BY ORDER OF THE COMMANDER AIR EDUCATION AND TRAINING COMMAND

AIR EDUCATION AND TRAINING COMMAND INSTRUCTION 21-105

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Maintenance

LOGISTICS PERFORMANCE MEASURES REPORTING PROCEDURES

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This instruction implements Air Force Policy Directive 21-1, *Maintenance of Military Materiel* and aligns with AFI 21-101, *Aircraft and Equipment Maintenance Management*. It establishes requirements and provides procedures for reporting aircraft performance measures for all assigned aircraft. This instruction, coupled with regular internal performance reviews by Air Education and Training Command (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. This instruction applies to all AETC flying training activities. It does not apply to AETC-gained Air Force Reserve Command or Air National Guard units. This publication maybe supplemented at any level, but all direct Supplements must be routed to the Office of Primary Responsibility (OPR) of this publication prior to certification and approval in accordance with 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 (19 AF/LGPA). The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, or T-3") number following the compliance statement. See AFI 33-360 for a description of the authorities associated with the tier numbers. Refer recommended changes to this publication to the OPR using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847 from the field through the appropriate functional chain of command. Submit requests for waivers using AF Form 679, *Air Force Publication Compliance Item Waiver Request/Approval,* through the chain of command to the appropriate Tier waiver approval

authority, or alternately, to the Publication OPR for non-tiered compliance items. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFI 33-322, *Records Management and Information Governance*, and disposed of IAW the Air Force Records Disposition Schedule located in the Air Force Records Information Management System. See **Attachment 1** for a glossary of references, abbreviations and acronyms and terms. See **Attachment 5** for required formulas applicable to this instruction.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed. Reporting of some information has been changed from quarterly to monthly. Several acronyms and definitions have been added. All attachments have been updated.

1. Objective. 2
2. Applicability. 3
3. Responsibility. 3
4. Overview. 3
5. Method and Frequency of Reporting. 3
6. Coordination Requirements and Correction Procedures. 5
7. Special Request for Logistics Data. 5
8. AETC Logistics Standards. 5
Figure 1. Logistics Indicators. 5
Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION 7
Attachment 2—MLIR WORKSHEETS 15
Attachment 3—ANALYSIS COMMENTS FORMAT 19
Attachment 4—SENIOR LEADER COMMENTS TEMPLATE 26
Attachment 5—FORMULAS 27

1. Objective. The objective of the Monthly Logistics Indicators Report (MLIR) is to evaluate unit 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 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 **(T-2)**.

3. Responsibility. Wing, Maintenance Group (or equivalent), and unit commanders are responsible for compliance **(T-2)**. Each wing commander or designated representative will ensure all reports cited in this instruction are prepared and transmitted as prescribed. The preparing agency and OPR is the Maintenance Management Analysis 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 19 AF/LGPA and provide an Estimate Time for Completion (ETIC) when the monthly report cannot be submitted on time **(T-2)**.

4. Overview. This section describes overall base-to-headquarters reporting concepts and requirements. The data provided in the MLIR is used to provide the 19 AF 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 reporting purposes however, submit data by block numbers and for the fleet **(T-2)**.

4.2. AETC-possessed C-130 variants at Kirtland AFB, NM, will be reported separately on the MLIR spreadsheet **(T-2)**.

4.3. T-38C units will report Undergraduate Pilot Training (UPT) and Introduction to Fighter Fundamental data separately on the MLIR. UPT includes: Specialized Undergraduate Pilot Training (SUPT), Euro-NATO Joint Jet Pilot Training and Pilot Instructor Training **(T-2)**.

4.4. F-35A data will be reported on AETC assigned aircraft only **(T-2)**.

5. Method and Frequency of Reporting. Units will submit their MLIR via the 19 AF SharePoint at: **https://usaf.dps.mil/sites/aetc-19af/LG/LGP/LGPA/SitePages/Home.aspx** or via e-mail to **19AF.LGPA.Workflow@us.af.mil**. (19 AF/LGPA Workflow in the Global Address List) when connectivity is unavailable **(T-2)**.

5.1. Monthly Reporting Requirements. Four portions of the MLIR are required to be submitted monthly – the numbers spreadsheet, the analysis comments, the Senior Leader Comments, and the Hangar Queen information.

5.1.1. Numbers spreadsheet. Units will only use the MLIR spreadsheet provided to each unit **(T-2)**. A new spreadsheet will be available for download before the beginning of each new fiscal year. Ensure any links established or developed locally to populate the

MLIR spreadsheet are broken prior to transmission. Submit this portion to arrive no later than 1600 Central Standard Time (CST)/Central Daylight Time (CDT) the seventh calendar day following the month being reported. **(T-2)** If the seventh calendar day falls on a weekend or holiday, transmit these portions to arrive no later than 1200 CST/CDT the next workday. If unable to meet suspense, notify the 19 AF/LGPS workflow box with an ETIC **(T-2)**.

5.1.2. Analysis Comments. The analysis comments consist of two components: the table information and the analysis narratives. In the table component, units will provide detailed information for each metric regardless if the unit met the standard or not. 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 3**, Analysis Comments Format **(T-2)**. 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. AETC has established standards for Aircraft Availability (AA), Mission Capable (MC), Total Not Mission Capable Maintenance (TNMCM), Total Not Mission Capable Supply (TNMCS), Cannibalization (CANN), Sortie Scheduling Effectiveness (SSE)/Flying Scheduling Effectiveness (FSE) (for F-35 units), Abort (total), Break, Fix, Maintenance Scheduling Effectiveness (MSE), Average Fleet Time, Repeat and Recur rates. Submit this portion to arrive no later than 1600 CST/CDT 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/CDT the next workday. If unable to meet suspense, notify the 19 AF/LGPS workflow box with an ETIC **(T-2)**.

5.1.3. Senior Leader Comments. The report requires senior leader comments to address an overall assessment of unit, fleet, and maintenance health. AMU/AMXS OICs or equivalent with the support of Analysis information will prepare Senior Leader Comments for the Maintenance Group (MXG)/CC to review, edit, and submit to 19 AF/LG. Focus on issues that HQ can assist in resolving, i.e. supply, reliability, manning or depot issues in relationship to issues the unit is challenged with. Information in these comments is used to brief AETC leadership and other agencies. It is suggested units address major programs, concerns, and/or areas of interest within the maintenance group or wing. This section is not intended to restate the comments previously put in the Analysis comments section, it is intended for Wing/Group perspective/big picture items. Maintenance leaders are encouraged to use these comments as a communication tool to the 19 AF staff. Prepare analysis narratives in accordance with **Attachment 4**, Senior Leader Comments Template **(T-2)**. Transmit this portion to arrive no later than 1600 CST/CDT 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/CDT the next workday. If unable to meet suspense, notify the 19 AF/LGPS workflow box with an ETIC **(T-2)**.

5.1.4. Hangar Queen Information. Hangar Queens are a Command special interest item. It is imperative that accurate information be provided. Transmit this portion to arrive no later than 1600 CST/CDT 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/CDT the next workday. If unable to meet suspense, notify the 19 AF/LGPS workflow box with an ETIC **(T-2)**.

6. 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 **(T-2)**.

6.1. Supply Coordination. Coordinate all TNMCS and CANN drivers and narratives through both maintenance and supply **(T-2)**.

7. Special Request for Logistics Data. Instances may arise where recurring short-term special reports and/or data 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 19 AF/LGPA 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. 19 AF/LGPA does not have access to the F-35 MIS (ALIS), requiring more direct data requests from these units.

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

7.2. Method and Frequency of Reporting. 19 AF/LGPA will provide submission instructions and frequency requirements in the tasking e-mail.

7.3. Report Format. 19 AF/LGPA will specify report format in the tasking e-mail. Instructions will specify content, procedures for data collection, and report termination date.

8. 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 apprised of overall force readiness, identify and isolate breakdowns in logistics processes and help determine if resources outside the unit's control are needed. Standards also aid in identifying units that need further examination and assistance.

8.1. 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. Standards are developed for the following logistics indicators:

Figure 1. Logistics Indicators.

Aircraft Availability (AA), Mission Capable (MC) rate, Total Not Mission Capable, Maintenance (TNMCM) rate, Total Not Mission Capable Supply (TNMCS) rate, Cannibalization (CANN) rate, Sortie Scheduling Effectiveness (SSE) rate, Flying Scheduling Effectiveness (FSE) rate (only for F-35 aircraft), Total Abort rate, Code-3 Break rate 8/12-Hour Fix rate, Maintenance Scheduling Effectiveness (MSE) rate, Repeat rate, and Recur rate

8.1.1. Aircraft Availability (AA). 19 AF/LGPA 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.

8.2. 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 19 AF/LGPA.

8.3. 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:

8.3.1. 19 AF analysts collect and analyze historical statistical data. 19 AF 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. 19 AF analysts and functional managers then assess short-term and long-term support issues and make recommendations for changes, if needed.

8.3.2. Historical statistical data and fiscal year projections are combined with all inputs and evaluated. A detailed briefing along with recommendations for adjustments will be briefed to the 19 AF/LG Director or equivalent for approval.

8.3.3. The 19 AF/LG approved standards are distributed to all AETC flying units.

8.3.4. 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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Director of Logistics, Engineering and Force Protection

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting and Termination*, 27 September 2019

AFPD 21-1, *Maintenance of Military Materiel*, 1 August 2018

AFI 21-101, *Aircraft and Equipment Maintenance Management,* 16 January 2020

AFI 21-101, *AETC Supplement*, 18 September 2015

AFI 21-103, Equipment Inventory, Status and Utilization Reporting, 21 January 2020

AFI 33-322, *Records Management and Information Governance Program,* 6 March 2020

AFI 33-360, *Publications and Forms Management*, 1 December 2015

Adopted Forms

AF Form 679, *Air Force Publication Compliance Item Waiver Request/Approval*

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AA—Aircraft Availability

A/A—Air Abort

AETC—Air Education and Training Command

AMD—Average Mission Duration

ALIS—Autonomic Logistics Information System

ASD—Average Sortie Duration

AWP—Awaiting Parts

BAI—Backup Aircraft Inventory

CANN—Cannibalization

CDT—Central Daylight Time

CST—Central Standard Time

COMBS—Contractor Operated and Maintained Base Supply

DD—Delayed or Deferred Discrepancy

DIT—Data Integrity Team

FCF—Functional Check Flight

FMC—Fully Mission Capable

FSE—Flying Scheduling Effectiveness

G/A—Ground Abort

IMDS—Integrated Maintenance Data System

MC—Mission Capable

MDS—Mission Design Series

MESL—Minimum Essential Subsystems List

MICAP—Mission Impaired Capability Awaiting Parts

MLIR—Monthly Logistics Indicators Report

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

OPR—Office of Primary Responsibility

PAI—Primary Aircraft Inventory

PMCB—Partially Mission Capable Both (maintenance and supply)

PMCM—Partially Mission Capable Maintenance

PMCS—Partially Mission Capable Supply

PRD—Pilot Reported Discrepancy

SGEM—Sortie Generation Estimation Model

SSE—Sortie Scheduling Effectiveness

SUPT—Specialized Undergraduate Pilot Training

TDI—Time Distribution Inspection

TNMCM—Total Not Mission Capable Maintenance

TNMCS—Total Not Mission Capable Supply

UPT—Undergraduate Pilot Training

UTE—Utilization

WUC—Work Unit Code

Terms

Aircraft Availability (AA) (Actual)—Represents both primary and spare aircraft available to Ops to execute daily flying hour requirements; 100% of AA aircraft will be made available to the flying schedule. It is a variable requirement that will fluctuate on any given day/week, but should meet or exceed the AAT for the month. AA aircraft must be MC and have sufficient hours available to execute the flying schedule.

Aircraft Availability Target (AAT)—Represents the number of aircraft required to be MC monthly to meet annual flying hour requirements. AAT is computed for each unit by MDS and adjusted annually based upon the Primary Authorized Inventory (PAI) aircraft and MC standards. Note: PAI aircraft adjustments are published annually in the Flying Hour Programmed Allocation (PA) Document.

Actual Utilization (UTE) Rate—The average number of sorties or hours flown per PAI (or average possessed aircraft, if below PAI). See UTE Rate for formula in **Attachment 5**.

Air Abort (A/A) Rate—The total number of air aborts per 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 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 (AR) Aircraft—Aircraft procured to replace anticipated losses of PAI due to peacetime accidents or wartime attrition. (See AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting and Termination,* for more details.)

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. The IMDS product normally used to do this is the Time Distribution Inspection (TDI).

Calculating Average Fleet Time:—Take a fleet time measurements every day with the exception of non-workdays, utilizing the 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 in the MLIR. See **Table A3.1** for example.

Average Mission Duration (AMD)—The average number of flying hours per mission flown. AMDs are normally used only for larger aircraft.

Average Sortie Duration (ASD)—The average number of flying hours per sortie flown. ASDs are normally used only for smaller aircraft.

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. (See AFI 16-402 for more details.)

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 IAW the MESL.) 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 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.

Chargeable Deviation:—A flying schedule deviation attributable to Maintenance, Operations, or Supply.

Data Integrity Rate (Before Correction)—The percentage of records found in error in the IMDS/G081/ALIS JDD subsystem during the Data Integrity Team (DIT) review. For DIT error rate computations, a record is one Detail Data Record (DDR). When a DDR contains more than one documentation error, the DIT error rate will reflect one error for the entire DDR. Take the number of errors divided by total records checked. Report the uncorrected error numbers per DIT category on the MLIR.

Data Integrity Rate (After Correction)—The percentage of error records corrected in IMDS/G081/ALIS JDD subsystem during the Data Integrity Team (DIT) review. For DIT error rate computations, a record is one Detail Data Record (DDR). When a DDR contains more than one documentation error, the DIT error rate will reflect one error for the entire DDR. Take the number of errors corrected divided by the total number of errors. Report the total number of errors corrected on the MLIR.

Delayed (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 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. Units will take three measurements before the end of month (with a minimum of 7 days between each measurement), and take one final measurement on the last duty day of the month. Only count DDs against currently possessed aircraft when calculating the DD rate.

Fix Rate—The percentage of code-3 breaks fixed within 12 hours (8 hours for fighter aircraft.) Time stops when all code-3 discrepancies are fixed and the aircraft returns to an MC condition. Problems found by maintenance after the aircraft lands (ground found) are not considered in the fix time. Do not count discrepancies found on ground aborts. (They are not code-3 landings.)

Flying Scheduling Effectiveness (FSE) Rate—This is a leading indicator used to measure how well the unit planned and executed the weekly flying schedule. The FSE rate is the percentage of sorties flown as scheduled. It also indicates unit turmoil caused by flying schedule deviations. The flying schedule 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 percent include: scheduled sorties not flown because of maintenance, supply, operations, weather, higher headquarters (HHQ), air traffic control, sympathy, or other reasons; early takeoffs, late takeoffs, and adds as defined in AFI 21-101, AETC Supplement, Chapter 14. Disruptions to the flying schedule can cause turmoil on the flightline, sending a ripple effect throughout other agencies, and adversely impact scheduled maintenance actions.

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. (Attempts must log flight time.) 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 sorties attempted (local sorties flown plus number of spared ground aborts). Multiple ground aborts recorded against a single line will be included in the number of ground aborts.

Maintenance Cancellation Rate—The number of maintenance cancels divided by sorties (or missions) scheduled multiplied by 100. It highlights the capability of maintenance to provide aircraft to meet the needs of the daily flying schedule. Maintenance cancels are prior to crew show.

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, TH-1, UH-1, or HH-60 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. (A low MSE rate may indicate a unit is experiencing turbulence on the flight line or in the back shops.) 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 AFI 21-101, AETCSUP 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 first abort is non- chargeable for SSE, but still counts toward the abort rate. Spared ground aborts are non-chargeable for SSE).

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.

Operations Cancellation Rate—The number of operations cancels per 100 local sorties (or missions) scheduled. It highlights the capability of operations to provide aircrews to meet the needs of the daily flying schedule.

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.

Primary Aircraft Inventory (PAI)—Aircraft assigned to meet a unit's primary mission requirement. (See AFI 16-402 for more details.)

Programmed Allocation (PA) document—The document published by 19 AF/A3 annually that prescribes PAI, programmed UTE rates, programmed ASD/AMDs, and programmed flying hours for each MDS assigned to each unit.

Programmed Hours—The number of flying hours that are programmed to be flown as specified in the PA document.

Programmed Sorties—The number of sorties that are programmed to be flown as specified in the PA document.

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—A Pilot Reported Discrepancy (PRD) that occurs on the second, third, or fourth (or attempted sortie) after corrective action has been taken and the system or sub-system indicates the same malfunction when operated.

Recur Discrepancy Rate—This metric is a leading indicator. It is the total number of recur discrepancies compared to the total number of PRDs. 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—A PRD that occurs on the next sortie (or attempted sortie) after corrective action has been taken and the system or subsystem indicates the same malfunction when operated.

Repeat Discrepancy Rate—This metric is a leading indicator. It is the total number of repeat discrepancies compared to the total number of PRDs. 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 Attempted—Local sorties flown plus ground aborts.

Sortie Generation Estimation Model (SGEM)—SGEMs are a simple, easy way to account for manhours expended for routine flightline tasks. Their use negates the need to document these tasks in the MIS, thus relieving flightline maintenance personnel from this requirement. The models use job standards that take into account how long each task takes, the crew size required, and the frequency of the task. Examples of typical tasks in the models are launch and recovery, of aircraft, servicing, cleaning, inspections (pre-flights, thru-flights, and post-flights, not phase inspections), FOD walks, and daily computer use. Each task constitutes a reasonable average across the Command and are vetted by applicable maintenance functional managers and maintenance contract monitors. At the end of each month, unit analysts input factors into the models (O&M days, sorties flown, hours flown, and average possessed aircraft) and add the results to the manhours extracted from the MIS to report total manhours expended in the MLIR.

Sortie Scheduling Effectiveness (SSE) Rate—The percentage of scheduled sorties a unit successfully launches as published in the weekly flying schedule. Schedule deviations are broken down into two categories: non-chargeable and chargeable (see AFI 21-101, AETCSUP 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.) 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 the focal point of the Wing and drives consumption of Air Force resources. F-35 units will calculate FSE in place of SSE.

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

Supply Cancellation Rate—The number of supply cancels per local sorties (or missions) scheduled. It highlights the capability of supply to provide spare parts to meet the needs of the daily flying schedule.

Total Aircraft Inventory (TAI)—Total aircraft assigned to a unit. (PAI + BAI + AR) (See AFI 16-402 for more details)

Total Abort Rate—The total number of air aborts and ground aborts per sorties attempted.

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.

Utilization (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

MLIR WORKSHEETS

A2.1. Sample Worksheet. This is a sample worksheet used to collect information for the MLIR.

Table A2.1. Sample MC Aircraft Scheduled Worksheet.

MDS:	**T**	**T-38 SUPT**					
Date	**Day of Week**	**# Acft Possessed**	**# MC Acft (1 Hr prior to First Launch**	**Sched # Prime**	**Sched # 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	59.3	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**

A2.2. Sample Worksheet. This is a sample worksheet used to collect information for the MLIR.

Table A2.2. Sample DIT Worksheet.

Columbus													
Columbus DIT	**Oct-19**	**Nov-19**	**Dec-19**	**Jan-20**	**Feb-20**	**Mar-20**	**Apr-20**	**May-20**	**Jun-20**	**Jul-20**	**Aug-20**	**Sep-20**	**FY CUM**
MDD Error Types													
Action Taken Code	490												490
How Malfunctioned Code	18												18
Type Maintenance Code	271												271
When Discovered Code	40												40
Work Unit Code	7												7
Category of Labor	22												22
Time Overlap	790												790
Units Produced	10												10
Crew Size	331												331
Discrepancy	53												53
Corrective Action	73												73
781 Forms Entries	1												1
Debrief Entries	114												114
No. DDR's Checked	15220												15220
No. DDR's in Error	952												952
No Errors After Corrections	873												873
No. Uncorrectable Errors	30												30
Aircraft Status Errors Types													
Work Unit Code	32												32
Status Start/Stop Time	2												2
No. Entries Checked	2422												2422
No. Entries in Error	3												3
No. Entries in Errors After Corrections	1												1
MDD Error Rates													
Before Error Correction Rate	6.25%												6.3%
After Error Correction Rate	5.74%												5.7%
Error Rate W/O Uncorrectable	5.54%												5.5%
A/C Status Error Rates													
Before Error Correction Rate	0.12%												0.1%
After Error Correction Rate	0.04%												0.0%
Columbus Total Error Rates													
Before Error Correction Rate	5.4%												5.4%
After Error Correction Rate	5.0%												5.0%
Error Rate W/O Uncorrectable	4.8%												4.8%

A2.3. Sample Worksheet. This is a sample worksheet used to collect information for the MLIR

Table A2.3. Sample FLEET TIME Worksheet.

FLEET TIME

MONTH - XXX

T-6A - Goal XXX			
Day	# Poss Acft	Total Hrs Rem	Avg Hrs
1	76	12410.8	163.3
2	76	12220.8	160.8
3	76	12061.2	158.7
4	76	11901.6	156.6
5	76	11742.0	154.5
6	76	11536.8	151.8
7	76	11536.8	151.8
8	76	11536.8	151.8
9	76	11476.0	151.0
10	76	11719.2	154.2
11	76	11559.6	152.1
12	76	11681.2	153.7
13	76	11681.2	153.7
14	76	11681.2	153.7
15	76	11681.2	153.7
16	76	11681.2	153.7
17	76	11681.2	153.7
18	76	12167.6	160.1
19	76	12562.8	165.3
20	76	12517.2	164.7
21	76	12517.2	164.7
22	76	12517.2	164.7
23	76	12502.0	164.5
24	76	12441.2	163.7
25	76	12380.4	162.9
26	76	12730.0	167.5
27	76	12669.2	166.7
28	76	12669.2	166.7
29	76	12669.2	166.7
30	76	12669.2	166.7
31	76	13018.8	171.3
Tot/Avg	**2356**	**375820.0**	**159.5**

T-38C (UPT) - Goal XXX			
Day	# Poss Acft	Total Hrs Rem	Avg Hrs
1	82	19974.0	243.6
2	83	20023.6	241.2
3	83	20364.0	245.3
4	83	20262.8	244.1
5	83	20152.8	242.8
6	83	20060.4	241.7
7	83	20060.4	241.7
8	83	20060.4	241.7
9	83	19940.8	240.3
10	83	19821.2	238.8
11	83	19692.4	237.3
12	83	19563.6	235.7
13	83	19554.4	235.6
14	83	19554.4	235.6
15	83	19554.4	235.6
16	83	19554.4	235.6
17	83	19554.4	235.6
18	83	19996.0	240.9
19	82	19758.3	241.0
20	82	19730.7	240.6
21	82	19730.7	240.6
22	82	19730.7	240.6
23	82	19712.3	240.4
24	82	19666.3	239.8
25	81	19586.6	241.8
26	81	19540.6	241.2
27	80	19224.9	240.3
28	80	19224.9	240.3
29	80	19224.9	240.3
30	80	19224.9	240.3
31	83	20049.0	241.6
Tot/Avg	**2550**	**612149.2**	**240.1**

T-38C (IFF) - Goal XXX			
Day	# Poss Acft	Total Hrs Rem	Avg Hrs
1	37	8482.3	229.3
2	38	8459.8	222.6
3	38	8422.9	221.7
4	38	8377.8	220.5
5	38	8345.0	219.6
6	37	8253.4	223.1
7	37	8253.4	223.1
8	37	8253.4	223.1
9	38	8217.9	216.3
10	38	8176.9	215.2
11	38	8135.9	214.1
12	38	8082.6	212.7
13	38	8062.1	212.2
14	38	8062.1	212.2
15	38	8062.1	212.2
16	38	8062.1	212.2
17	38	8062.1	212.2
18	38	8082.6	212.7
19	38	8078.5	212.6
20	37	8016.2	216.7
21	37	8016.2	216.7
22	37	8016.2	216.7
23	37	7689.0	207.8
24	37	7668.5	207.3
25	37	7652.1	206.8
26	37	7639.8	206.5
27	37	7623.4	206.0
28	37	7623.4	206.0
29	37	7623.4	206.0
30	37	7623.4	206.0
31	37	8070.3	218.1
Tot/Avg	**1162**	**249194.8**	**214.5**

Attachment 3

ANALYSIS COMMENTS FORMAT

A3.1. 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/FSE, Total Abort, MSE, CANN, Break, Fix, Repeat and Recur. When documenting comments, ensure that the appropriate LCN, UNS, Ref/Des, and WUCs digit requirements are met for each discrepancy, i.e., if a WUC is 53000 do not abbreviate to 53. In addition, do not use system WUCs unless the system was the discrepancy, always ensure the correct WUC is documented. 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, not just restating the number of hours or the number times something occurred. Explain why; **actually analyze the data.** Long-term and short-term trends are important. Do not focus solely on the current month 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. The remarks section should be tailored to each situation.

A3.2. AA Target. When the established AA target is not met, a narrative explanation is required. However, if it was missed due to a substandard MC rate, a statement of "see MC rate" is acceptable. If it was not met because the average number of possessed aircraft was below PAI, explain why aircraft were in non-possessed statuses.

A3.2.1. **AA Target Narrative Example.** "The AA target 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 quarter we possessed 90 aircraft, five below our PAI of 95."

A3.3. 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".

A3.4. 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 the quarter 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."

A3.4.1. **TNMCM Driver Information.** List the top three systems driving the TNMCM time. Within each system, list the top three component drivers. If the top three systems are average and do not explain why the standard was not met, list any systems that varied significantly. Explain anything that was out of the norm. List the system and WUC details using the following format (round off all hours, no decimals.)

Table A3.1. System 71 – Power Plant – 270 TNMCM Hours.

WUC*	NOUN	TNMCM
719604	PAC low	67
71217005	Left engine gimbal mount bolt cracked	53
71960862	Right engine wingtip drain valve leak	49
Note: Repeat this structure for each of the top three TNMCM		
*** LCN for F-35s, UNS for CV-22s, Ref/Des for C-17s, WUC for**		

A3.5. TNMCS Rate Narrative Example. "The supply standard was missed for the month. 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 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 1145 TNMCS 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."

A3.5.1. TNMCS Driver Information. List the top three systems driving the TNMCS rate. Within each system, list the top three component drivers. 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 attributed to each part. List the system and end item details using the following format (round off all hours, no decimals.)

Table A3.2. System 33 – Electro-Hydraulic – 2215 TNMCS Hours.

WUC*	Noun/NSN	TNMCS
33AAA	Propeller/1234-56-789-1234	2215
Note: Repeat this structure for each of the top three TNMCS driving systems.		
***LCN for F-35s, UNS for CV-22s, Ref/Des for C-17s, WUC for all other MDSs**		

A3.6. SSE Rate. Address themes and trends in month's deviations. Concentrate on the underlying causes for not meeting the SSE standard. 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.

A3.6.1. **SSE Narrative Example.** "Last month, there were 222 chargeable deviations, including 169 for ops (98 cancels for scheduling conflicts and pilot non-availability, 71 cancels to reduce the number of frontlines required, and 23 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 cancels."

A3.6.2. **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. Following the table, list the total number of deviations by type IAW the example below.

Table A3.3. 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/MTX	660000	Blade fold wing stow posted multiple times in park	R2 left white blade de-ice distributor
0024	15 Mar	CX/MTX	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	R2 left MLG shock strut
0026	18 Mar	GA/GAC	321001	Left MLG strut leaking	R2 left MLG shock strut
*LCN for F-35s, UNS for CV-22s, Ref/Des for C-17s, WUC for all other MDSs					

A3.7. Total Abort Rate. Address themes and trends in the current month's aborts. Although the statement "No Trends Noted" is completely valid, do not use it lightly. Concentrate on the underlying causes for not meeting the abort standard. 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.

A3.7.1. **Abort Rate Narrative Example.** "The fleet missed its abort standard for the third straight month. During the month, 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, 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 quarter. We expect JFS no-starts to decline next quarter as temperatures increase."

A3.7.2. **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 A3.4. Abort Table.

ACFT	DATE	DEV	WUC*	DISCREPANCY	CORRECTIVE ACTION
0024	28-Mar	AA/MTN	27500	Left inboard swashplate actuator fault	CND
0024	29-Mar	AA/MTN	27500	Left inboard swashplate actuator fault	Reseated loose connector
*LCN for F-35s, UNS for CV-22s, Ref/Des for C-17s, WUC for all other MDSs					

A3.7.3. **Abort Drivers.** List the highest three systems and the top three common discrepancies within each system.

A3.8. 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.

A3.8.1. **MSE Rate Narrative Example.** "The MSE standard was missed for the second straight month. During December, 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."

A3.8.2. **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 A3.5. 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 insp	In fuels maintenance, not power capable	Rescheduled 2 Jul
5678	10 Jun	30-day acft wash	In O2 mod	C/W 11 Jun

A3.9. 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 2-4 quarters.

A3.9.1. **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."

A3.9.2. **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 A3.6. CANN Rate Table.

WUC*	Noun	NSN	Number of CANNS
22BLN	Torque Power Unit	1234-00-567-6789	4
*LCN for F-35s, UNS for CV-22s, Ref/Des for C-17s, WUC for all other MDSs			

A3.10. Break/Fix Rate. Address common themes in current month's breaks and fix rate drivers. Identify common write-ups within high driving systems or aircraft. Look for and comment on trends beyond the current months data.

A3.10.1. **Break Rate Narrative Example.** "The break rate standard was missed for the month. They had 19 breaks in this month; 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."

A3.10.2. **Fix Rate Narrative Example.** "The fix rate standard was missed for the fourth the month. They had 19 breaks this month and only ten of those were fixed within 12 hours. Six of those not fixed within 12 hours were fuel leaks that were awaiting sealant cure time. Two

were awaiting aileron actuators that were MICAP. The remaining break not fixed within 12 hours was a cockpit leak check that had to sit overnight."

Table A3.7. Break Rate Table/Fix Table.

ACFT	DATE	JCN	WUC*	DISCREPANCY	CORRECTIVE ACTION	FIX TIME
A3788	19-Dec-19	193530072	62AAA	FCP VHF W/N XMIT.	R2'D VFH R/T	12.1
A3544	16-Dec-19	193500148	57AAA	TOTAL AHRS FAILURE IN FLT.	R2 AHRS COMP	19.9
A3652	17-Dec-19	193510099	42AAA	GEN VOLTS READ 28.6V IN FLT. OVER VOLTS.	ADJUSTED G.C.U	32.3
*LCN for F-35s, UNS for CV-22s, Ref/Des for C-17s, WUC for all other MDSs						

A3.11. Repeat and Recur Rate. Address common themes in the current month's repeats and recurs. Identify common write-ups within high driving systems or aircraft. Look for and comment on trends beyond the current month's data.

A3.11.1. **Repeat Rate Narrative Example.** "They missed the repeat rate standard for the month they had 11 repeats this month, 8 for FDR failures. Two aircraft accounted for 7 of the 8. Six of those were corrected by replacing a wiring harness. Both aircraft have now flown at least 10 good sorties."

A3.11.2. **Recur Rate Narrative Example.** Address the same way as repeats.

Table A3.8. Repeat/Recur Rate Narrative Table.

ACFT	DATE	JCN	WUC	REP #	REC #	DISCREPANCY	CORRECTIVE ACTION	SORTIES SINCE
A3678	04 Dec 19	193380121	63B00	1		UNABLE TO TRANSMIT ON UHF "ATC1 TUNING FAULT MSG ON RMU	ADJUSTED AND RESEATED UHF SIDETONE RELAY	7
2A3646	11 Dec 19	193450118	51BB0		1	FDR FAIL ON ENG SHUTDOWN NO SUSPECTED OVER G	RESET FDR IAW IT-6ABD-2-31-30-00 CKS GOOD	20

*LCN for F-35s, UNS for CV-22s, Ref/Des for C-17s, WUC for all other MDSs

Attachment 4

SENIOR LEADER COMMENTS TEMPLATE

Table A4.1. Senior Leader Comments Template.

XX XXX XXXX

MEMORANDUM FOR 19AF/LGPA

FROM: XX MXG/CC

SUBJECT: Senior Leader Comments

1. EXECUTIVE SUMMARY: Information in these comments is used to brief AETC leadership and other agencies. It is suggested units address major programs, concerns, and/or areas of interest within the maintenance group or wing.

2. UNIT/FLEET/MAINTENANCE ASSESSMENT: Overall, MDS assessment.

3. ADDITIONAL COMMENTS: This section is not intended to regurgitate the comments previously put in the Analysis comments section, it is intended for Wing/Group perspective/big picture items.

4. SPECIFIC REQUESTS FOR STAFF ASSISTANCE/RESPONSE: Focus on issues that HQ can assist in resolving, ie supply, reliability, manning or depot issues in relationship to issues the unit is challenged with.

5. POC: Name, section, phone, email.

CC SIGNATURE BLOCK

Attachment 5

FORMULAS

Figure A5.1. Aircraft Availability (AA) (Actual).

$$AA\ (Actual) = Average Possessed\ Aircraft\ X\ Actual\ MC\ Rate$$

Figure A5.2. Aircraft Availability Target (AAT).

$$AAT = Primary\ Authorized\ Inventory\ (PAI)\ X\ MC\ Standard$$

Figure A5.3. Air Abort (A/A) Rate.

$$Air\ Abort\ Rate = \left(\frac{\#\ of\ Air\ Aborts}{Sorties\ Flown}\right)\ X\ 100$$

Figure A5.4. Attrition Rates.

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

Figure A5.4.1. Attrition Rates.

$$Logistics\ Attrition\ Rate = \left(\frac{MX\ Cancels + Supply\ Cancels - MX\ Adds}{Local\ Sorties\ Scheduled}\right) X\ 100$$

Figure A5.4.2. Attrition Rates.

$$Operations\ Attrition\ Rate = \left(\frac{Operations\ Cancels}{Local\ Sorties\ Scheduled}\right) X\ 100$$

Figure A5.4.3. Attrition Rates.

$$Weather\ Attrition\ Rate = \left(\frac{Weather\ Cancels}{Local\ Sorties\ Scheduled}\right)\ X\ 100$$

Figure A5.4.4. Attrition Rates.

$$Other\ Attrition\ Rate = \left(\frac{Other\ Cancels}{Local\ Sorties\ Scheduled}\right)\ X\ 100$$

Figure A5.5. Average Fleet Time.

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

Figure A5.6. Average Possessed Aircraft.

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

Figure A5.7. Awaiting Maintenance Rate.

$$AWM\ Rate = \frac{Total\ of\ AWM\ Samples}{Total\ Samples\ Taken}$$

Figure A5.8. Awaiting Parts Rate.

$$AWP\ Rate = \frac{Total\ of\ AWP\ Samples}{Total\ Samples\ Taken}$$

Figure A5.9. Break Rate.

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

Figure A5.10. CANN Rate.

$$Cann\ Rate = \left(\frac{\#\ of\ CANNS\ (Aircraft\ to\ Aircraft\ and\ Engine\ to\ Aircraft)}{Total\ Sorties\ Flown}\right) X100$$

Figure A5.11. 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 A5.12. Cancellation Rates.

$$Maintenance\ Canellation\ \ Rate = \left(\frac{Maintenance\ Cancels}{Local\ Sorties\ (or\ Missions)\ Scheduled}\right) X100$$

Figure A5.12.1. Cancellation Rates.

$$Operations\ Canellation\ \ Rate = \left(\frac{Operations\ Cancels}{Local\ Sorties\ (or\ Missions)\ Scheduled}\right) X100$$

Figure A5.12.2. Cancellation Rates.

$$Supply\ Canellation\ \ Rate = \left(\frac{Supply\ Cancels}{Local\ Sorties\ (or\ Missions)\ Scheduled}\right) X100$$

Figure A5.13. DIT Error Rate

$$DIT\ Error\ Rate = \left(\frac{Total\ DDRs\ in\ Error}{Total\ DDRs\ Checked}\right) X100$$

Figure A5.14. DIT Corrected Error Rate

$$DIT\ Error\ Rate = \left(\frac{Total\ DDRs\ in\ Error - Total\ DDRs\ Corrected}{Total\ DDRs\ in\ Error}\right) X100$$

Figure A5.15. Fix Rate

$$Fix\ Rate = \left(\frac{\#\ of\ Code\ 3\ Breaks\ Fixed\ Within\ 8\ or\ 12\ Hours}{Total\ Code\ 3\ Breaks}\right) X100$$

Figure A5.16. Fully Mission Capable (FMC) Rate

$$FMC\ \ Rate = \left(\frac{FMC\ Hours}{Total\ Possessed\ Aircraft\ Hours}\right) X100$$

Figure A5.17. Functional Check Flight (FCF) Release Rate

$$FCF\ Release\ Rate = \left(\frac{\#\ of\ FCFs\ released}{\#\ of\ FCFs\ attempted}\right) X100$$

Figure A5.18. Ground Abort (G/A) Rate

$$Ground\ Abort\ Rate = \left(\frac{\#\ of\ Ground\ Aborts}{Local\ Sorties\ Flown + \#\ of\ Ground\ Aborts\ Not\ Spared}\right) X100$$

Figure A5.19. Maintenance Man-hour per Flying Hour

$$Man - hour\ per\ Flying\ Hour = \left(\frac{Man - hours\ Documented\ in\ MIS + SGEM\ (if\ applicable)}{Flying\ Hours}\right) X100$$

Figure A5.20. Maintenance Scheduling Effectiveness (MSE) Rate

$$MSE\ Rate = \left(\frac{Maintenance\ Points\ Earned}{Maintenance\ Points\ Possible}\right) X100$$

Figure A5.21. Mission Capable (MC) Rate

$$MC\ Rate = \left(\frac{FMC\ Hours + PMCM\ Hours + PMCS\ Hours + PMCB\ Hours}{Total\ Possessed\ Aircraft\ Hours}\right) X100$$

Figure A5.22. Not Mission Capable Both Maintenance and Supply (NMCB) Rate

$$NMCB\ Rate = \left(\frac{NMCB\ Hours}{Total\ Possessed\ Aircraft\ Hours}\right) X100$$

Figure A5.23. Not Mission Capable Maintenance (NMCM) Rate

$$NMCM\ Rate = \left(\frac{NMCM\ Hours}{Total\ Possessed\ Aircraft\ Hours}\right) X100$$

Figure A5.24. Not Mission Capable Supply (NMCS) Rate

$$NMCS\ Rate = \left(\frac{NMCS\ Hours}{Total\ Possessed\ Aircraft\ Hours}\right) X100$$

Figure A5.25. Partially Mission Capable Both Maintenance and Supply (PMCB) Rate

$$PMCB\ Rate = \left(\frac{PMCB\ Hours}{Total\ Possessed\ Aircraft\ Hours}\right) X100$$

Figure A5.26. Partially Mission Capable Maintenance (PMCM) Rate

$$PMCM\ Rate = \left(\frac{PMCM\ Hours}{Total\ Possessed\ Aircraft\ Hours}\right) X100$$

Figure A5.27. Partially Mission Capable Supply (PMCS) Rate

$$PMCS\ Rate = \left(\frac{PMCS\ Hours}{Total\ Possessed\ Aircraft\ Hours}\right) X100$$

Figure A5.28. Percent MC Scheduled

$$\%\ MC\ Scheduled = \left(\frac{\#\ Prime\ Flyers + \#\ Spares}{\#MC\ Aircraft}\right) X100$$

Figure A5.29. Recur Discrepancy Rate

$$Recur\ Rate = \left(\frac{\#\ of\ Recurs}{\#\ of\ Pilot\ Reported\ Discrepancies}\right) X100$$

Figure A5.30. Repeat Discrepancy Rate

$$Repeat\ Rate = \left(\frac{\#\ of\ Repeats}{\#\ of\ Pilot\ Reported\ Discrepancies}\right) X100$$

Figure A5.31. Sortie Scheduling Effectiveness (SSE) Rate

Determine Adjusted Scheduled:

$$\text{Adjusted Scheduled} = \textit{Local Sorties Scheduled} + (\textit{Weather Adds} + \textit{FCF/OCF/Ferry Sorties} + \textit{Other Adds}) - (\textit{Weather Canx} + \textit{Other Canx})$$

Determine SSE Rate:

$$SSE\ Rate = \left(\frac{Adjusted\ Scheduled - Chargeable\ Deviations}{Adjusted\ Scheduled}\right)$$

Figure A5.32. Spare Factor (Actual)

$$Actual\ Spare\ Factor = \left(\frac{\#Spare\ Aircraft}{\#Spare\ Aircraft + \#Prime\ Flyers}\right) X100$$

Figure A5.33. Total Abort Rate

$$Total\ Abort\ Rate = \left(\frac{\#\ of\ Air\ Aborts}{Sorties\ Flown}\right) + \left(\frac{\#\ of\ Ground\ Aborts}{Local\ Sorties\ Flown + \#\ of\ Ground\ Aborts\ Not\ Spared}\right) X\ 100$$

Figure A5.34. Total Not Mission Capable Maintenance (TNMCM) Rate

$$TNMCM\ Rate = \left(\frac{NMCM\ Hrs\ +\ NMCM\ Airworthy\ Hrs\ +\ NMCB\ Hrs\ +\ NMCB\ Airworthy\ Hrs}{Total\ Possessed\ Aircraft\ Hrs}\right) X100$$

Figure A5.35. Total Not Mission Capable Supply (TNMCS) Rate

$$TNMCS\ Rate = \left(\frac{NMCS\ Hrs\ +\ NMCS\ Airworthy\ Hrs\ +\ NMCB\ Hrs\ +\ NMCB\ Airworthy\ Hrs}{Total\ Possessed\ Aircraft\ Hrs}\right) X100$$

Figure A5.36. UTE Rate

$$Monthly\ UTE\ Rate = \left(\frac{Monthly\ Sorties\ (or\ Hours) Flown}{PAI\ Aircraft\ or\ Average\ Possessed\ Aircraft\ (whichever\ is\ lower)}\right) X100$$

Figure A5.37. UTE Rates.

$$Annual\ UTE\ Rate = \left(\frac{Annual\ Sorties\ (or\ Hours) Flown}{Sum\ of\ Monthly\ PAI\ Aircraft\ or\ Average\ Possessed\ Aircraft\ (whichever\ is\ lower)}\right) X100$$