BY ORDER OF THE COMMANDER AIR EDUCATION AND TRAINING COMMAND

AIR EDUCATION AND TRAINING COMMAND INSTRUCTION 21-105

18 MARCH 2013

Maintenance

LOGISTICS PERFORMANCE MEASURES REPORTING PROCEDURES

COMPLIANCE WITH THIS INSTRUCTION IS MANDATORY

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance*; it aligns with AFI 21-101, *Aircraft and Equipment Maintenance Management;* and AETCI 21-104, *Aircraft Planning and Scheduling Procedures*. It establishes requirements and provides procedures for reporting aircraft performance measures for all assigned aircraft. This instruction, coupled with regular internal performance reviews by AETC and subordinate units, supports the goal of measuring and evaluating maintenance performance and improving capability. This instruction defines logistics performance terms and has reporting and review procedures to enable AETC to manage by fact. It prescribes RCS: AETC-A4M(M)7501, *Monthly Logistics Indicators Report (MLIR)*. This instruction applies to all Air Education and Training Command (AETC) flying training activities. It does not apply to AETC-gained Air Force Reserve Command or Air National Guard units.

Subordinate units will coordinate their supplements to this instruction prior to publishing according to AFI 33-360, *Publications and Forms Management*. (**Note:** This requirement does not apply to local maintenance operating instructions.) After final publication, units will provide copies of their unit supplements to the Maintenance Division (HQ AETC/A4M). Units will annotate recommendations for changes, improvements, or waivers to this instruction on AETC Form 1236, *Request for Improving/Changing AETC Maintenance Publications*. The appropriate group commander or equivalent must approve the AETC Form 1236 before it is sent to HQ AETC/A4M, 555 E Street East, Randolph AFB TX 78150-4440, for consideration.

Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). See **Attachment 1** for a glossary of references, supporting information and terms. See **Attachment 4** for required formulas applicable to this instruction.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. This instruction adds the aircraft availability metric and deletes the requirement to report data integrity information. It provides additional guidance on preparing the senior leader's comments, analysis comments and driver information. Clarifies the logistics standards review process. Adds the requirement to identify repeat and recur discrepancies in the abort and break rate tables. Standardizes reporting format for all indicators and provides an expanded example of hangar queen reporting.

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1. Objective. The objective of the Monthly Logistics Indicators Report (MLIR) is to evaluate performance in an effort to improve efficiency and effectiveness. An essential element for this evaluation is the metrics contained in the MLIR. The metrics are a tool for gauging where focus needs to be directed. The result of compliance with this instruction should be the accurate

portrayal of unit performance and the identification of areas which may require improvement or further investigation as well as identification of support problems beyond the scope of the unit.

1.1. Each unit must emphasize the continual, in-depth analysis of aircraft maintenance processes, the integrity of aircraft maintenance documentation methods, timeliness in reporting, and comprehensive remarks describing particular unit support issues requiring further analysis and action.

1.2. The role of the headquarters is to assess how well the unit is meeting mission requirements, improving equipment performance, identifying emerging support problems, and projecting current trends. Maintenance performance is assessed through evaluation of MLIR data and comments provided by senior leaders, maintenance personnel and unit level maintenance analysts.

2. Applicability. All AETC units possessing or supporting aircraft will report their data as specified in this instruction, unless they are specifically exempted. Units which possess more than one mission design series (MDS) aircraft will list them separately; however, separate reports are not required.

3. Responsibility. Wing, maintenance group (MXG or equivalent), and unit commanders are responsible for compliance. Each wing commander or designated representative will ensure all reports cited in this instruction are prepared and transmitted as prescribed. The preparing agency and office of primary responsibility (OPR) is the Maintenance Management Analysis (MMA) Section or equivalent in civil service/contractor activities based on organizational alignment. Commanders will review the accuracy of the information required by this instruction and take action to improve deficiencies. Units will notify HQ AETC/A4MMA when the monthly report cannot be submitted on time.

4. Overview. This section describes overall base-to-headquarters reporting concepts and requirements for the RCS: AETC-A4M(M)7501. The data provided in the MLIR is used to provide the AETC Commander, directorates, and various divisions with an overall assessment of unit and fleet health. It also provides data used to create and validate maximum sustainable Utilization (UTE) rates and to build future flying hour programs.

4.1. F-16 aircraft (F-16C/D models) are considered one MDS for monthly reporting purposes however, submit data by both fleet and block numbers.

4.2. AETC-possessed C-130 variants at Kirtland AFB, NM, will be reported separately on the MLIR spreadsheet. However, with the exception of aircraft availability (AA), narratives are only required when the combined -130 (SOF-130 tab) fleet does not meet established standards.

4.3. T-38C units will report Undergraduate Pilot Training (UPT) and Introduction to Fighter Fundamental (IFF) data separately on the MLIR. UPT includes: Specialized Undergraduate Pilot Training (SUPT), Euro-NATO Joint Jet Pilot Training (ENJJPT) and Pilot Instructor Training (PIT).

4.4. F-35A data will be reported on AETC assigned aircraft only.

5. Method and Frequency of Reporting. Units will submit their monthly MLIR via e-mail to **AETC.A4MMA@us.af.mil** (AETC/A4MMA) in the **Global Address List** (**GAL**).

5.1. **MLIR Spreadsheets (Numbers Portion Only).** Units will only use the AETC provided MLIR spreadsheet. Transmit the MLIR spreadsheets (numbers portion only) to arrive no later than 1600 CST the seventh calendar day following the month being reported. If the seventh calendar day falls on a weekend or holiday, transmit the MLIR spreadsheet to arrive no later than 1200 CST the next workday. Ensure any links established or developed locally to populate the MLIR spreadsheet are broken prior to transmission.

5.2. **MLIR (The Final Report).** Transmit the final MLIR, including all required comments, to arrive no later than 1600 CST the tenth calendar day following the month being reported. If the tenth calendar day falls on a weekend or holiday, transmit the report to arrive no later than 1200 CST the next workday. When submitting the final report, include the spreadsheet that was transmitted on the seventh as well as analysis and senior leader's comments (see paragraph 6). Identify, in the body of the e-mail transmission, any changes in the report from the spreadsheet submitted. HQ AETC/A4M must approve releasing copies to agencies outside of the Air Force.

6. Senior Leader's Comments. The MLIR requires senior leader's comments to address an overall assessment of unit, fleet, and maintenance health. The maintenance group commander (or equivalent) will provide the unit and fleet health assessment. Information in these comments is used in conjunction with the MLIR remarks section to brief AETC leadership and other agencies. Suggest units address major programs, concerns and areas of interest within the maintenance group or wing. Major programs, for example, might address the status of an aircraft modification and its affect on meeting mission requirements or its affect on overall fleet health. Primary concerns should relay the group or wing's issues that warrant MAJCOM awareness or involvement. Address concerns that may impact sortie/mission production or aircraft availability such as a lack of covered maintenance facilities, runway closures or manning shortfalls. Areas of interest should include any issues affecting overall fleet health or impact the unit's ability to meet mission requirements, improving equipment performance, identifying emerging support problems, and projecting current trends.

6.1. Do not simply reiterate what is contained in the analysis comments. Provide the big picture, group, wing perspective. Maintenance leaders are encouraged to use these comments as a communication tool to the HQ AETC staff. Senior leader comments are reviewed by HQ AETC A4/7 and issues that warrant further action are elevated through the chain of command.

7. Report Preparation and Format. Unit commanders will ensure the MLIR data is submitted using spreadsheets provided by the Maintenance Management Branch, Analysis Section (HQ AETC/A4MMA). Submit the analysis comments section and senior leader's comments of the MLIR as separate documents.

8. Analysis Comments. The analysis comments consist of two components: the driver information and the analysis narratives. Both components will be provided when key indicators do not meet established AETC standards. AETC has established standards for Aircraft Availability (AA), Mission Capable (MC), Total Not Mission Capable Maintenance (TNMCM), Total Not Mission Capable Supply (TNMCS), Sortie Scheduling Effectiveness (SSE), Break, Cannibalization (CANN), Abort (total) and Maintenance Scheduling Effectiveness (MSE).

8.1. **Driver Information.** In the driver component, units will provide detailed information on items that did not meet the established AETC standard. Prepare the driver information in

accordance with attachment 2, *Analysis Comments Format*. Driver information is intended to explain what drove an out-of-standard logistics indicator. Ensure all acronyms are spelled out the first time they are used.

8.2. **Analysis Narratives.** In the analysis narrative component, provide narrative comments on items that did not meet the established AETC standard. Prepare analysis narratives in accordance with attachment 2, *Analysis Comments Format*. Narratives are intended to help explain the "why" for the out-of-standard indicator. Ensure all acronyms are spelled out the first time they are used.

9. Coordination Requirements and Correction Procedures. The maintenance group commander (or civil service/contract equivalent) will establish internal unit coordination requirements/procedures to ensure an accurate report is released on time. Corrections to monthly reports will be submitted by separate e-mail with reference to the incorrect or amended data. Each unit maintenance analysis section (or civil service/contract equivalent) will maintain copies of monthly reports for at least two fiscal years. File copies can be maintained electronically.

9.1. **Supply Coordination.** Coordinate all TNMCS and CANN drivers and narratives through both maintenance and supply.

10. Special Request for Logistics Data. Instances may occur where recurring short-term special reports may be required. Periodic requirements exist for collecting data to support special projects or track specific maintenance information. A special request for logistics data e-mail, from HQ AETC analysis, to the unit analysis section, will be used to task units. All efforts will be made to obtain information from enterprise systems, however, when necessary, units will be required to provide data/information.

10.1. **Applicability.** All AETC units possessing or supporting aircraft are subject to special requests for logistics data.

10.2. **Method and Frequency of Reporting.** HQ AETC/A4MMA will provide submission instructions and frequency requirements in the tasking e-mail.

10.3. **Report Format.** HQ AETC/A4MMA will specify report format in the tasking e-mail. Instructions will specify content, procedures for data collection, and report termination date.

11. AETC Logistics Standards. Standards are set for logistics indicators to a level appropriate to the tasking of the unit and the capability of the weapon system. Logistics standards are established by MDS and may be further established by mission within a specific MDS. Standards are used to keep leadership advised of overall force readiness, identify and isolate breakdowns in logistics processes and help determine if resources outside the units' control are needed. Standards also aid in identifying units that need further examination and assistance.

11.1. **Logistics Indicators.** Logistics indicators are used to measure the health of a unit's operation. Achieving established standards should aid in meeting flying training requirements. The Director of Logistics, Installations, and Mission Support (HQ AETC/A4/A7) may also develop standards for other metrics as needed. Standards are developed for the following logistics indicators:

Figure 11.1. Logistics Indicators

Mission Capable (MC) rate

Total Not Mission Capable Maintenance (TNMCM) rate

Total Not Mission Capable Supply (TNMCS) rate

Sortie Scheduling Effectiveness (SSE) rate

Total Abort rate

Code-3 Break rate

Cannibalization (CANN) rate

Maintenance Scheduling Effectiveness (MSE) rate

Repeat/Recur rate

11.1.1. **Aircraft Availability (AA).** AETC utilizes the formula in AFI 21-103, *Equipment Inventory, Status and Utilization Reporting, Attachment 25* to calculate each unit's AA standards. AA standards will vary by unit; therefore, they are not published in the annual logistics standards/goals document.

11.2. **Modeling Process.** A modeling process, as well as inputs from maintenance and supply functional managers, is used to help determine the correct values for realistic, requirements-based standards. No model reflects reality perfectly. If experience or a revised mission tasking reveals a need for adjustment of any standard, an out-of-cycle review can be initiated by HQ AETC/A4M.

11.3. **Standards and Goals Review and Development Process.** Standards and goals serve as thresholds for further analysis. They should be challenging and tough, but attainable. If they are set too loose, unit capability may be degraded; if too tight, analysis tends to "chase ghosts," and, if out of reach, they become irrelevant and demoralizing. The review process is accomplished annually, usually during the July to August timeframe, utilizing historical data and projected flying hour requirements. Each review involves the following basic steps:

11.3.1. AETC analysts collect and analyze historical statistical data. AETC functional managers (maintenance and supply) review the historical data and analysis. The standard or goal for each indicator is evaluated to include current average, unit and fleet trends and frequency units meet the current standard. AETC analysts and functional managers then assess short-term and long-term support issues and make recommendations for changes, if needed.

11.3.2. Historical statistical data and fiscal year projections are combined with all inputs and evaluated. AETC analysts develop a detailed briefing and recommendations for adjustments are presented to HQ AETC/A4/7 for approval.

11.3.3. The HQ AETC/A4/7-approved standards are distributed to all AETC flying units.

11.3.4. This review process does not preclude units from developing local standards or goals for other metrics as deemed necessary by their leadership.

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 21-1, *Air and Space Maintenance*, 25 February 2003

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 26 July 2010, AETC Supplement, 21 October 2010

AETCI 21-104, *Aircraft Planning and Scheduling Procedures*, 28 December 2010

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

Adopted Forms

AETC Form 1236, *Request for Improving/Changing AETC Maintenance Publications*

Abbreviations and Acronyms

AAS—Aircraft Availability Standard

AA—Aircraft Availability

A/A—Air Abort

AETC—Air Education and Training Command

AWM—Awaiting Maintenance

AWP—Awaiting Parts

A/R—Attrition Reserve

BAI—Backup Aircraft Inventory

CST—Central Standard Time

COMBS—Contractor Operated and Maintained Base Supply

DD—Delayed or Deferred Discrepancy

DDS—Deferred Discrepancy Summary

EOM—End Of Month

EVL—Event Listing

FCF—Functional Check Flight

FMC—Fully Mission Capable

FTW—Flying Training Wing

G081—IMDS for Airlift

G/A—Ground Abort

HPO—hourly post flight

HSC—Home Station Check

IMDS—Integrated Maintenance Data System

ISO—Isochronal Inspection

JDD—Job Data Documentation

LGND—Logistics Non-Delivery

MC—Mission Capable

MDS—Mission Design Series

MICAP—Mission Impaired Capability Awaiting Parts

MLIR—Monthly Logistics Indicators Report

MND—Maintenance Non-Delivery

MSE—Maintenance Scheduling Effectiveness

MXG—Maintenance Group

NMC—Not Mission Capable

NMCB—Not Mission Capable Both (maintenance and supply)

NMCM—Not Mission Capable Maintenance

NMCS—Not Mission Capable Supply

NSN—National Stock Number

OCF—Operational Check Flight

OND—Operations Non-Delivery

OTI—One-Time Inspection

PAI—Primary Aircraft Inventory

PE—Periodic Inspection

PMCB—Partially Mission Capable Both (maintenance and supply)

PMCM—Partially Mission Capable Maintenance

PMCS—Partially Mission Capable Supply

PRD—Pilot Reported Discrepancy

SND—Supply Non-Delivery

SGEM—Sortie Generation Estimation Model

SSE—Sortie Scheduling Effectiveness

TAI—Total Aircraft Inventory

TCTO—Time Compliance Technical Order

TDI—Time Distribution Inspection

TNMCM—Total Not Mission Capable Maintenance

TNMCS—Total Not Mission Capable Supply

UTE—Utilization

WUC—Work Unit Code

Terms

Aircraft Availability Standard (AAS): AAS represents the number of MC aircraft or the percentage of TAI needed to fly the required annual Flying Hour Program (FHP). In AETC, the AAS will normally be expressed in numbers of MC aircraft required. The formula for calculating the AAS is contained in AFI 21—103, *Equipment Inventory, Status and Utilization Reporting, attachment 25*.

Aircraft Availability Rate (AA):—The actual number of MC aircraft that were available for a specified time period.

Actual Utilization (UTE) Rate:—The actual average number of sorties or hours flown per PAI (or average possessed aircraft, if below PAI). See UTE Rate for formula.

Air Abort (A/A) Rate:—The total number of air aborts per 100 local sorties flown. The purpose of this rate is to reflect the percentage of aborted missions/sorties once the aircraft is airborne. Declaration of an air abort is an operations call. Include air aborts for maintenance causes only.

Attrition Rates:—The total number of sorties lost (due to various reasons) per 100 local sorties scheduled. Attrition rates are used primarily for two purposes. Programmatically, they are used to forecast the number of scheduled sorties or missions needed to meet the requirement. During program execution, attrition rates help to pinpoint where the flying schedule is deviating from the plan and where to focus management actions.

Attrition Reserve (A/R) Aircraft:—Aircraft procured to replace anticipated losses of PAI due to peacetime accidents or wartime attrition.

Average Fleet Time:—The average number of flying hours available per possessed aircraft until the next periodic or phase inspection. Fleet time is the prime leading logistics indicator that identifies a unit's ability to maintain future flying and dock flow requirements. Fleet time is only tracked for those aircraft using the periodic or phase inspection system.

Calculating Average Fleet Time:—Take three measurements before the end of the month (with a minimum of seven calendar days between each measurement). Take one additional measurement on the last duty day of the month. The IMDS product normally used is the Time Distribution Inspection (TDI). Extract the total time remaining in hours and the total number of aircraft from the TDI. Subtract out the hours and number of aircraft for aircraft not in possession codes CA, CB, TF or ZB at the time the product was run. Report the total hours and total aircraft of the four measurements in the MLIR.

Average Possessed Aircraft:—Possessed aircraft are available to accomplish the primary mission of the unit. Aircraft with a possession code of CA, CB, TF or ZB are considered possessed. Possessed aircraft hours are the key elements in calculating aircraft status.

Backup Aircraft Inventory (BAI): Aircraft over—and-above the PAI to permit scheduled and unscheduled depot level maintenance, modifications, inspections, and repair without a reduction of aircraft for the assigned mission.

Break Rate: The percentage of aircraft that land in "Code—3" ("Alpha-3" for Mobility Air Force) status (unable to complete at least one of its primary missions). This metric primarily indicates aircraft system reliability. It acts as an early warning indicator, which can lead to a lower MC rate and focuses on the quality of aircraft maintenance and parts. Do not count Functional Check Flight (FCF) or Operational Check Flight (OCF) code-3 landings as breaks.

CANN Rate: The number of aircraft—to-aircraft or engine-to-aircraft cannibalization actions per 100 total sorties flown. The purpose of the CANN rate is to highlight what part of the sortie generation effort is expended removing and replacing parts from one aircraft (or engine) to another aircraft for the specific purpose of making the latter mission capable. CANN actions will be counted against the end item that required the canned part. CANNs are reported during the month the removal action is completed. **Note:** A demand must first be placed on the supply system, which subsequently could not be filled.

Delayed Discrepancy (or Deferred Discrepancy) (DD) Rate: The average number of delayed/deferred discrepancies per possessed aircraft. Sometimes minor maintenance actions must be deferred to a more opportune time. DDs fall into two categories; Awaiting Maintenance (AWM) or Awaiting Parts (AWP). Discrepancies that are deferred AWP must have a valid off—base requisition number. Supply should maintain an aggressive follow-up program to keep visibility on those parts ordered for AWP deferred discrepancies. Many deferred actions appropriately wait until a scheduled event like phase. However, maintenance should try to keep this rate as low as possible. If delayed discrepancies cannot be scheduled or combined with a more extensive maintenance action, maintenance schedulers should schedule aircraft down for a day to work deferred discrepancies.

Calculating DD Rates:—This is similar to calculating average fleet time. Units will take sample measurements using the same frequency (three measurements before the EOM (with a minimum of 7 days between each measurement), then one final measurement on the last duty day of the month). Only count DDs against currently possessed aircraft.

Fully Mission Capable (FMC) Rate:—The percentage of possessed aircraft that are fully mission capable (can fly all required missions).

Functional Check Flight (FCF) Release Rate:—The percentage of aircraft that successfully complete an FCF versus the total number of FCFs attempted. Check flights are performed to ensure an aircraft is airworthy and/or capable of accomplishing its mission. The FCF release rate helps monitor the quality of maintenance performed following the repair of critical components or systems.

Ground Abort (G/A) Rate:—The total number of ground aborts per 100 local sorties attempted (local sorties flown plus number of ground aborts) (only include ground aborts for maintenance causes). This rate is an early warning indicator of the quality of maintenance in regards to preflight and basic postflight maintenance. Multiple ground aborts recorded against a single line will be included in the number of ground aborts.

Logistics Non—Delivery (LGND) Rate: The number of maintenance non-deliveries (MND) or losses, plus supply non-deliveries (SND) or losses, per 100 local sorties (or missions) scheduled.

While MNDs focus specifically on the effectiveness of maintenance and SNDs on supply, the overall LGND rate is an early warning indicator of the quality of logistics effectiveness and the health of the fleet. It highlights the capability of logistics to provide aircraft to meet the needs of the daily flying schedule.

Maintenance Man—hour per Flying Hour: The average number of maintenance man-hours required to support each flying hour. Include all direct man-hours documented against the aircraft MDS and its engines. Units with T-1, T-6, T-38 or TH-1 aircraft should also include all man-hours earned through Sortie Generation Estimation Models (SGEM).

Maintenance Scheduling Effectiveness (MSE) Rate: The percentage of scheduled aircraft maintenance actions that were completed on or prior to the scheduled date printed in the weekly schedule. The purpose of the MSE rate is to measure the success of a unit in executing its planned maintenance schedule. Scheduled actions and their respective weighted factor points will be used to compute the MSE rate. Use the event completion month as the basis for when to report points possible and earned. Refer to AETCI 21—104 for additional details on computing MSE.

Mission Capable (MC) Rate:—The percentage of possessed aircraft that are mission capable (either fully mission capable or partially mission capable).

Non—chargeable Ground Abort: Ground aborts that do not count as chargeable deviations toward the SSE rate. However, they are still included in the ground abort rate. (**EXAMPLE:** The prime and spare aircraft both ground abort against a single line; the second abort is non-chargeable (for SSE) but still counts toward the abort rate.)

Not Mission Capable Both Maintenance and Supply (NMCB) Rate:—The percentage of possessed aircraft that are not mission capable due to both maintenance and supply.

Not Mission Capable Maintenance (NMCM) Rate:—The percentage of possessed aircraft that are not mission capable due to maintenance.

Not Mission Capable Supply (NMCS) Rate:—The percentage of possessed aircraft that are not mission capable due to supply.

Partially Mission Capable Both Maintenance and Supply (PMCB) Rate:—The percentage of possessed aircraft that are partially mission capable for both maintenance and supply reasons.

Partially Mission Capable Maintenance (PMCM) Rate:—The percentage of possessed aircraft that are partially mission capable for maintenance reasons only.

Partially Mission Capable Supply (PMCS) Rate:—The percentage of possessed aircraft that are partially mission capable due to supply reasons only.

Percent MC Scheduled: The percentage of MC aircraft that are dedicated to the daily flying schedule, either as a prime flyer (front line) or as a spare. This rate may indicate over—commitment by a unit and can lead to diminished fleet health over time. The raw data and rates will be reported in the MLIR for each day with scheduled flying. (See Attachment 3 for format.)

Note:—Number of MC aircraft measurement will be taken one hour prior to the first launch of the day.

Primary Aircraft Inventory (PAI):—Aircraft assigned to meet a unit's primary mission requirement.

Programmed UTE Rate:—The average number of sorties or hours per PAI that are programmed to be flown. (See UTE Rate for formula)

Recur Discrepancy Rate: A discrepancy that occurs on the second, third, fourth or fifth sortie (or attempted sortie) after corrective action has been taken following a pilot reported discrepancy and the system or sub—system indicates the same malfunction when operated. Recur malfunctions indicate a problem with either troubleshooting or system maintainability. Do not count recurs on FCFs, OCFs, operational checks or ground-found problems.

Repeat Discrepancy Rate: A discrepancy that occurs on the next sortie (or attempted sortie) after corrective action has been taken following a pilot reported discrepancy and the system or sub—system indicates the same malfunction when operated. Like recurs, repeat malfunctions indicate a problem with either troubleshooting or system maintainability. Do not count repeats on FCFs, OCFs, operational checks or ground-found problems.

Sortie Scheduling Effectiveness (SSE) Rate: The percentage of scheduled sorties a unit successfully completes as published in the printed weekly flying schedule. Non—chargeable deviations are factored in or out by using the adjusted schedule. Schedule deviations are broken down into two categories: non-chargeable and chargeable (see AETCI 21-104, *Aircraft Planning and Scheduling*, for a detailed listing). Non-chargeable deviations are used to adjust the flying schedule to factor out uncontrollable elements. Chargeable deviations are then measured in relation to the adjusted schedule to compute SSE. Air aborts are not considered flying schedule deviations and are not used in computing SSE rates. To accurately measure SSE, first reconcile sorties flown with local sorties scheduled. Local sorties are defined in AETCI 21-104. The flying schedule sets the pace for the entire wing. It must be built on sound principles that are clearly articulated and vigorously defended by wing leadership. The flying schedule is an important document that drives consumption of Air Force resources, and the sortie is the focal point of consumption. The formula in Attachment 4 can be used to accomplish the reconciliation of local sorties scheduled to local sorties flown

Spare Factor (Actual):—The percentage of aircraft committed to the daily flying schedule as spare aircraft.

Total Abort Rate:—The total number of aborts (air and ground) per 100 local sortie attempts.

Total Not Mission Capable Maintenance (TNMCM) Rate:—The percentage of possessed aircraft that are not mission capable for maintenance (NMCM + NMCB). The purpose of TNMCM is to quantify how much aircraft downtime is attributable to maintenance and focuses on the effectiveness of the maintenance workforce.

Total Not Mission Capable Supply (TNMCS) Rate:—The percentage of possessed aircraft that are not mission capable for supply (NMCS + NMCB). The purpose of TNMCS is to quantify how many aircraft are not mission capable for lack of parts and focuses on the effectiveness of the supply system.

UTE Rate:—The average sorties or hours flown (planned or actual) per PAI or average possessed aircraft. When a unit's average possessed aircraft for the month is less than the established PAI, the average possessed aircraft for the month will be used to compute UTE rates.

The purpose of UTE rates is to establish the primary performance standard that measures a wing's ability to meet its flying objective as well as the prime mechanism in resource allocation.

Attachment 2

ANALYSIS COMMENTS FORMAT

A2.1. Analysis Comments. Detailed analysis comments are required for the following rates that miss their standard/goal/target for the month: AA, MC, TNMCM, TNMCS, SSE, Total Abort, MSE, CANN and Break. (**Exception:** Although each AETC-possessed C-130 variant at Kirtland AFB will be reported separately on the MLIR spreadsheet, narratives and drivers are only required when the combined -130 fleet (SOF-130 tab) does not meet established standards, with the exception of aircraft availability (AA).) Address the root cause or causes for the missed standard. Explain your analysis of top drivers, problem systems, problem aircraft, trends, or any other factors affecting the indicator. Narratives must provide important details explaining why an item drove unit performance. Analyze the data. Long-term and short-term trends are important. Do not focus solely on the current month's data to determine if a trend exists. Look at the entire picture to make those determinations. The question "why" must be addressed throughout the remarks. It is impossible to provide a set format for the remarks section; it must be tailored to the situation.

A2.2. AA Rate. When the established AA standard/target is not met a narrative explanation is required. However, if AA was missed due to a substandard MC rate, a statement of "see MC rate" is acceptable. If AA was not met because the average number of possessed aircraft was below PAI, explain why aircraft were in non-possessed statuses.

A2.2.1. **AA Rate Narrative Example.** "The AA standard of 68 aircraft was missed due to 10 aircraft being at Ogden for a major avionics upgrade. Additionally, four aircraft were non-possessed while the wing attachments were replaced by a Contract Field Team (CFT). During the month we possessed 90 aircraft, five below our PAI of 95."

A2.3. MC Rate. List the reasons that contributed to the MC rate missing the standard for the month. If it was attributed to the TNMCM and/or TNMCS rate(s) just state "see TNMCM and/or TNMCS rate".

A2.4. TNMCM Rate Narrative Example. "Two aircraft with cracks caused the windshield NMC time during the month. The downtime was extended due to a bad (also cracked) windshield received from the manufacturer. A second windshield was ordered and received to replace the bad one. The NMCB time on aircraft 0298 was due to maintenance working delayed discrepancies while waiting for the second windshield to arrive. The installation of both windshields was normal with most (150 hours) of the time consumed during rigging. Both aircraft repairs have been completed. Fuel system time was up for March because of one aircraft (595 hours) with fuel leaks. The majority of the NMC time (395 hours) was for a main cell. The installation and leak checks took approximately 8 days. The repairs were completed on 29 March and no other leaks have developed on that aircraft. Phase time was significantly lower than normal due to two fewer phases than usual (4 versus 6) being accomplished."

A2.4.1. **TNMCM Driver Information.** List the top five systems driving the TNMCM time. Within each system, list the top three WUC (5 digit) drivers. Break the total TNMCM hours down into NMCM and NMCB. In addition to these details, list the previous 12-month average for each system. If the top five systems are average and do not explain why the standard was not met, list any systems that varied significantly from their 12-month average

and explain each. Explain anything that was out of the norm. List the system and WUC details using the following format (round off all hours).

A2.4.2. **TNMCM Driver Example.** "**Power Plant (71x)** racked up 155.1 TNMCM hours. A0028 was responsible for 66.7 TNMCM hours against this system for the right engine power assurance check being low. They performed a compressor wash, but that did not solve the problem. An engine change was required. **Nacelle (54x)** accumulated 270.0 TNMCM hours. A0027 was the leading acft with 156.3 TNMCM hours against this system for a CANN of the left forward nacelle blower to A0029."

Table A2.1. System: 53 – Fuselage – 311.3 TNMCM Hours

WUC*	Noun	NMCB	NMCM	TNMCM
531435	1LT1 LT NOSE AVI PANEL	20	209	229
531133	1LT2 MMR FAIRING	30	103	133

Table A2.2. System: 54 – Nacelle – 270.0 TNMCM Hours

WUC*	Noun	NMCB	NMCM	TNMCM
549101	LT UPPER COMPARTMENT COOLING	2	156	158
541203	RT UPR INBD FRAME 357.5	70	12	82
543110	LT NAC SUPPORT LOWER AFT INBD	24	14	38
Note: Repeat this structure for all five of the top systems driving the TNMCM time.				

Table A2.3. 12 Month History

System/Noun	Current Month TNMCM Hrs	Previous 12-Month Avg Hrs	Diff +/
53/Fuselage	995	705	+290
54/Nacelle	1215	1485	-270
Note: List all systems that vary significantly from their average using this format			

A2.5. TNMCS Driver Information. List the top five systems driving the TNMCS rate. Within each system, list the top three WUC (5 digit) drivers. Break the total TNMCS hours down into NMCS and NMCB. Include the NSN for all NMCS or NMCB status entries. For units supported by both COMBS and the standard base supply system, include the number of TNMCS hours attributable to COMBS and the number of TNMCS hours attributable to the standard base supply system separately. These units will also report all COMBS parts that took longer than the contractual standard to deliver when those parts caused a TNMCS status on the aircraft, including the number of TNMCS hours each part was responsible for. List the system and WUC details using the following format (round off all hours):

A2.5.1. **TNMCS Rate Narrative Example.** "They missed the supply standard for only the second time in six months. Two MICAPs accounted for 41% of the TNMCS time. The leading supply driver was a Structural Beam. (269 MICAP hours) It was a first-time demand at Base X. Assets were in restricted stock at DLA and required coordination with the item manager. The asset was released and trucked to the base. Assets are currently on hand at the

DLA and at the base. **Electro-Hydraulic (33x)** accumulated 2215.4 TNMCS hours. A3717, A3822, A3546 and A3577 required props. They are not available because COMBS is waiting for Per-Occurrence overhaul Government funding. Government did not forecast these overhauls. **Flight Controls (14x)** accumulated 1144.5 TNMCM hours. A3920, A3785, and A3736 are all AWP for a control stick and there is a 30-day turn-over with many in the repair pipeline. A3557 is also AWP for a pedal assembly. The item was received on 21 March, but the bushing was stuck and the item was re-ordered."

Table A2.4. System: 33 – Electro-Hydraulic – 2215.4 TNMCS Hours

WUC*	Noun/NSN	NMCB	NMCS	TNMCS
33AAA	Propeller/1234-56-789-1234	408.1	1807.3	2215.4

Table A2.5. SYSTEM: – 14 Flight Controls – 2208.3 TNMCS Hours

WUC*	Noun/NSN	NMCB	NMCS	TNMCS
14AAF	Aft Control Stick/1234-56-789-1234	210.2	677.7	887.9
14CAM	Right Pedal Assembly/1234-56-789-1234	187.7	532.8	720.5
14AAR	Forward Control Stick/1234-56-789-1234	72.9	494.4	567.3
*LCN for F-35s, UNS for CV-22s, WUC for all other MDSs **Note:** Repeat this structure for all five of the top systems driving the TNMCS time.				

A2.6. SSE Rate. Address themes and trends in current month's deviations as well as trends in deviations over the last 6 to 12 months. Concentrate on the underlying causes for not meeting the SSE rate. Analyze operations verses maintenance deviations. State how aircraft breaks or aborts led to a lack of available MC aircraft, which led to maintenance cancels, etc. Identify any breakdowns in the scheduling process. Provide an analysis of the deviations.

A2.6.1. **SSE Narrative Example.** "In May, they had 222 chargeable deviations, including 98 ops non-deliveries (mostly for scheduling conflicts and pilot non-availability), 71 ops cancels, all to reduce the number of frontlines required, and 23 ops adds for out-and-back conversions and adding cross-countries. There were also 28 ground aborts (9 for engines: 2 PMU, 1 amp, 1 no start, 1 speedbrake, 1 fuel leak, 1 generator, 1 grinding noise, 1 tail pipe crack; 5 for instruments: 2 altimeters, 1 engine data manager, 1 engine instrumentation display, 1 primary engine digital display; 4 for airframe: 2 canopy won't lock, 1 hyd service door latch worn, 1 canopy test light inop) and two maintenance deletes."

A2.6.2. **SSE Table.** List the details for all chargeable deviations using the table format below. Spell out all acronyms the first time they are used. Narratives under the discrepancy and corrective action columns must be detailed enough to fully explain the deviation. Narratives such as "ground abort," "no acft," or "ops add" are not sufficient to explain the reason for the deviation. Provide noun of part and NSN for supply non-deliveries. **Note:** For maintenance deviations indicate any repeats or recurs, and identify the original discrepancy.

TableA2.6. SSE Table

ACFT	DATE	DEV	WUC*	DISCREPANCY	CORRECTIVE ACTION
0024	1-Mar	AD/OPS		PFT requirement/advance time-line	
0024	12-Mar	AD/OPS		PFT requirement/advance time-line	
0024	1-Mar	CX/MND	660000	Blade fold wing stow posted multiple times in park	R2 left white blade de-ice distributor
0024	1-Mar	CX/MND	660000	Blade fold wing stow posted multiple times in park	R2 left white blade de-ice distributor
0024	15-Mar	CX/MND	632100	Control display unit indicated left Prop-Rotor Gear Box (PRGB) chips	R2 left PRGB assembly
0026	15-Mar	GA/GAC	321001	Left MLG strut leaking **(Original)**	R2 left MLG shock strut
0026	18-Mar	GA/GAC	321001	Left MLG strut leaking **(Repeat)**	R2 left MLG shock strut
*LCN for F-35s, UNS for CV-22s, WUC for all other MDSs					

A2.6.3. **SSE Drivers**

Figure A2.1. SSE Drivers

Number of deviations and type:

98-OPS/OND

71-OPS/CNX

23-OPS/AD

2-CX/MND

28-Ground Aborts

A2.7. Total Abort Rate. Address themes and trends in current month's aborts as well as trends over the last 6 to 12 months. Although the statement "No Trends Noted" is completely valid, do not use it lightly. Concentrate on the underlying causes for not meeting the abort rate. Determine if specific systems failed during the month or if certain aircraft were primary contributors. Evaluate aborts from a preventable or non-preventable viewpoint. Did more aborts occur on first launches? Are there problems with preflight procedures? Is there a problem trouble-shooting and turning aircraft? Aborts that are repeats/recurs require a full history of all discrepancies back to the original write-up. This history will include discrepancy, corrective action, and number of sorties flown without the same problem since the last abort.

A2.7.1. **Abort Rate Narrative Example.** "The fleet missed its abort standard for the seventh time in the past eight months. In February, auxiliary power was the leading driver with 17, that's nearly double the average. (12-month average = 9) JFS no-starts were the leading discrepancy accounting for 70 percent of those; including a recur on one aircraft. (A5507, original, 7 Feb, JFS no start X2/R2 JFS door switch adjuster….Recur, 10 Feb, R2 thermo relief valve, 12 good sorties since). Auxiliary power, more specifically, JFS no-starts have been identified as a seasonal trend with December through February being the highest months, which accounts for the spike last month. We expect JFS no-starts to decline next month as temperatures increase. (9 in Nov, 10 in Dec, 11 in Jan, 12 in Feb)"

A2.7.2. **Abort Table.** List details on all aborts in the format below. Spell out all acronyms the first time they are used. Narratives under the discrepancy and corrective action columns must fully explain the abort. Narratives, such as "ground abort" or "engines," do not provide a sufficient level of detail. The format for listing details will closely match that of the SSE rate section.

Table A2.7. Abort Table

ACFT	DATE	DEV	WUC *	DISCREPANCY	CORRECTIVE ACTION
0024	28-Mar	AA/MTN	275000	Left inboard/outboard/center swashplate actuator fault **(Original)**	Reseated loose connector
0024	29-Mar	AA/MTN	275000	Left inboard/outboard/center swashplate actuator fault **(Repeat)**	Reseated loose connector
*LCN for F-35s, UNS for CV-22s, WUC for all other MDSs **Note:** Identify any repeats/recurs and the original discrepancy in the table.					

A2.7.3. **Abort Drivers.** List the top three high driving systems and the top three common discrepancies within each system. Also report the total number of aborts for each of the high three drivers for the previous 12 months by month.

Figure A2.2. Abort Drivers

Top Three High Driving Systems:

23–Engines–15 Aborts

Top Three Common Discrepancies:

-- Low Power (5)

-- Oil Pressure Light Illuminates (3)

-- Engine Torque Fluxing (2)

Engine Abort History:

Nov-18, Oct-12, Sep-10, Aug-17, Jul-10, Jun 15, May-4, Apr-19, Mar-8, Feb-16, Jan-12, Dec-11

14–Flight Controls–13 Aborts

Note: Repeat top three common discrepancies and history.

45–Swashplate–7 Aborts

Top Three High Driving Aircraft (Maintenance reasons):

A0265–5

A1032–5

A0178–3 (list ties for third position if more than two aborts per aircraft)

A2.8. MSE Rate. Explain all scheduled events that were not completed as scheduled when the MSE standard was not met. If required, address actions taken to prevent delay in accomplishing scheduled maintenance actions in the future.

A2.8.1. **MSE Rate Narrative Example.** "The MSE standard was missed for the second straight month. In June, there were 16 events not completed as scheduled. Ten were because aircraft were undergoing other maintenance; the other six were done, but not signed off in IMDS."

A2.8.2. **MSE Rate Table.** List all actions that were not completed as scheduled and reason for not completing the scheduled maintenance action. Details will be provided in a table format as the example below.

Table A2.8. MSE Rate Table

ACFT	SCH DATE	EVENT	REASON MISSED	CURRENT STATUS
0123	4 Jun	18-month gun insp	Not signed off in IMDS	C/W 5 Jun
2134	29 Jun	Egress inspection	In fuels maintenance, not power capable	Rescheduled 2 Jul
5678	10 Jun	30-day aircraft wash	In O2 mod	C/W 11 Jun

A2.9. CANN Rate. Address reasons for cannibalizations. Identify parts continually canned and projected get well date(s). Determine why the parts were unavailable. Also, address any trends in canned items over the last 6-12 months.

A2.9.1. **CANN Rate Narrative Example.** "The fleet had 12 canns, three of which were for a radar display monitor. The display monitor is normally a low demand item and is not authorized stock. Two were ordered on 4 Oct and both were received on 6 Oct."

A2.9.2. **CANN Rate Table.** List the top five canned items using the format below. List in order of most frequently canned parts to least frequently canned items.

Table A2.9. CANN Rate Table

WUC	Noun	NSN	Number of CANNS
22BLN	Torque Power Unit	1234-00-567-6789	4

A2.10. Break Rate. Address common themes in current month's breaks. Identify common write-ups within high driving systems or aircraft. Look for and comment on trends beyond the current month's data.

A2.10.1. **Break Rate Narrative Example.** "They missed the break rate standard for the third time in the last five months. They had 19 breaks in April; four of those were for EAPS blower failures on one aircraft, including two repeats, (A0026, left inboard EAPS blower failed periodic built in test/bled #3 system and left blower inboard fail/tightened cannon plug, 16 good sorties since) and four of them were for right engines with low power."

A2.10.2. **Break Rate Table**

Table A2.10. Break Rate Table

ACFT	DATE	UNS*	DISCREPANCY	CORRECTIVE ACTION
0024	5-Apr	290000	#2 hydraulic reservoir low	Serviced #2 hydraulic reservoir
0026	4-Apr	718100	Left inboard Engine Air Particle Separator (EAPS) blower failed periodic built-in test	R2 EAPS start valve
0026	4-Apr	718103	Left inboard EAPS blower failed periodic built-in test **(REPEAT)**	Bled #3 system
0026	6-Apr	718103	Left inboard EAPS blower failed **(REPEAT)**	Tightened cannon plug on left inboard EAPS flow switch
*LCN for F-35s, UNS for CV-22s, WUC for all other MDSs **Note:** Identify any repeats/recurs and the original discrepancy in the table.				

A2.10.3. **Break Drivers.** List details on all breaks in the format below. Provide rollup for top three systems and top three aircraft after details. Under the top three high driving systems, list the top three common discrepancies within each system. Also report the total number of breaks for each of the high three for the previous 12 months by month.

FigureA2.3. Break Drivers

Top Three High Driving Systems:

13–Landing Gear–12 Breaks:

--- Red light in Gear Handle (4)

--- Aircraft pulls on taxi (3)

--- Steering actuator leaking (2)

Landing Gear Break History: Nov-18, Oct-12, Sep-10, Aug-17, etc.

23–Engines–11 Breaks

Note: Repeat top three common discrepancies and history.

14–Flight Controls–11 Breaks

Top Three High Driving Aircraft:

A1527–5 Breaks–Landing Gear (2 Breaks), Flight Controls (2 Breaks), Engines (1 Break)

A2.11. Report data on all Hangar Queen Aircraft in the following format: (See AFI 21-101 for Hangar Queen guidance and criteria.)

Table A2.11. Sample Hangar Queen Worksheet

BASE	LAST FLEW	DATE FLOWN	MDS / TAIL	HQ CAT			DRIVERS	# HQ DAYS
COL				**30**	**60**	**90**		
	23-Nov		T-6/00-3593			X	Eng time change (MICAP Eng, EDD UNK), TCTO 776, Hyd Leak (MICAP/R2 Union Swivel)	190
	10-Feb	30-May	T-6/99-3562			X	PE, egress time changes (MICAP/R2 Egress Comp)	110
	23-Feb	12-Jun	T-1/90-0412		X		Rudder trailing edge cracked, BQ 27 Mar-22 Apr for -107 Response, BU 23-30 Apr	75
	24-Apr		T-1/91-0075	X			Acft Would Not Get 28 Volts (MICAP 2 Wire Harnesses, No EDD)	37
IFF	19-Jan		T-38/61-0911			X	PE, Fuel Cell Crk (Rep'd), T-5 Amp Inop (MICAP/R2 Amp), BQ 30-31 May, ETIC 25 Jul	131
UPT	23-Feb	23-May	T-38/66-8359			X	PE, EED Sensor Fail (R2 F/F Fuse), Cabin Air Supply Duct Shroud Crk (MICAP/R2 Shroud)	90
UPT	9-Mar	8-May	T-38/68-8208		X		Fuel Flow Indication Problems (CND After Extensive Troubleshooting)	60
IFF	2-Apr	30-May	T-38/63-8184	X			PE, Right Gearbox Fail (R2 Right Generator & Right Gearbox)	58

	CAT			
	I	II	III	ALL
Totals	2	2	4	8

Attachment 3

PERCENT MC AIRCRAFT SCHEDULED WORKSHEET

A3.1. Sample Worksheet. This is a sample worksheet used to collect information for the MLIR.

Table A3.1. Sample MC Aircraft Scheduled Worksheet.

MDS:	**T-38C SUPT**						
Date	**Day of Week**	**# Acft Possessed**	**# MC Acft (1 Hr prior to first**	**# Prime first**	**# Spares**	**% MC Acft Committed to Schedule**	**Spare Factor**
1-Jan	Sunday						
2-Jan	Monday						
3-Jan	Tuesday	62	53	26	4	56.6	13.3
4-Jan	Wednesday	64	55	28	4	58.2	12.5
5-Jan	Thursday	63	56	28	4	57.1	12.5
6-Jan	Friday	63	59	26	4	50.8	13.3
7-Jan	Saturday						
8-Jan	Sunday						
9-Jan	Monday	63	59	26	4	50.8	13.3
10-Jan	Tuesday	63	52	28	4	61.5	12.5
11-Jan	Wednesday	63	54	28	4	59.3	12.5
12-Jan	Thursday	64	55	26	4	54.5	13.3
13-Jan	Friday	63	59	28	4	54.2	12.5
14-Jan	Saturday						
15-Jan	Sunday						
16-Jan	Monday						
17-Jan	Tuesday	63	60	28	4	53.3	12.5
18-Jan	Wednesday	63	59	28	4	54.2	12.5
19-Jan	Thursday	63	58	28	4	55.2	12.5
20-Jan	Friday	63	56	19	4	41.1	17.4
21-Jan	Saturday						
22-Jan	Sunday						
23-Jan	Monday	63	54	28	4	59.3	12.5
24-Jan	Tuesday	63	54	28	4	59.3	12.5
25-Jan	Wednesday	63	54	27	4	57.4	12.9
26-Jan	Thursday	63	55	27	4	56.4	12.9
27-Jan	Friday	61	51	28	4	62.7	12.5
28-Jan	Saturday						
29-Jan	Sunday						
30-Jan	Monday	62	51	28	4	62.7	12.5
31-Jan	Tuesday	62	51	28	4	62.7	12.5
Overall		**1257**	**1105**	**541**	**80**	**56.2**	**12.9**

Attachment 4

FORMULAS

Figure A4.1. Aircraft Availability Rate (AA)

$$AA\ rate = Average\ Possessed\ Aircraft\ X\ Actual\ MC\ Rate$$

Figure A4.2. Air Abort (A/A) Rate

$$A/A\ Rate = \frac{\#\ of\ Air\ Aborts}{Local\ Sorties\ Flown} \times 100$$

Figure A4.3. Attrition Rates

$$Total\ Attrition\ Rate = \frac{Total\ Losses\ (Logistics, Operations, Weather, and\ Other)}{Local\ Sorties\ Scheduled} \times 100$$

$$Logistics\ Attrition\ Rate = \frac{Logistics\ Losses\ (MNDs + SNDs)}{Local\ Sorties\ Scheduled} \times 100$$

$$Operations\ Attrition\ Rate = \frac{Operations\ Deletes + ONDs}{Local\ Sorties\ Scheduled} \times 100$$

$$Weather\ Attrition\ Rate = \frac{Weather\ Losses}{Local\ Sorties\ Scheduled} \times 100$$

$$Other\ Attrition\ Rate = \frac{Other\ Losses}{Local\ Sorties\ Scheduled} \times 100$$

Figure A4.4. Average Fleet Time

$$Average\ Fleet\ Time = \frac{Total\ Time\ (Hours)}{Total\ Number\ of\ Aircraft\ Possessed}$$

Figure A4.5. Calculating Average Fleet Time

EXAMPLE:

	Time (Hours)	**# Aircraft**
Week 1	5,000	50
Week 2	5,250	55
Week 3	5,125	53
EOM	5,290	50
Total	20,665**	208**

**Only total numbers are reported on the Monthly Logistics Indicators Report.

Figure A4.6. Average Possessed Aircraft

$$Average\ Possessed\ Aircraft = \frac{Total\ Possessed\ Aircraft\ Hours}{Days\ in\ Month \times 24}$$

Figure A4.7. Break Rate

$$Break\ Rate = \frac{\#\ of\ Code\text{-}3\ Landings}{Total\ Sorties\ Flown} X\ 100$$

Figure A4.8. CANN Rate

$$CANN\ Rate = \frac{\#\ of\ CANNS\ (Aircraft\text{-}to\text{-}Aircraft\ and\ Engine\text{-}to\text{-}Aircraft)}{Total\ Sorties\ Flown} X\ 100$$

Figure A4.9. Calculating DD Rates

EXAMPLE:

	# AWMs	# AWPs	# Aircraft
Week 1	49	100	50
Week 2	55	110	55
Week 3	25	135	53
EOM	30	105	50
Total	159**	450**	208**

** Only total numbers are reported on the Monthly Logistics Indicators Report.

Figure A4.10. Fully Mission Capable (FMC) Rate

$$FMC\ Rate = \frac{FMC\ Hours}{Total\ Possessed\ Aircraft\ Hours} \times 100$$

Figure A4.11. Functional Check Flight (FCF) Release Rate

$$FCF\ Release\ Rate = \frac{\#\ of\ FCFs\ released}{\#\ of\ FCFs\ attempted} \times 100$$

Figure A4.12. Ground Abort (G/A) Rate

$$G/A\ Rate = \frac{\#\ of\ Ground\ Aborts}{Local\ Sorties\ Flown + \#\ of\ Ground\ Aborts} \times 100$$

Figure A4.13. Logistics Non-Delivery (LGND) Rate

$$LGND\ Rate = \frac{Logistics\ Losses\ (Maintenance\ and\ Supply)}{Local\ Sorties\ (or\ Missions)\ Scheduled} \times 100$$

$$MND\ Rate = \frac{Maintenance\ Losses}{Local\ Sorties\ (or\ Missions)\ Scheduled} \times 100$$

$$SND\ Rate = \frac{Supply\ Losses}{Local\ Sorties\ (or\ Missions)\ Scheduled} \times 100$$

Figure A4.14. Maintenance Man-hour per Flying Hour

$$Man\text{-}hour\ per\ Flying\ Hour = \frac{Man\text{-}hours\ Documented}{Flying\ Hours}$$

Figure A4.15. Maintenance Scheduling Effectiveness (MSE) Rate

$$MSE\,Rate = \frac{Maintenance\ Points\ Earned}{Maintenance\ Points\ Possible} \times 100$$

Figure A4.16. Mission Capable (MC) Rate

$$MC\,Rate = \frac{FMC\,Hours + PMCM\ Hours + PMCS\,Hours + PMCB\,Hours}{Total\,Possessed\,Aircraft\,Hours} \times 100$$

Figure A4.17. Not Mission Capable Both Maintenance and Supply (NMCB) Rate

$$\mathbf{NMCB\ Rate} = \frac{\mathbf{NMCB\ Hours}}{\mathbf{Total\ Possessed\ Aircraft\ Hours}} \mathbf{\times 100}$$

Figure A4.18. Not Mission Capable Maintenance (NMCM) Rate

$$\boldsymbol{NMCM\ Rate} = \frac{\boldsymbol{NMCM\ Hours}}{\boldsymbol{Total\ Possessed\ Aircraft\ Hours}} = \mathbf{\times 100}$$

Figure A4.19. Not Mission Capable Supply (NMCS) Rate

$$\boldsymbol{NMCS\ Rate} = \frac{\boldsymbol{NMCS\ Hours}}{\boldsymbol{Total\ Possessed\ Aircraft\ Hours}} = \mathbf{\times 100}$$

Figure A4.20. Partially Mission Capable Both Maintenance and Supply (PMCB) Rate

$$PMCB\,Rate = \frac{PMCB\,Hours}{Total\,Possessed\,Aircraft\,Hours} \times 100$$

Figure A4.21. Partially Mission Capable Maintenance (PMCM) Rate

$$PMCM\ Rate = \frac{PMCM\ Hours}{Total\ Possessed\ Aircraft\ Hours} \times 100$$

Figure A4.22. Partially Mission Capable Supply (PMCS) Rate

$$PMCS\ Rate = \frac{PMCS\ Hours}{Total\ Possessed\ Aircraft\ Hours} \times 100$$

Figure A4.23. Percent MC Scheduled

$$\%\ MC\ Scheduled = \frac{\#\ Prime\ Flyers + \#\ Spares}{\#\ MC\ Aircraft} \times 100$$

Figure A4.24. Recur Discrepancy Rate

$$Recur\ Rate = \frac{\#\ of\ Recurs}{\#\ of\ Pilot\ Reported\ Discrepancies} \times 100$$

Figure A4.25. Repeat Discrepancy Rate

$$Repeat\ Rate = \frac{\#\ of\ Repeats}{\#\ of\ Pilot\ Reported\ Discrepancies} \times 100$$

Figure A4.26. Sortie Scheduling Effectiveness (SSE) Rate

$$\begin{aligned} Local\ Sorties\ Flown = {} & Local\ Sorties\ Scheduled + (OPS\ Adds + FCF/OCF/Ferry\ Sorties + \\ & Weather\ Adds + Other\ Adds) - (MNDs(includes\ unspared\ ground\ aborts) \\ & + SNDs + OPS\ Deletes + Weather\ Deletes + Other\ Deletes) \end{aligned}$$

Once this reconciliation has been accomplished, the next step is to compute the adjusted schedule. As stated previously, by adding or subtracting the non-chargeable deviations to the schedule, we remove the uncontrollable factors.

$$\begin{aligned} Adjusted\ Scheduled = {} & Local\ Sorties\ Scheduled + Weather\ Adds + \\ & FCF/OCF/Ferry\ Sorties + Other\ Adds - Weather\ Deletes - Other\ Deletes \end{aligned}$$

Note: In order to avoid double counting deviations, ensure you do not include ground aborts that are also logistics non-deliveries (LGND) in the chargeable deviations.

$$SSE\ Rate = \frac{Adjusted\ Schedule - Chargeable\ Deviations}{Adjusted\ Schedule} \times 100$$

Figure A4.27. Spare Factor (Actual)

$$Actual\ Spare\ Factor = \frac{\#\ Spare\ Aircraft}{\#\ Spare\ Aircraft + \#\ Prime\ Flyers} \times 100$$

Figure A4.28. Total Abort Rate

$$Total\ Abort\ Rate = \frac{\#\ of\ Ground\ Aborts + \#\ of\ Air\ Aborts}{Local\ Sorties\ Flown + \#\ of\ Ground\ Aborts} \times 100$$

Figure A4.29. Total Not Mission Capable Maintenance (TNMCM) Rate

$$TNMCM\ Rate = \frac{NMCM\ Hours + NMCM\ Airworthy\ Hours + NMCB\ Hours + NMCB\ Airworthy\ Hours}{Total\ Possessed\ Aircraft\ Hours} \times 100$$

Figure A4.30. Total Not Mission Capable Supply (TNMCS) Rate

$$TNMCS\ Rate = \frac{NMCS\ Hrs + NMCS\ Airworthy\ Hrs + NMCB\ Hrs + NMCB\ Airworthy\ Hrs}{Total\ Possessed\ Aircraft\ Hours} X100$$

Figure A4.31. UTE Rate

$$Monthly\ UTE\ Rate = \frac{Monthly\ Sorties\ (or\ Hours)\ Flown}{PAI\ Aircraft\ or Average\ Possessed\ Aircraft}$$

$$Annual\ UTE\ Rate = \frac{Annual\ Sorties\ (or\ Hours)\ Flown}{Sum\ of\ Monthly\ PAI\ Aircraft\ or\ Average\ Possessed\ Aircraft}$$