Cause Codes. For maintenance ground aborts do not use cause code MTx, only use GAA, GAB, or GAC.

Table 7.3. Cause Codes and Functions.

CODE	FUNCTION
ATx	Air Traffic
XEH	Exercise, HHQ
XEL	Exercise, Local
GAA	Ground Abort, before engine start, maintenance
GAB	Ground Abort, after engine start, before taxi, maintenance
GAC	Ground Abort, after taxi, maintenance
HQT	Higher Headquarters, MAJCOM (non-exercise)
HQN	Higher Headquarters, NAF (non-exercise)
HQP	Higher Headquarters, other (non-exercise)
MTx	Maintenance
OPx	Operations
SUx	Supply
SYx	Sympathy
XUT	UTE Cancel
WXx	Weather
OTx	Other
Xxx	Local Option
Note: Use x for any character for local use.	

7.2.7. Air Deviation Code. Enter one of the following codes or one of the air deviation codes in AFCSM 21-565V2 for each deviation that occurs after aircraft take-off: Air Deviations are not included in FSE rate computations, but must be recorded.

Table 7.4. Air Deviation Codes and Functions.

CODE	FUNCTION
AA	Air Abort (includes operations, weather, sympathy, ATC, Non-IFE, and other)
AI	Air Abort, IFE
EL	Early Landing
FE	IFE
FI	In-flight Incident
LL	Late Landing

7.2.8. Weapons systems not utilizing IMDS will use the applicable MIS to make appropriate inputs and to retrieve required data IAW system specific directives.

Chapter 8

ATTRITION AND SPARES

8.1. Attrition. Attrition factors represent historical percentage of scheduled sorties lost to causes outside unit control. Maintenance and Operations schedulers add attrition sorties to monthly contracts to ensure mission goals are met. Units may make a conscious decision, with HQ ACC/A4QJ approval, to use different attrition factors from statistical attrition rates calculated by MMA.

8.1.1. Attrition sorties are not substitutes for unit capability shortfalls, they are added to the contract to mitigate scheduling turbulence to facilitate that unit's mission goals are met. Attrition sorties are planned for based on historical sortie losses captured and measured by MMA. The monthly flying and maintenance plan will clearly identify attrition sorties for planning purposes and can be applied to the contract sorties daily, weekly or monthly to project scheduled sortie requirements. It is important to maintain consistency in application to minimize fluctuations in required sorties. If attrition is less or more than planned, adjustments to the weekly flying and maintenance schedule will be made to prevent over-extending maintenance or exceeding the unit's contract. A sortie lost will normally be flown in the same month the loss occurred. If at the end of a quarter combined losses exceed attrition figures, the OG and MXG/CCs will negotiate a resolution to the shortfall.

8.1.2. The factors used to compute attrition will be MXx, OPx, SUx, WXx, ATx, SYx, OTx, EXH, EXL, and HQx cancels. Include unspared ground aborts when computing Mx cancels. Attrition and spare factors will be computed for and applied to each flying squadron. Monthly statistical attrition anomalies should be identified, documented and factored out of attrition calculations if necessary. MMA will compute attrition factors monthly for each OS/AMU and provide the results to MOF PS&D and OSS Current Operations. During the annual "Proposed FHP", MMA will provide attrition factors by month for the entire next fiscal year.

Note: Attrition and spare factors need not be developed for test and evaluation (CB) possession identifier coded aircraft.

8.2. Attrition Factor Application:

8.2.1. Attrition computation is based on unit historical data from previous similar flying months. For example, when computing attrition for Jan 12, use historical data for Jan 11, Jan 10, Jan 09, Jan 08, etc. Use minimum of 4 years of historical data ensuring seasonal variations are considered to determine a basis for attrition. When computing attrition, use the total sorties lost in a particular category. Do not use the difference between the sorties lost and those sorties added to make up for the losses. The formula for computing the attrition factor is Historical Sorties Lost divided by Historical Sorties Scheduled.

Table 8.1. Attrition Computation Example:

Cancels:	
MX Cancels	.02
OP Cancels	.01
SU Cancels	.01
OT Cancels	.01
AT Cancels:	.01
SY Cancels:	.01
EXH Cancels:	.00
EXL Cancels:	.01
HQ Cancels:	.01
Cancels attrition factor:	.09
WX Cancels:	.03
Total attrition factor:	.12
Overall attrition factor is .12 or 12%	

Table 8.2. Sample Application of Total Attrition Factor:

Sorties Required	1000
Subtract attrition factor from 1:	(1-.12) =.88
Divide	1000 by .88
Required sorties to schedule 1,136.36, round up to 1137.	
Based on historical attrition of .12%, the unit can expect to lose 137 sorties to meet the required 1000 sorties.	

8.3. Prorated Weather Attrition:

8.3.1. Computation. Weather attrition sorties will only be used when sorties are lost because of weather. Weather attrition sorties will not be carried over into another month. Using the weather attrition factor, compute the number of anticipated sortie losses for weather. Divide the number of weather losses by the O&M days. This will determine the prorated weather attrition.

Table 8.3. Sample Application of Prorated Weather Attrition Factor:

Sorties Required	500
Subtract the weather attrition factor from 1	(1-.03) =.97
Divide 500 by .97	500/.97
Equals Required Sorties to Schedule	516
Minus Sorties Required	500
Expected Weather Losses	16
Divide 16 by O&M Days (20 for this exercise)	16/20
Expected Sortie Losses per O&M Day .75	
A unit would expect.75 sorties lost each O&M day in the month for weather. Thus, a total of 16 sortie losses (.75 sorties x 20 O&M days) would be expected for that month. Whenever weather losses exceed the total projected weather losses (number of O&M days to date x.75, round up to the next whole number), a unit may add sorties not to exceed the difference between the sorties lost due to weather and the total projected weather losses. For example on the 11th O&M day of the month, a unit lost a total of 15 sorties to-date due to weather. The expected prorated weather sorties lost to-date is 9 (1.55 .75 times 11 equal 8.25, round up). The unit also added 2 weather sorties earlier in the month. The unit could add up to 4 sorties (15 sorties lost to date due to weather minus 9 prorated losses minus 2 weather adds equals 4 weather adds available).	

8.4. Spares. The spare requirements will not exceed 20 percent (30 percent for training units owning TF coded aircraft) of aircraft committed to the flying schedule, rounded up to the next whole aircraft. **Note:** During Planned Sortie Surges the MXG/CC determines the amount of spares that will be committed. However, leadership must consider health of the fleet when authorizing scheduled spares above 40 percent.

Note: Units should be cognizant of their historical break rates and spare constraints when scheduling surges. Spares can be quickly used during surges and once spares are exhausted the capability to meet surge goals is severely limited.

8.4.1. MMA computes annual spare aircraft requirements by month, using historical aircraft first sortie logistics losses and provides this information to the MOF PS&D for use in computing spare aircraft requirements. Spare computation is based on unit historical data from previous similar flying months. For example, when computing spares for Jan 06, use historical data for Jan 05, Jan 04, Jan 03, Jan 02, Jan 01, etc. Use a minimum of 4 years historical data to ensure seasonal variations are included to determine a basis. The formula for computing spare factors is Historical First Sortie Deletions/Cancellation divided by historical first sorties scheduled.

8.4.1.1. A first sortie is defined as a sortie flown by an aircraft that has not previously flown for the day (0001-2400 flying period). For example, if 8 aircraft are committed to the schedule and there are 14 total sorties scheduled, the first 8 sortie line numbers (i.e., 101-108) should reflect all 8 committed aircraft tail numbers before they are re-scheduled (turned) against the last 6 (i.e., 109-114). This would be reflected as an 8 x 6 and will not

be reflected as a 6 x 8 because of scheduled take-off times. Additionally lines are listed in sequential order with take-off times that reflect this order.

8.4.1.1.1. Operations may define first sorties or turns by mission profile, take-off times, but for the purposes of this instruction the sortie turn pattern is defined against initial aircraft flown and scheduled turns of the same or a portion of the same aircraft.

Table 8.4. Sample Application of Spare Factors.

1st Sortie Maintenance Cancellations	.10
1st Sortie Supply Cancellations	.03
1st Sortie Ground Aborts	.05
Spare factor	.18 or 18%
A sample figure of 12 first sorties is used in the following computation:	
Spare aircraft required equals 1st sorties scheduled times the spare factor and rounded up to the next whole number.	
12 x .18 = 2.16 Spares Required is 3	

8.4.2. The computed spare requirement may be adjusted to compensate for multiple configurations and syllabus constraints. When additional spares are added for multiple configurations, units will not exceed one spare per configuration.

8.4.2.1. Additional spares are authorized to support higher headquarters taskings and special missions (if required by the tasking).

8.4.2.2. At least one spare aircraft is authorized per MDS for each flying day.

8.4.2.3. Unmanned Aerial Systems training missions are authorized an additional spare to support increased aircrew training requirements due to crew size ratio.

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Director of Logistics

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 11-102, *Flying Hour Program Management*, 30 Aug 2011

AFI 11-212, *Munitions Requirements for Aircrew Training*, 8 Apr 2009

AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*, 1 Dec 2009

AFPD 21-1, *Managing Aerospace Equipment Maintenance*, 25 Feb 2003

AFI 21-101, *Aerospace Equipment Maintenance Management*, 26 Jul 2010

AFI 21-101_CAFSUP, *Aerospace Equipment Maintenance Management*, 1 Oct 2012

AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*, 26 Jan 2012

AFI 21-201, *Conventional Munitions Maintenance Management*, 7 Mar 2012

ACCI 21-118, *Logistics Maintenance Performance Indicators Reporting Procedures*, 2 Aug 2012

AFCSM 21-565V2, *Operational Event Subsystem*, 1 Oct 2009

AFMAN 23-110, *USAF Supply Manual*, 1 Apr 2009

AFI 33-324, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections*, 1 Jun 2000

Prescribed Forms:

This instruction does not prescribe any forms.

Adopted Forms:

AF Form 847, *Recommendation for Change of Publication*

AF Form 2401, *Equipment Utilization and Maintenance Schedule*

AF Form 2402, *Weekly Equipment Utilization and Maintenance Schedule*

AF Form 2403, *Weekly Aircraft Utilization/Maintenance Schedule*

AF Form 2407, *Weekly/Daily Flying Schedule Coordination*

AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document*

Abbreviations and Acronyms

AA—-Air abort

ACC—-Air Combat Command

ACCI—-Air Combat Command Instruction

AD—Addition

AF—-Air Force

AFCSM—-Air Force Computer Systems Manual

AFI—-Air Force Instruction

AFMAN—-Air Force Manual

AFPD—-Air Force Policy Directive

AFRC—-Air Force Reserve Command

AFTO—-Air Force Technical Order

AI—-Air abort, IFE

AMU—-Aircraft Maintenance Unit

AMXS—-Aircraft Maintenance Squadron

ANG—-Air National Guard

AOR—Area of Responsibility

APU—-Auxiliary Power Unit

AR—-Allocations

ASD—-Average Sortie Duration

AT or ATC—Air Traffic Control

ATO—-Air Tasking Order

ATx—Air Traffic

AVDO—-Aerospace Vehicle Distribution Office

BAI—-Backup Aerospace Vehicle Inventory

C—Chargeable recorded deviation

CAF—-Combat Air Forces

CC—Commander

CFT—Contract Field Team

CHRG—Chargeable

CX—Cancellation

DD—-Delayed Discrepancy

DFT—Depot Field Team

DT&E—-Development Testing and Evaluation

EL—-Early Landing

ERCC—-Engine Running Crew Change

ET—Early Take -off

FCF—Functional Check Flight

FE—-IFE

FHP—-Flying Hour Program

FI—-In-flight Incident

FOL—-Forward Operating Location

FSE—-Flying Scheduling Effectiveness

GA—-Ground Abort

GAA—-Ground abort, before engine start, maintenance

GAB—-Ground abort, after engine start, before taxi, maintenance

GAC—-Ground abort, after taxi, maintenance

HHQ—Higher Headquarters

HQ—-Headquarters

HQN—-Higher Headquarters, NAF

HQP—-Higher Headquarters, other

HQT—-Higher Headquarters, MAJCOM

HUTE—-Hourly Utilization

IAW—-In Accordance With

IFE—In-flight Emergency

IMDS—-Integrated Maintenance Data System

IOT&E—-Initial Operational Testing and Evaluation

IR—-Immediate Response

ISO—-Isochronal

JA/ATT—-Joint Airborne Air Transportability Training

LG—-Logistics Group

LL—-Late Landing

LO—-Low Observable

LSS—-Logistics Support Squadron

LT—Late Take-off

MAF—-Mobility Air Forces

MAJCOM—-Major Command

MDS—-Mission Design Series

MMA—-Maintenance Management Analysis

MIS—-Maintenance Information Systems

MOC—-Maintenance Operations Center

MOF—-Maintenance Operations Flight

MOO—-Maintenance Operations Officer

MOS—-Maintenance Operations Squadron

MSE—-Maintenance Scheduling Efficiency

MSG—-Mission Support group

MT—-Maintenance

MTx—--Maintenance

MX—-Maintenance

MXG—-Maintenance Group

MXS—-Maintenance Squadron

N—Not used (all deviations are recorded)

NCO—-Noncommissioned Officer

NLT—-No Later Than

OCF—Operational Check Flight

OG—-Operations Group

O&M—Operations and Maintenance

OIC—-Officer in Charge

OP or OPS—--Operations

OPx—Operations

OS—-Operations Squadron

OSS—-Operations Support Squadron

OT—-Other

OTx—Other

OT&E—-Operational Testing and Evaluation

PACAF—-Pacific Air Forces

PAI—-Primary Aerospace Vehicle Inventory

PDM—-Programmed Depot Maintenance

PE—-Periodic

PH—-Phase

PMAI—-Primary Mission Aircraft Inventory

POL—-Petroleum, Oil, and Lubricants

PRA—-Planning Requirements

PS&D—-Plans, Scheduling, and Documentation

RAP—-Ready Aircrew Program

ROE—-Rules of Engagement

QA—-Quality Assurance

SAAM—-Special Assignment Airlift Mission

SE—-Support Equipment

SP—Spare

SU—-Supply

SUTE—-Sortie Utilization

SUx—--Supply

SY—-Sympathy

SYx—Sympathy

TCTO—-Time Compliance Technical Order

TDI—-Time Distribution Index

TDY—-Temporary Duty

TF—-Aircraft possessed for training

T.O. —Technical Order

TR—-Training Range

TS—-Tail number Swap or Exchange

USAF—-United States Air Force

USAFE—-United States Air Forces in Europe

UTA—-Unit Training Assembly

UTE—-Utilization

WX—-Weather

WXx— Weather

XC—Cross Country

xxx—Local option

XEH—-Exercise, Higher Headquarters

XEL—-Exercise, Local

Terms

Active Associate—ARC/ANG component unit retains principal responsibility for weapon system or systems; shares with one or more AD units.

Addition—An increase in sorties or aircraft added to the printed weekly flying schedule.

Air Abort—An airborne aircraft that cannot complete its primary or alternate mission.

Air Deviation Code—A deviation from the scheduled sortie flight plan occurring after aircraft take-off.

Alert Sorties—Sorties flown from alert because of a higher headquarters exercise, active air or practice scramble, or committed to fly from alert on the printed weekly schedule will be considered sorties scheduled and flown as scheduled.

Attrition—Losses expected based on historical data. Sorties added by maintenance scheduling to a unit's sortie contract to allow for expected losses due to maintenance, operations, supply, air traffic control, sympathy, HHQ, other cancels, and weather cancels as computed IAW Attachment 2. If attrition is less or more than planned, adjustments to the schedule should be made to prevent overextending maintenance and/or to stay within the unit's sortie flying hour program. Attrition sorties are not substitutes for capability shortfalls; they are additive to the contract to ensure mission goals are met. A sortie lost will normally be flown in the week/month the loss occurred. If at the end of a quarter, losses exceed attrition figures, the OG/MXG CCs will come to an agreement on how the shortfall will be corrected.

Attrition Reserve—Reference AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*. Attrition reserve aircraft are those aircraft required to replace primary aircraft inventory losses in a given year projected over the life span of the weapons system. These aircraft are distributed to operational and training units to evenly spread life cycle fatigue and ensure all aircraft receive periodic systems upgrades and modifications. Assigned attrition reserves are occasionally realigned to maintain fleet balance.

Backup Aircraft Inventory (BAI)—Aircraft above the PMAI to permit scheduled and unscheduled maintenance, modifications, inspections and repair without reduction of aircraft available for operational missions.

Cancellation—An aircraft or sortie that is removed from the printed schedule for any reason.

Change—A recompilation of a unit's month-by-month flying hour plan, this is required when the unit's flying hour allocation changes.

Chargeable Aircraft (CHRG ACFT)—The number of aircraft against which units should build their flying programs and against which the UTE will be measured. Chargeable aircraft will equal PAA, but in cases where the number of possessed aircraft is forecast to be significantly different than PAA, HQ ACC/A3/A4 and the C2ISR Agency will assign a chargeable aircraft number.

Classic Associate— AD component unit retains principal responsibility for weapon system or systems; shares with one or more ARC/ANG units.

Combat Sortie Generation—A process by which aircraft are generated in a minimum time, during peacetime or wartime, through concurrent operations that may include refueling, munitions loading/unloading, aircraft reconfiguration, and -6 inspection and other servicing

requirements. These exercises test a wing's ability to meet current war plans and contingency operations.

Continuation Sortie—A scheduled sortie containing scheduled operation stops. When a crew completes their training/mission and performs an operation stop, the engines/APU remains running and maintenance does not service the aircraft. The aircraft can subsequently be launched without the participation of maintenance personnel, except for a fire/safety observer. The prime purpose is to on/off load crew members. **EXCEPTION**: For safety, C-130 aircraft, engines may be shut down to upload/download personnel. **Note**: N/A to fighter and attack aircraft.

Crew Ready—An aircraft that has been properly inspected, fueled, required weapons loaded, necessary maintenance actions completed, the exceptional release signed off (for the first flight of the day) and the tail number passed to operations. **Note**: Units will develop and publish specific crew ready times for each assigned MDS as agreed upon by the OG/CC and MXG/CC.

Crew Show—The time that the aircrew arrives at the aircraft.

Deployed Sorties—Sorties launched away from home base or isolated areas at home base, with parent-unit maintenance provided. For the purpose of this instruction deployed sorties are considered home station sorties.

Daily Maintenance Production Meeting—Meeting required by AFI 21-101 and CAF Sup to review the previous day's accomplishments, verify aircraft and equipment utilization and scheduled maintenance requirements for the current and next day, establish work priorities, and coordinate schedule changes.

Deviation—A departure from the printed weekly flying schedule.

Early Landing—Scheduled sorties landing more than 30 minutes prior to scheduled landing time. Do not record early landing deviations for hot pit turn sorties launched more than 15 minutes prior to the scheduled take-off time. Early landing deviations are not included in FSE calculations.

Early Take-off—Scheduled sorties launched more than 30 minutes prior to scheduled take-off. **Note:** Do not record early take-off deviations for hot pit turn sorties.

Exercise—A unit or higher headquarters event designed to test or evaluate an organization's plans, procedures, and operational/maintenance capabilities. Exercises are a planned sortie surge, a combat sortie generation, or an unscheduled tasking. Operational readiness inspections and wing directed operational readiness evaluations are combat sortie generations.

Extended Sortie—Scheduled sorties that land more than 15 minutes past the scheduled landing time. If the extended sortie originated on time, record the subsequent late take-off or deletion against the agency that caused the late landing. If the extended sortie did not originate on time, record the subsequent sortie deviation against the agency that caused the original delay.

External Customer—Outside the control of the operational wing, a user of aircraft sorties that dictates, either partially or wholly, flying schedule execution (e.g., Joint Airborne Air Transportability Training (JA/ATT) users, Special Assignment Airlift Mission (SAAM) users or channel mission users.

Ferry Sortie—Those sorties flown to transfer an aircraft to or from a maintenance facility or to a new assignment, including inter-command, inter-unit transfers.

Flown as Scheduled Sortie—A sortie flown by a specific aircraft on the date and time indicated on the printed weekly schedule, and those aircraft that are defined as "flown as scheduled" elsewhere in this instruction.

Flying Scheduling Effectiveness (FSE) Rate—The FSE rate is the percentage of sorties flown as scheduled. This rate determines how efficiently the planned/printed flying schedule was executed. It also indicates unit turmoil caused by flying schedule deviations.

FSE Maintenance/Operations (MX/OPS) Deviation Rate—The number of maintenance and operations deviations divided by adjusted sorties scheduled multiplied by 100. Reflects the number of deviations within unit control. The MX/OPS deviation rate is a subset of FSE. Only count the MX/OPS deviations used to compute the FSE rate.

Functional Check Flight (FCF)—The flight of an aircraft, in accordance with the applicable dash -6 manual, to verify the airworthy condition of the aircraft.

Ground Abort—Event after crew show time that prevents a "crew ready" aircraft from becoming airborne. Ground aborts are categorized as maintenance (GAA, GAB, GAC), operations, HHQ, weather, sympathy, other, etc… The difference between a ground abort and a cancellation is after crew show it is a ground abort, before crew show it is a cancel. A ground abort by itself is not a deviation, but can cause a deviation such as lost sortie or late take-off.

Higher Headquarters—A controlling agency above wing level.

Home Station Sortie—Sorties launched from the home base or deployed locations where parent unit maintenance is provided.

Hot Pit Turn—Refueling aircraft with engines running between sorties at a designated location with approved equipment IAW T.O. 00-25-172. Hot pit refueling provides minimum aircraft turnaround time and reduces fueling personnel and equipment support requirements.

Immediate Response Aircraft—Mission capable aircraft postured to meet short-notice taskings which allow flexibility in meeting required Designed Operational Capability (DOC) timing.

In-Flight Emergency (IFE)—An airborne aircraft that encounters a situation or emergency that results in an IFE being declared by the aircrew. (Not a deviation, but will be recorded IAW Chapter 6.).

Tail Swap—Tail number swaps made to the daily flying schedule IAW paragraph 4.3.2.6. Aircraft tail swaps are swaps between printed aircraft on the same day, between printed aircraft and spare aircraft on the same day or between printed aircraft and aircraft that have previously flown that day (cross country return, OCF, FCF, etc.) The term is synonymous with the previously used term “Interchange.”

Late Landing—Aircraft landing 15 minutes past its scheduled landing time. Does not apply to continuation sorties. If the sortie originated on time, record the subsequent late take-off or cancellation against the agency that caused the late landing. If the extended sortie did not originate on time, record the subsequent sortie deviation against the agency that caused the original delay. Late landings are not included in FSE calculations.

Late Take-off—Scheduled sortie launched more than 15 minutes after scheduled take-off time.

Maintenance Scheduling Effectiveness—A measurement used to determine what percent of the scheduled maintenance actions were actually completed as scheduled in the weekly flying schedule.

Mission, Design, and Series (MDS)—An acronym for aircraft mission, design, and series. For example: F015C, etc.

Off-Station Sorties—Sorties flown away from home base (cross-country) and parent unit maintenance is not provided. This includes aircraft that divert or break off-station and parent unit maintenance is sent to repair and launch the aircraft. **Note**: Off-station sorties are considered flown as scheduled. Deviations incurred are not used in scheduling effectiveness or abort rate computations.

Operational Check Flight (OCF)—The first flight of an aircraft that has had extended downtime or extensive maintenance which does not require an FCF.

Operations and Maintenance Day (O&M)—Monday through Friday, not including federal holidays or command directed family days.

Pen-and-Ink Changes—Changes made to next week's flying schedule on AF Form 2407 after the WG/CC has signed the schedule and NLT 1600 hours local Friday. **Exception: Pen-and-Ink changes are allowed 2 hours after the squadron's last landing during printed wing night flying weeks.**

Planned Sortie Surge—A scheduling option where a unit may plan to produce sorties at a higher than normal rate. To qualify as a surge, the number of planned sorties will exceed the normal daily sortie rate by at least 50 percent. This will be based on the monthly daily sortie rate as determined by Maintenance Operations Flight (MOF) PS&D.

Possessed Aircraft—Aircraft under a wing commander's operational control and responsibility IAW AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*.

Primary Aircraft Inventory (PAI)—-Aircraft assigned to meet the primary aircraft authorization (includes PDAI, PMAI, POAI, PTAI). PMAI will not change except when approved by HQ USAF.

Primary Development/Test Aircraft Inventory (PDAI)—*Formerly CB or Test.* Aircraft assigned primarily for the test of the aircraft or its components for purposes of research, development, test and evaluation, operational test and evaluation, or support for testing programs.

Primary Mission Aircraft Inventory (PMAI)—*Formerly CC/CA PAA Coded Aircraft*. Aircraft assigned to a unit for performance of its wartime mission.

Primary Other Aircraft Inventory (POAI)—*Formerly ZA, ZB*. Aircraft required for special missions not elsewhere classified.

Primary Training Aircraft Inventory (PTAI)—-*Formerly TF*. Aircraft required primarily for technical and specialized training for crew personnel or leading to aircrew qualification.

Program Element (PE)—-The PE is the smallest unit of military output controlled at the DOD level. It is identified by a six-digit alphanumeric program element code (PEC). The sixth character, “F", identifies the PE with the Air Force.

Program Element Code (PEC)—The six digit alphanumeric code used to identify the Program Element (see definition above).

Ready Aircrew Program (RAP)—Continuation training regulated under the AFI 11-2 MDS specific series for training of aircrews assigned to units primarily flying fighter, bomber, and LDHD PMAI. The ACC flying hour program centers around unit RAP tasking orders and the associated flying hours derived using the flying hour program models.

Scheduled Sortie—An aircraft scheduled for flight by tail number on the weekly flying schedule and confirmed on the daily flying schedule. Incentive flights are considered scheduled sorties and published in the weekly schedule. Functional Check Flights and Operational Check Flights are excluded.

Scheduled Maintenance Action—A maintenance requirement printed in the weekly schedule.

Sortie—A sortie begins when an aircraft becomes airborne or takes off vertically from rest at any point of support. It ends after airborne flight when the aircraft returns to the surface except for continuation sorties.

Sortie Contract—A written agreement between operations and maintenance and approved by the WG/CC. It specifies the number of sorties and hours to be flown.

Spare Aircraft—An aircraft specifically designated on the flying schedule to replace aircraft that cannot fly its sortie. Spares can include aircraft that have been canceled, aborted, flown an earlier sortie, scheduled in a later sortie, or an aircraft that has been released after FCF/OCF. Do not count "Printed Spares" used as deviations when computing FSE.

Spare Ground Abort—-Event after crew show time that prevents a "crew ready" aircraft from becoming airborne, but is replaced by a spare that meets the mission requirement. Spare ground aborts are categorized as maintenance (GAA, GAB, GAC). The difference between a ground abort and a spare ground abort is the scheduled line is accomplished, where the ground abort is not. A spare ground abort is not a deviation, but can cause a deviation such as late take-off. Spare ground aborts do not count towards FSE.

Total Active Inventory (TAI)—Aircraft assigned to operating forces for mission, training, test, or maintenance functions (includes primary aircraft inventory, backup aircraft inventory, attrition, and reconstitution reserve).

Training Goal—-The unit's completion of a formal course training syllabus and/or phase of instruction (TF coded units only).

Unscheduled Tasking—Tasking in which initial notification occurs after publication of the weekly schedule.

Unit Training Assembly (UTA)—A planned period when guard or reserve personnel participate in training duty, instruction, or test alert. For the purposes of this instruction, one UTA is considered a single Saturday through Sunday weekend. This is an authorized and scheduled training assembly lasting at a minimum of 4 hours. This assembly is mandatory for all troop program unit members. (AR 135-91).

Regularly scheduled unit training assembly (RSUTA)—-Training time treated as a UTA or MUTA for which pay and retirement point credit are authorized. (AR 140-1).

UTE Remaining—A measurement of the UTE required to accomplish a unit's remaining flying hours with assigned aircraft over the remaining months of the fiscal year.

Utilization Rate (UTE)—For ACC aircraft, the UTE is expressed in the number of sorties flown per aircraft per month.

Weekly Flying and Maintenance Schedule—The schedule, agreed to by operations and maintenance, and signed by the OG/MXG/WG/CCs, to support the unit's flying and maintenance requirements. In this publication it is referred to as the "flying schedule."

Attachment 2

WAIVER/CHANGE REQUEST FORMAT

The following format should be used in submitting waiver requests:

A2.1. Submitting Organization

A2.2. Date

A2.3. Subject (Waiver or Change Request)

A2.3.1. Priority of request (Urgent or Routine)

A2.4. Reference: include chapter, paragraph, and line number or table/figure number.

A2.5. Proposed waiver or change requested

A2.6. Background (unique circumstances or history leading up to request)

A2.7. Discussion (rationale for waiver or change and any workarounds)

A2.8. Recommendation (include unit(s) to which waiver/change applies and duration of waiver)

A2.9. POC (Name, office symbol, DSN, and e-mail)