

**BY ORDER OF THE COMMANDER
AIR FORCE MATERIEL COMMAND**

**AIR FORCE MATERIEL COMMAND
INSTRUCTION 21-118**



9 MAY 2012

Maintenance

**AIRCRAFT MAINTENANCE
PRODUCTION/COMPRESSION REPORT
(AMREP)**

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This instruction implements Air Force Policy Directive (AFPD) 21-1 *Air and Space Maintenance* and Air Force Instruction (AFI) 16-402 *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*. It explains the procedures for entering and updating the Aircraft Maintenance Production/Compression Report (AMREP) System (A030D), outlines responsibility for data entry, and addresses exercise management. The AMREP System provides AFMC, HQ USAF, and owning commands with the status of aircraft undergoing depot level maintenance at all DoD, AF, contractor, and other commercial repair facilities. It provides annual production plans based on project directives and scheduled completion date, and provides users the capability to complete detailed Root Cause analysis. This instruction is applicable to the Air Force Reserve Command and the Air National Guard. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command to HQ AFMC/A4DE. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed IAW the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afrims/afrims/afrims/rims.cfm>. The use of the name or mark of any specific manufacturer, commercial, product, commodity, or service in this publication does not imply endorsement by the Air Force. See Attachment 1 for a glossary of references and supporting information.

SUMMARY OF CHANGES

This revision to AFMCI 21-118 clarifies and further defines AMREP system roles and responsibilities, schedule change process, system documentation and records deletions, Due Date Performance (DDP) measures & standards, Assessment Period, annual production plan, removal of 5 day early/late window and new terminologies. A process to address requests beyond the authorized two changes was added to accommodate extenuating situations. The Depot Possessed Report (RCS: HAF-ILM (M) 0102) requirement and Days Held Index metric has been removed.

Section A—Background

1. Introduction. This instruction provides guidance and procedures and identifies responsibilities for input and maintenance of the data in the AMREP System (A030D). It also confers policy for reporting weapon systems such as aircraft, both fixed and rotary wing and Remotely Piloted Aircraft (RPA) in a depot maintenance status, scheduling of aircraft back to the user, and the operation and use of the AMREP System during exercises and contingencies. AMREP data is used to measure overall AFMC weapon system support. This instruction applies to organic, contract and partnership activities; it outlines aircraft metrics definitions and reporting requirements. These requirements are defined and explained in [Attachment 3](#).

2. Purpose. The purpose of the AMREP System is to document the status of aircraft possessed by AFMC (to include AFMC contractors, partnership and other DoD activities) for the various depot maintenance repair activities, engineering evaluation, or other related actions. **Aircraft possessed information is a factor in computing aircraft availability metrics used by senior AF officials to make resource allocation decisions across weapon systems, charter process improvement and other initiatives.** It documents the in-work/storage status of weapon systems such as aircraft, both fixed and rotary and RPA possessed by AFMC and undergoing depot maintenance (including inspections performed by depot or contract field teams) at a government, contractor, or transitory commercial facility. It also identifies aircraft that can be compressed or accelerated for early return to the owning commands in support of a simulation or real world contingency. See Attachment 1 for a glossary of references and supporting information.

3. Work Performance Categories (Job Designator Codes). See [Attachment 2](#).

4. Related Metrics Definitions and Reporting Requirements. See [Attachment 3](#).

Section B—Responsibilities & Procedures

5. Responsibilities:

5.1. HQ AFMC/A4 Directorate of Logistics is the command OPR for the AMREP System.

5.2. The Weapon System Program Manager (SPM) is the Center OPR for data contained in this system. SPMs will designate both a primary and alternate AMREP representative who will enter and update data in the AMREP system. The responsible SPM will maintain a current appointment letter and notify HQ AFMC/A4D of personnel changes by submitting an updated appointment letter to AFMC/A4D Workflow. The SPM may delegate the authority to update forecast out dates, input root cause data, and Functional Check Flight (FCF) data if mutually agreed upon by the SPM and Maintenance Wing (MXW) or repair activity. When work is performed at a site other than where the SPM is located, the SPM may delegate the authority and designate an individual at that location to enter and update AMREP data. Each

Center will also designate a Primary AMREP System OPR in writing who will oversee data input and assign Mission Design Series (MDS) user permission. HQ AFMC/A4N will appoint a primary and alternate AMREP Logistics System Integrator (LSI) with the authority to grant user access and administrative roles.

5.2.1. Aircraft *possessed* by AFMC undergoing depot level inspections, repairs or modifications at an Air Logistics Center (ALC), field location, contractor or transitory commercial facility will be reported into the AMREP System. This includes both scheduled (programmed) and unscheduled (unprogrammed) depot maintenance where AFMC has taken possession of the aircraft. All AF owned aircraft that are in the “D*” series Possession Purpose Identifier (PPI) code in the Reliability and Maintainability Information System (REMIS) must be reported in the AMREP system. Follow guidelines in AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting*, for weapon system reporting process and PPI code definitions. Additionally, all aircraft owned by other services and Foreign Military Sales within AFMC’s control for the purpose of depot level maintenance, must also be reported. All aircraft must be reported received in the AMREP System within one (1) workday after the arrival of the aircraft at the repair activity unless specified in a special agreement between the SPM, MXW, and owning MAJCOM. For grounded aircraft awaiting field team maintenance or depot input, the initial entry will be made one (1) workday from the date the 107 request (per TO 00-25-107, *Maintenance Assistance*) is approved by the repair center for action. As a minimum, this entry will include the received date, which is the date AFMC accepted repair or disposition responsibility of the aircraft (i.e., REMIS PPI code DJ start date).

5.2.1.1. Early arrivals negotiated between the owning MAJCOM, SPM and maintenance activity for logistics or funding considerations will be placed in-work into the AMREP system no later than one (1) workday after the agreed upon in-work date. To maintain the original negotiated schedule, the reporting activity must ensure the agreed upon date is entered into the “in-work” date block of AMREP. Condition and circumstance should be documented in the Remarks section of AMREP. These aircraft should remain in unit possessed status (REMIS “C*” or “T*” PPI code) until the negotiated in-work date unless the SPM and maintenance repair activity agreed to place the aircraft in-work at the time of arrival at the repair location.

5.2.2. The SPM and appointed designees are responsible for timely system updates and assuring the accuracy of the aircraft status data in A030D AMREP System. Aircraft status changes (e.g., schedule changes, completions, deliveries, remarks) shall be made no later than one business day from date of occurrence. AMREP is a “real time” system that supports the enterprise level data warehouse, ALC weapon specific systems, and the Global Combat Support System-AF (GCSS-AF) Data Services. Accuracy of AMREP data is paramount in keeping the production plan, projections and root cause codes current for further analysis and presentation to senior leaders.

5.2.3. Exceptions to Reporting. Aircraft in PPI code DL (Depot Delivery Flight) and aircraft undergoing regeneration for Aerial Target activities are exempt from reporting in the AMREP system. Any additional exception to reporting must be recommended by the Aerospace Sustainment Directorate (ASD) director or civilian equivalent to HQ AFMC/A4. Such recommendations must be coordinated with the owning command prior

to submission. HQ AFMC/A4 remains the sole approval authority for exceptions to reporting. All aircraft will be reported in AMREP until the exception is granted.

5.2.4. The SPM will ensure Depot Maintenance performed by contractors [including Contract Depot Maintenance (CDM) contracts, Contractor Logistics Support (CLS) contracts, and Interim Contract Support (ICS) contracts] and non-AF repair activities comply with the requirements identified within this instruction or meet its intent as part of the contract, statement of work, performance work specifications, or Depot Maintenance Inter-Service Agreement (DMISA).

6. Procedures:

6.1. Establishing Original Scheduled Out Date and Revised Scheduled Out Date:

6.1.1. Original Scheduled Out Date. The Original Scheduled Out Date is established no later than the day the aircraft is placed in work. The negotiated flow days specified in the work specification, contract, project directive, or workload agreement for each aircraft tail number is for all projected known requirements including SPM approved items listed in the AFTO Form 103, *Aircraft/Missile Condition Data*; e.g., Programmed Depot Maintenance (PDM), analytical condition inspection (ACI), on condition maintenance (OCM), modifications, etc. Flow days are negotiated by the SPM and Maintenance Wing/repair activity with the owning MAJCOM IAW TO 00-25-4, *Depot Maintenance of Aerospace Vehicles and Training Equipment*. The SPM must ensure that all initial requirements are supportable with existing capacity (i.e., material/parts, facility, manpower, and funds). Requirements that are not supportable will not be accepted by MXW unless mutually agreed upon by the SPM and MXW with the understanding that additional flow days may be required. The negotiated flow days are added to the Date In-work, minus one day, to compute the Original Scheduled Out Date.

Date In-work + Negotiated Flow Days -1 = Original Scheduled Out Date

Once established, the Original Scheduled Out Date (baseline) will not be changed.

6.1.1.1. For planned *priority* or *accelerated/compressed* aircraft (before induction) with the owning MAJCOM, the *negotiated* scheduled out date, flow days, and assessment period will be used to populate the Original Scheduled Out Date and Flow Days blocks in AMREP.

6.1.2. Assessment Period. The repair activity will establish the Revised Scheduled Out Date based on the assessment of the aircraft and all “known” requirements within the approved assessment period. The Assessment Period duration shall be **45 percent** of the original negotiated flow days by MDS or serial number with a stretch goal of **30 percent**. For example, if weapon system C-5A Serial Number 69-0027 negotiated flow days is 285, the assessment period will be 128 days with a goal of 85 days starting from the in-work date. Any changes to the assessment period duration must be agreed to by the SPM, the MXW Commander or civilian equivalent and owning MAJCOMs. Assessment period for an MD/MDS or aircraft serial number may only be changed for over and above (O&A) corrosion/structural issues, additional approved workload requirements, or conditions beyond the SPM and Repair Activity’s control. The SPM will maintain copies of any approved changes. Any updates to an aircraft’s Assessment Period will be updated in the AMREP System with details in the Remarks section.

6.1.3. Revised Scheduled Out Date. The Revised Scheduled Out Date is computed after the repair activity has completed its assessment of the aircraft. The Revised Scheduled Out Date reflects changes to the Original Scheduled Out Date based on the level of effort required to accomplish assessment period findings, e.g., Work Specification (project), Related Unpredictables and O&A. The new revised date should reflect the days necessary to acquire and install additional parts. A change to the revised scheduled out date will also result from any approved schedule extensions after the assessment period. Repair activity delivery performance will be measured against the Revised Scheduled Out Date.

6.1.4. Schedule Changes:

6.1.4.1. Schedule change restrictions. No more than two changes to the Original Scheduled Out Date are allowed, one during the assessment period and one after. Any request to revise the schedule beyond the two authorized changes must be approved by the AFMC/A4. ***Only the SPM may authorize any schedule changes to the AMREP system.*** Changes to the schedule will not be made to compensate for parts supportability problems, facility constraints, or seasonal weather conditions (except as provided for in para 6.1.4.4). The only exception to this would be new parts required to accomplish additional approved workload. Work Specification (project), Related Unpredictables and O&A requirements are considered additional workload. Changes to the delivery schedule as a result of approved acceleration/compression, adjustment to work shifts, or modified workweek will be reflected in the Forecast Out Date.

6.1.4.2. Changes made during the Assessment Period. The repair activity will submit a schedule change request signed by the Wing Commander, civilian equivalent, or designated representative to the responsible SPM. This request will include a description of any added requirements to include change in scope to established tasks, the man hours and parts required to accomplish the task, the impact to the established schedule, and a detailed explanation of why the schedule was affected. The designated organic, contract, partnership, and non-AF repair activity designated representative must be appointed by the Wing Commander or Civilian equivalent in writing. The SPM is responsible for notifying the owning MAJCOMs of any schedule changes to ensure that a revised delivery date (Revised Scheduled Out Date) is established. The scheduled out date may only be changed for approved additional workload to include change in scope to established tasks. The new scheduled out date should take into account the time to acquire any new parts necessary to accomplish this workload. The additional flow days will be added to the previously approved flow days to determine the new Revised Scheduled Out Date. The SPM must ensure that any added requirements are supportable (i.e., material/parts, facility, manpower, and funds). Requirements that are not supportable will not be accepted by MXW unless mutually agreed upon by the SPM and MXW with the understanding that additional flow days may be required. Flow days will be directly tied to the supportability of the aircraft. The ASD/SPM is the final approval/disapproval authority on schedule changes and will provide a written decision to the repair activity. The SPM will maintain copies of all approved and disapproved change requests. In the event the SPM disapproved a request to revise the schedule, the

Forecast Out Date must be updated to ensure it reflects the most current estimated completion date. The Forecast Out Date should be revised accordingly if the production organization adjusts work shifts or modifies the workweek.

6.1.4.2.1. The Revised Scheduled Out Date must be updated in AMREP (A030D) within ten (10) workdays of the end of the approved assessment period. This will allow time for internal coordination and routing of the scheduled output date change through MXW or repair activity and to the SPM.

6.1.4.3. Changes *after* the Assessment Period. The repair activity will submit a schedule change request signed by the Wing Commander, civilian equivalent, or designated representative to the responsible SPM. This request will include a description of any added requirements to include significant changes in scope to existing tasks, the man hours and parts required to accomplish the task, the impact to the established schedule, and a detailed explanation of why the schedule was affected. The designated repair activity representative must be appointed by the Wing Commander or civilian equivalent in writing. The SPM is responsible for notifying the owning MAJCOM of any revisions to the delivery date (Revised Scheduled Out Date). The ASD/SPM is the final approval/disapproval authority on schedule changes and will provide a written decision to the repair activity. Changes will be made only when the scope of work has changed beyond the original work specification (e.g., customer requested modifications or inspections, previously undiscovered defects), additional O&A, new parts required to complete added requirements, or SPM directed safety inspections. The additional flow days will be added to the previously approved flow days to determine the new Revised Scheduled Out Date. If new parts are required, the time to acquire and install these parts should be factored into the new revised out date. The SPM must ensure that any added requirements are supportable with existing capacity (i.e., material/parts, facility, manpower, and funds) and must notify the owning MAJCOM and MXW to compensate for the added workload. The SPM will maintain copies of all approved and disapproved change requests. In the event the SPM disapproved a request to revise the schedule, the Forecast Out Date must be updated to ensure it reflects the most current estimated completion date.

6.1.4.4. The schedule may also be revised due to extreme weather conditions (e.g., devastating hail storm, ice storm, flooding, extreme temperature, etc.) resulting in base closure, consecutive late reporting, damage to operations and maintenance infrastructure, and safety concerns that significantly caused delays in the schedule. Changes to the scheduled output date for these reasons must be coordinated between Maintenance Wing or repair activity and should follow guidance in paragraphs 6.1.4.2. to 6.1.4.3. Changes to the schedule due to extreme weather condition count towards the maximum of two changes.

6.1.4.5. Schedule Change Waiver. Any request beyond the two authorized changes must be coordinated through AFMC/A4D and A4F and *approved* by AFMC/A4. The responsible SPM will submit a schedule change request signed by the ASD and repair activity management (MXW Commander or civilian equivalent) and coordinated with the owning MAJCOM. Waivers will only be considered when the scope of work has changed beyond the original work specification (e.g., customer requested modifications or inspections, previously undiscovered defects), additional O&A

requirements, SPM directed safety inspections, extreme weather conditions, and other extenuating situations. The SPM must ensure that any added requirements are supportable with existing capacity (i.e., material/parts, facility, manpower, and funds). The SPM will send all waiver requests to AFMC/A4 Workflow and follow procedures IAW HQ AFMC/A4 Standardized Waiver Request and Approval Policy memorandum.

6.1.5. Forecast Out Date. The Forecast Out Date represents the best estimated aircraft completion date regardless of the date which appears in the Original/Revised Out Date. This field must be updated as soon as a new forecast out date has been identified or the aircraft completion date is expected to slip. An accurate Forecast Out Date is vital to MAJCOM customers to allow real world/contingency mission planning and expectation management. The SPM is responsible for keeping the customer MAJCOM informed of any variations to the original work package and scope of each aircraft undergoing depot level repair.

6.1.6. Record deletions. Deletions will be kept to a minimum and only used to correct major input errors. Since all deletions are captured in the AMREP system, annotate the reason for the deletion in the remarks section of the new entry if the record is being reentered.

6.1.7. Additional work. Additional work added after an aircraft is received and placed in work will not be counted as separate actions/completions. The added work should be documented in the remarks section of AMREP.

6.1.8. Documentation. The SPM and appointed designees *must* document details of any change to the Revised or Forecast Out Date in the Remarks section of the AMREP system.

6.2. Flow Day Calculation. Planned Flow Days are the days reflected by the Input/Output Schedule. Actual Flow Days are calculated from the Date In-Work, or the day when the aircraft undergoes incoming processing action through the completion date. To arrive at the Actual Flow Days for a particular aircraft, subtract the Date In-Work from the Completion Date and add one day (Ready for Delivery).

$$\text{Completion Date} - \text{Date In-Work} + 1 = \text{Actual Flow Days}$$

6.3. Acceleration and Compression Procedures (see definitions in [Attachment 1](#)). For the purposes of estimating Acceleration/Compression, SPM's will establish these procedures for each aircraft Mission Design. SPMs are responsible for ensuring accuracy of Acceleration/Compression factors in the AMREP system.

6.3.1. Acceleration and Compression Factors between 0 and 1.0. The development of Acceleration and Compression Factors is an engineering function. Acceleration and compression factors should be developed using past experience, expected gains from moving from the current work schedule to up to a 24-hour a day work schedule, personnel constraints, facility constraints, expected changes in efficiency, and other factors as applicable.

6.3.2. Cutoff Flow Days. Cutoff flow days are the initial days in depot flow time used for in-processing the aircraft, but prior to beginning disassembly.

6.3.3. Compression Factors for Cutoff Flow Days. To determine workdays remaining under acceleration or compression, multiply the appropriate factor for each aircraft by the remaining flow days unless the cutoff flow day has not been reached. Portions of acceleration and compression flow days are always rounded up (13.1 = 14 flow days). The cutoff flow day is that day on which the aircraft has completed in-processing and disassembly is to start.

Table 1. 1 Compression Acceleration Example

<p>The factors established for the F-XX are: Compression: .62 Acceleration: .78 Cutoff flow days: 13 Cutoff compression: 3 days The remaining forecast flow days are 133 Compression Flow Days = $133 \times .62 = 82.46$ rounded up to 83 Acceleration Flow Days = $133 \times .78 = 103.74$ rounded up to 104 If the aircraft has not reached its 13th flow day, then compression flow days = 3</p>

6.4. If the SPM is directed to compress or accelerate an aircraft by the owning command, they will have the maintenance organization perform a detailed evaluation of the request. Acceleration and compression of aircraft will be in accordance with procedures in AFMC and Center Surge Contingency Plan 70. New compression or acceleration flow days developed as a result of the detailed evaluation will be entered in the AMREP System, overriding the original AMREP calculated compression/acceleration flow days.

6.5. Annual Production Plan. Each SPM is responsible for entering their annual fiscal year production plan by MDS into AMREP in terms of expected production for each month broken out by PDMs, modifications, and other planned workload. See Attachment 3 for specific details on entering and maintaining the planned production.

7. Contingency/Exercise Management:

7.1. During contingencies or higher levels of alert, SPMs should immediately calculate how many aircraft could be compressed or accelerated. This data should be forwarded to customer commands and to the HQ AFMC Battlestaff as soon as possible. If an aircraft compression or acceleration is officially requested, the SPM must solicit a detailed evaluation from the repair activity in order to calculate the associated cost.

7.2. Command and Joint Chiefs of Staff Command Post Exercise. HQ AFMC Battlestaff Logistics Readiness Center will be responsible for initiating the systems exercise option and notifying the appropriate activities of this action.

7.3. Local Exercise. Each activity will initiate their own exercise option according to the instructions in the AMREP Users Manual (copies are available online at <https://amrep-prod.day.disa.mil/amrepreports/UserManual/AMREPUserManual.pdf>)

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Director of Logistics and Sustainment

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

AFPD 21-1, *Air and Space Maintenance* (25 Feb 2003)

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

AFMAN 33-363, *Management of Records* (1 Mar 2008)

AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting* (9 Apr 2010)

TO 00-25-107, *Maintenance Assistance* (15 Aug 2011)

TO 00-25-4, *Depot Maintenance of Aerospace Vehicles and Training Equipment* (15 Aug 2011)

AFI 63-1101, *Modification Management* (17 Jul 2001)

(AFMC Supplement) AFI 21-101, *Aircraft and Equipment Maintenance Management* (19 Oct 2011)

TO 00-35D-54 *United States Air Force Deficiency Reporting, Investigation, and Resolution* (1 Oct 2009)

Adopted Forms

AF Form 847, *Recommendation of Change of Publication*, 22 September 2009

AFTO Form 103, *Aircraft/Missile Condition Data*, 17 September 2007

Abbreviations and Acronyms

AFMC—Air Force Materiel Command

AFMCI—Air Force Materiel Command Instruction

AFTO—Air Force Technical Order

ALC—Air Logistics Center

AMARG—Aircraft Maintenance and Regeneration Group

AMR—Aircraft and Missile Requirements

AMREP—Aircraft Maintenance Production/Compression Report

ASD—Aerospace Sustainment Directorate

CDM—Contract Depot Maintenance

CLS—Contractor Logistics Support

DOD—Department of Defense (also DoD)

DDP—Due Date Performance

DMISA—Depot Maintenance Inter-Service Agreement

FCF—Functional Check Flight

FD—Flow Days
HSC—Home Station Checks
HVM—High Velocity Maintenance
IAW—In Accordance With
ICS—Interim Contract Support
JDRS—Joint Deficiency Reporting System
MAJCOM—Major Command
MDS—Mission Design Series
GCSS—AF-Global Combat Support System – Air Force
MXW—Maintenance Wing
OPR—Office of Primary Responsibility
O&A—Over and Above
OCM—On Condition Maintenance
PDM—Programmed Depot Maintenance
PPI—Possession Purpose Identifier
QDR—Quality Defect Rate
RDS—Records Disposition Schedule
RAM—Rapid Area Maintenance
REMIS—Reliability and Maintainability Information System
RPA—Remotely Piloted Aircraft
SDLM—Standard Depot Level Maintenance
SPM—System Program Manager
SPO—System Program Office
TO—Technical Order
USAF—United States Air Force
UAV—Unmanned Aerospace Vehicle

Terms

Acceleration—Maximum production required for certain designated mission essential materiel undergoing depot level maintenance or modification. Acceleration of aircraft is intended to meet war-time or contingency requirements. Maximize production and preparedness by:

- Suspending routine peacetime aircraft inputs to depot maintenance facilities
- Extending the workday and workweek up to 24 hours a day/7 days a week operation
- Realigning the workstations and redistributing the labor force as required
- Cannibalizing as necessary to complete the essential maintenance or modification;

requirements on the maximum amount of materiel. During acceleration conditions, the maintenance facility follows the same basic procedure as in compression, except that the peacetime work specifications normally remain unchanged. (This includes the requirement for functional check flights).

ACI—Analytical Condition Inspection. The systematic disassembly and inspection of a representative sample of aircraft to find hidden defects, deteriorating conditions, corrosion, fatigue, overstress and other deficiencies in the aircraft structure or systems.

Actual Flow Days—Actual Flow Days are calculated by subtracting Date In-work from Date Completed plus one day. Measured in calendar days.

AMREP Item Number—Optional field used by SPM to track aircraft sequence number.

Assessment End Date—The Assessment End Date is the date that an overall evaluation of the aircraft is to be completed and the scope of work is known. The Assessment End Date is calculated by adding the Assessment Period to the Date In-Work. After the Assessment End Date, the schedule is considered fixed unless there are special circumstances as specified in [paragraph 6](#)

Assessment Period—A period of time, measured from the date that the aircraft is placed in work, that Examination and Inventory is conducted (see [paragraph 6](#)). Based upon the results of the Assessment Period, the SPM may alter the Revised Scheduled Out Date.

Completion Date (Ready for Delivery)—The date the aircraft is ready for delivery to the owning command providing that:

All work is completed.

FCF acceptance, if required, is completed along with the corrections of any identified discrepancies requiring work.

The owning command has been notified that the aircraft is ready for pickup.

The aircraft stands ready for crew acceptance and flyaway, except for the maintenance/operational ferry preflight.

Compression—When the maximum production is required for specified mission essential aircraft that are undergoing depot maintenance/modification. Compression of aircraft is intended to meet war-time or contingency requirements. Production is compressed by:

Suspending routine peacetime work requirements and discontinuing aircraft inputs to depot maintenance facilities.

Reassembling the aircraft after doing the absolute minimum maintenance essential to the safety of flight, and only those modifications essential to the weapon's war mission configuration as directed by engineering.

Extending the workday and the workweek up to 24 hours a day/7 days a week operation; realigning the workstations; and redistributing the labor force, as needed to meet maximum production efforts.

Resorting to whatever cannibalization is needed to complete the essential maintenance/modification on the maximum number of aircraft.

Compression Specifications—The minimum maintenance or modification requirements needed to render an aircraft effective in its assigned war mission. The requirement for FCF is left to the discretion of SPM Chief Engineer under compression conditions. This normally requires an

engineering assessment of the minimum essential inspections, maintenance, repairs, and modifications required to return each depot-possessed tail number to service.

Cutoff Flow Days—Cutoff flow days are the initial days in depot flow time used for in processing the aircraft, but prior to beginning disassembly.

Date In—Work—The date the repair activity began work on the aircraft. Work begins when the aircraft undergoes incoming processing action.

Date Received—The date the aircraft arrived at the repair activity.

Delivery Date—The date the aircraft was picked up by, or transported to, the owning command.

Depot Maintenance—Maintenance that requires overhauling or rebuilding parts, assemblies, subassemblies, and end items. It may include manufacture of parts, modifications, inspections, testing, and reclamation. Depot maintenance supports base-level technicians by giving them technical help and doing any repairs beyond their responsibility. Depot maintenance includes all software maintenance.

Depot Maintenance Facility (Repair Activity)—A government or contractor facility that performs depot maintenance and modification of aircraft.

Due Date Performance—Due Date Performance is the accepted metric for aircraft production. It is used to measure aircraft in the month produced against operative schedule (original or revised) against the actual completion date.

FCF—Functional Check Flight. A flight performed after completing inspections or maintenance to make sure that the aircraft is airworthy and capable of mission accomplishment. FCF information must be entered into the AMREP system prior to aircraft delivery. AMREP will automatically calculate the total number of attempts once the number of FCFs and ground aborts are entered.

Flow Days—The number of days required to complete work on the aircraft. Flow days are measured from the Date In-Work. Flow days are negotiated by MDS and work package between the SPM, MXW or repair activity, and MAJCOM based on weapon system specific work schedule.

Forecast Flow days—The number of forecasted calendar flow days, calculated by subtracting the Forecast Out Date from the Date In-Work plus one day.

Forecast Out Date—The date the repair activity expects to deliver the aircraft to the owning command. This date may be earlier or later than the Original or Revised Scheduled Out Dates. The Forecast Out Date must reflect the best estimate of completion. Consequently, it will change as conditions warrant.

GCSS—AF Data Services—Provides the enterprise with a single source for authoritative data, analytical processing, and integrated enterprise solutions. Data is available on-demand to provide consumers with the information they require to make tactical and strategic decisions from across the combat support domains.

In-work Date—The date of the first maintenance action in a series of scheduled events to complete a repair, preventive maintenance, or modification. Also referred to as Induction Date.

MDS (Mission, Design, and Series)—The official designation for aerospace vehicles used to represent a specific category of aerospace vehicles for operations, support, and documentation purposes.

OCM (On Condition Maintenance)—A program to schedule selected aircraft into a depot level facility to correct known specific defects. Selection is based on combinations of critical and major defects.

Original Scheduled Out Date—The original date when all maintenance on the aircraft is due to be completed and the aircraft is to be ready for delivery to the owning command. The Original Scheduled Out-Date is established no later than the day the aircraft is placed in work. This date serves as the baseline, once entered, this date cannot be changed.

Over and Above—Work/tasks discovered during the course of performing overhaul, maintenance, and repair efforts that is (1) not within the general scope of the work specification, PD or contract, (2) not covered by the line item(s) for the basic work under the work specification, PD or contract, and (3) necessary in order to satisfactorily release the aircraft. These are low frequency items or work that is not called out in the work specification, PD or covered under economy or flight safety tasks. These items of work will only be done to correct a critical or major deficiency and must be approved by the Project Administration Officer (PAO) or the SPM representative.

Original Flow days—The original (negotiated) calendar flow days specified in the contract, work specification, workload agreement, or PD for each aircraft tail number for all known requirements, e.g., PDM, Analytical Condition Inspection, On Condition Maintenance, and modifications. The original flow days are calculated by subtracting the Original Out-Date from the Date In-Work plus one day.

PDM (Programmed Depot Maintenance)—Predetermined amount of repair work (requiring depot skills, equipment, and tooling) that requires disassembly, necessary cleaning, and inspection for repair or replacement, as necessary, of the component or assemblies.

Repair Activity—The depot or contractor location that is responsible for depot maintenance on the aircraft. Repair activity/location codes are available in the AMREP System.

Revised Flow days—The flow days resulting from an approved schedule extension. The number of days required to complete work on an aircraft based on the Revised Out Date.

Revised Scheduled Out Date—A revision to the previously approved scheduled out date as a result of allowable changes.

Root Cause—The cause that, if corrected, would prevent recurrence of this and similar occurrences.

Root Cause Analysis—A step by step method that leads to the discovery of the cause or causes that led to occurrence.

Scheduled (Revised) Flow Days—These are the renegotiated calendar flow days and arecalculated by subtracting the Revised Out Date from the Date In-Work plus one day.

SPM—System Program Manager. A designated individual assigned the responsibility and delegated the authority for the centralized management of a particular system/project.

Work Specification (project) Related Unpredictables—These are requirements that are defined or can be related to one of the work codes in the work specification document. These discrepancies within the scope of the Work Specification have a negotiated block of hours/money available to assign against in the course of performing programmed maintenance.

Attachment 2

WORK PERFORMANCE CATEGORY CODES

The work performance category is an alpha code used to describe the type and extent of work being done. AMREP refers to work performance category codes as Job Designator Codes. This list provides a brief description of job designator codes as applied in the AMREP system (A030D). For a more precise description of each code, refer to DOD 7000.14, Volume 6A, Chapter 14, Addendum 5. Authorized work performance categories are as follows:

Table A2.1. Work Performance Category Codes

Code	Title and Description
A	Overhaul. The disassembly, test, and inspection of the operating components and the basic structure to determine and accomplish the necessary repair, rebuild, replacement, and servicing required achieving the desired level of performance. Overhaul is synonymous with “rework” and “rebuild.”
B	Scheduled Depot Maintenance. Inspection and correction of defects that require skills, equipment or facilities not normally possessed by operating locations. Includes aircraft with cyclical Standard Depot Level Maintenance (SDLM) and Programmed Depot Maintenance (PDM) programs.
C	Conversion. The alteration of the basic characteristics of an item to such an extent as to change its mission, performance, or capability.
D	Activation. The process of returning an item from preservation, storage, or inactive status to an active, serviceable status by removing from storage and containers, stripping, inspecting, servicing, testing, repairing and replacing components, assemblies, or subassemblies as required.
E	Inactivation. The servicing and preservation of an item prior to placement in storage or an inactive status.
F	Renovation. The proof and test evaluation, and rework of ammunition or ordnance items as required for retaining their desired capability.
G	Analytical Condition Inspection. The disassembly, test, and inspection of end-items, assemblies or subassemblies to determine and accomplish the necessary rework, rebuild, replacement or modification required. It includes the technical analysis of the findings and determination of maintenance criteria. Includes prototype teardown, analysis and rework of an item to determine job and material specifications for a subsequent maintenance requirement.
H	Modifications (and Upgrades). An alteration to a configuration item (CI) applicable to aircraft, missiles, support equipment, ground stations software (imbedded), trainers, etc. As a minimum, the alteration changes form, fit, function or interface of the item (Reference AFI 63-1101 for more details).
I	Repair. Action to restore an item to a serviceable condition from an unserviceable condition, correcting principally those defects that rendered the item unserviceable.
J	Inspection and Test/Engineering Investigations. The examination and confirmation of the condition or operational status of an item relative to its applicable specifications; includes First Article Test. Engineering investigations are used to determine the cause of reported equipment failure or malfunction and are accomplished through the application of a disassembly and inspection investigation, material analysis inspection, and/or an engineering assistance investigation.

K	Manufacture. The fabrication of an item from raw materials or components.
L	Reclamation. The authorized processing of end-items, assemblies or subassemblies to obtain parts or components that are to be retained in operating materials and supplies prior to taking disposal action on the end-item, assembly or subassembly. Covers demilitarization actions on items prior to disposal when the demilitarization is incidental to the reclamation.
M	Storage. The inspection, preservation and maintenance in a storage status of weapons and equipment items, as well as their subsystems and components in the supply system.
N	Technical Assistance. The use of qualified depot maintenance personnel to provide technical information, instructions or guidance, or to perform specific work requiring special skills for operational activities or other maintenance organizations. Includes all demilitarization other than that incidental to reclamation when required to be reported.
P	Paint. The application of any liquid or protective coating to aircraft surfaces. This Job Designator Code will only be used if painting is the primary task called out in the Work Control Documents.
Q	Warranty Work. Used to document warranty work performed after aircraft delivery.
R	Depot Development of Technical and Engineering Data. The use of qualified depot personnel to develop technical and engineering data.
S	Other Assigned Depot Workload. HQ AFMC assigned; see AMREP Job Designator dropdown menu for details
T	Non-Maintenance (Other) Work. Used to complete the reporting of all maintenance work force costs incurred. Any costs incurred at a depot maintenance activity funded by the Air Force Working Capital Fund that do not meet the criteria for reporting under the other work performance categories shall be reported in this category. This includes any maintenance support costs funded by the Air Force Working Capital Fund activity. Maintenance support includes centralized programming and planning support, technical and engineering services, preparation of maintenance publications and engineering data, and technical and administrative training.
U	Software Support. The sum of all amounts for efforts required to correct software deficiencies to ensure that, during the post-deployment phase of a mission critical computer system's life, the implemented and fielded software continues to support the system mission. Depot maintenance software support excludes efforts required to update software to operate the new hardware configurations or required to support new missions. Depot maintenance software support addresses both embedded software systems and support equipment software (e.g., automated test equipment).
V	Calibration. The comparison of a measurement system or device of unknown accuracy to a system or device of known and greater accuracy. The system or device of greater accuracy is a measurement standard.
W	Contractor Logistics Support (CLS). CLS is commercial support for those weapon systems and equipment that do not have an organic support base established. Contractors provide total support including depot maintenance for the equipment, end-item, and components. Only those maintenance functions that would be classified as depot level, if the equipment were maintained organically, will be included.
X	Scheduled Inspections. Used to report scheduled inspections other than cyclical PDMs. This includes aircraft Isochronal Inspections (major/minor), Phased Inspections and Home Station Checks (HSC) performed by depot personnel. This Job Designator Code will only be used if these inspections are the primary task called out in the Work Control Documents.

Y	Scheduled Maintenance. Other scheduled depot maintenance not identified by current Job Designator Codes
Z	Not used.

Attachment 3

METRICS DEFINITIONS AND REPORTING REQUIREMENTS

A3.1. Aircraft Due Date Performance: Due Date Performance (DDP) measures AFMC's ability to produce aircraft according to schedule. This measure tracks scheduled (programmed) and unscheduled (unprogrammed) organic and contract depot level maintenance performed by ALCs, depot maintenance contractors, and non-AF repair activities. DDP does not include field team maintenance workload. Data source for aircraft DDP is AMREP System (A030D).

A3.1.1. Calculation: Aircraft are measured in the month produced against the operative schedule, both the original and revised.

A3.1.1.1. Original DDP. The Original DDP is a measure of the SPM and Repair Activity's ability to plan to the basic depot work package and deliver aircraft to the owning MAJCOMs based on the original schedule. Aircraft are measured in the month produced against the original schedule. The operative schedule is the original schedule as agreed upon by the SPM, MXW, or owning MAJCOM IAW [paragraph 6](#) of this instruction.

A3.1.1.1.1. Threshold values for early, on time, or late deliveries are:

Early – Produced 1 day or more before the Original Scheduled Out Date

On Time – Produced on the Original Scheduled Out Date

Late – Produced 1 day or more after the Original Scheduled Out Date

Aircraft Produced Early + Aircraft Produced on Time = Original DDP
Total Aircraft Produced

A3.1.1.2. Revised DDP. Revised DDP is a measure of SPM and Repair Activity's ability to execute to the plan with consideration to the assessment period guidance in [paragraph 6](#) of this regulation. Aircraft are measured in the month produced against the revised schedule. The operative schedule is the current schedule reflecting adjustments as agreed upon by the SPM and MXW IAW [paragraph 6](#) of this instruction.

A3.1.1.2.1. Threshold values for early, on time, or late deliveries are:

Early – Produced 1 day or more before the Revised Scheduled Out Date

On Time – Produced on the Revised Scheduled Out Date

Late – Produced 1 day or more after the Revised Scheduled Out Date

Aircraft Produced Early + Aircraft Produced on Time = Revised DDP
Total Aircraft Produced

A3.1.2. Frequency: DDP is tracked and reported on a monthly basis and as required.

A3.1.3. Standards: A4D will publish annual DDP standards for each MDS in October and post them on the AFMC A4 EIM (Microsoft SharePoint®) Community Site. Any requested

changes to a standard must be submitted to AFMC/A4D 45 days prior to the end of the current fiscal year. The AFMC A4 Metrics EIM Community site is located at <https://cs.eis.afmc.af.mil/sites/1201/default.aspx>.

A3.1.4. Root Cause Reporting Requirement: A root cause is required for any aircraft 1 day or more past its Revised Scheduled Out Date. The following data must be included with the root cause: Tail Number, Repair Activity, In-Work Date, Completion Date, Cause(s) for Delay (Cause Code), number of delayed days attributed to each cause and current planned action/measure(s) taken to prevent recurrence. Root Causes for late aircraft will be entered and released to HQ AFMC for submission into AMREP via the Root Cause Analysis module no later than the 3rd workday of the month following the close of the reported month. Use AMREP User's Manual for details. A snapshot of the AMREP Root Cause screen is provided below.

Figure A3.1. Sample AMREP Root Cause Record

The screenshot shows the AMREP Root Cause Record interface. The browser window title is "Data: ACTUAL Help Logout". The main content area displays a form with the following data:

A010C	8000159	Repair Type: ORG	Last User:
Job Desig B	MAJCOM ACC 0355FTRWG		Report In Month: Dec/2010
Sched/UDLM P	Type Main SSI		
Rep. Act.: OOALC	OOALC Ogden ALC		
FCF Attempt Std 0	In Work 03-May-10	Completed 01-Dec-10	Actual Flow Days 213
FCF Attempted 3	Received 03-May-10	Original Out 30-Sep-10	Original Flow Days 151
FCF Fly Std 0		Revised Out 30-Sep-10	Revised Flow Days 151
FCF Flown 2	AMREP Remarks Extensive corrosion.Awaiting RH upper decel board.		

Primary Effect: Aircraft Completed 62 day(s) after the Original Out Date and 62 day(s) after the Revised Schedule Out Date.
Sum of Days Input: 00

Partnership Agreement:
(Yes if clicked)?

Cause 1

Days Added for Cause 1: 0 Cause Level 1 Level 2 Level 3 Level 4

Solution(s): for corresponding Action Cause.

Recommendation(s): for corresponding Action Cause. (Optional)

Recommendation 1

Buttons: Add Additional Root Cause Update Go Back

A3.2. Flow Days: The number of days required to complete work on the aircraft and are measured from the Date In-work. For metrics purposes, only scheduled (programmed) aircraft will be used to measure the flow days. Data source for aircraft Flow Days is AMREP System (A030D). At the enterprise level, flow days will be grouped by AMREP job designators codes B (PDM), H (modification), and OTHER (All other scheduled workload).

A3.2.1. Calculation: Aircraft are measured in the month produced against the Original Out Date, Revised Out Date, Forecast Out Date, and the Actual Completion Date.

Total Original (Negotiated) Planned Flow Days = (Original Out Date – Date In-work) + 1

Total Revised (Scheduled) Planned Flow Days = (Revised Out Date – Date In-work) + 1

Total Forecasted Flow Days = (Forecast Out Date – Date In-Work) + 1

Total Actual Flow Days = (Completion Date – Date In-work) + 1

A3.2.2. Flow day definitions and allowable extensions to flow days are contained in [paragraph 6](#) and [Attachment 1](#). **Note:** Contract extensions granted to a contractor as a result of the government's failure to act (e.g., failure to provide parts or failure to respond to Engineering Change Proposal evaluations in a timely manner) should not be considered an allowable schedule change for purposes of the data recorded in AMREP.

A3.3. Functional Check Flight (FCF) Reporting: Centers will report required FCF data into the AMREP system upon completion of the negotiated depot level repair/modification or no later than the delivery date as outlined in Chapter 14 of AFMC Supplement to AFI 21-101, *Aircraft and Equipment Maintenance Management*. The Number of FCFs and Number of Ground Aborts are required data fields in AMREP; they are used to generate command level metrics for the FCF Fly Rate, Attempt Rate and Effectiveness Rate. FCF standards will be re-calculated annually and posted on the AFMC A4 Metrics EIM (Microsoft SharePoint®) Community Site as described in [paragraph A3.1.3](#).

A3.4. Programmed Aircraft Production. The SPM will ensure that programmed (planned) production is entered into AMREP using the Production Planning tool within the data editing portion of AMREP. The production plan should be consistent with the appropriate (original or revised) out date. The data will be entered no later than 15 days after the beginning of the fiscal year to include PDMs, modifications, and other scheduled workload. These production numbers should not include unscheduled aircraft or field team workload. Annual production plans will be adjusted to compensate for aircraft produced early or late in the fiscal year program. For example, aircraft scheduled to produce in Fiscal Year (FY)11 that produce in FY10 shall be removed from the FY11 plan. Likewise, any aircraft intended for FY10 production but not produced in FY10, must be added to the FY11 schedule. Any aircraft where the Revised Out date moves forward into a future month should adjust their plan accordingly.

A3.4.1. Programmed Aircraft Production Reports. There are two separate reports available in AMREP developed to track planned production. The Production Summary Report is used to track the entire fiscal year planned production and the Aircraft Production Plan Report is used to track production based on current data in AMREP (inducted aircraft based on original and revised out dates).

A3.4.1.1. Production Summary Report. This report is populated using data from the Production Planning data editing tool. It displays each MDS fiscal year plan by month for PDMs, modifications, and other planned workloads. This report displays the planned numbers for the entire fiscal year for all current and future completions regardless if the aircraft are inducted into AMREP or not. Once entered, the Original plan cannot change and all revisions thereafter will be considered the Revised plan.

A3.4.1.2. Aircraft Production Plan Report. This report displays all planned aircraft production based on current aircraft inducted into the AMREP system. Data is populated using the original and revised out dates from the Comprehensive Report data elements. This is an automated report used to populate the Aircraft Production Metric. The Aircraft

Production Metric measures the actual completions against the original and revised planned completions (Revised Out Date). The plan will be adjusted for aircraft produced early or late in the fiscal year program as discussed in **paragraph A3.5**, Programmed Aircraft Production. AFMC HQ activities will extract the Aircraft Production Plan Report on the 4th work day of each month for the previous month's data. For the end of the fiscal year data, the report will be updated again on the 20th of October for the end-of-year closeout.

A3.5. Aircraft Quality Defect Rate (QDR): Center Quality Offices will utilize AMREP and Joint Deficiency Reporting System (JDRS) data in developing the monthly aircraft quality defect metric. Measurements showing reported, accepted Critical/Major Defects and reported minors will be developed based on the month that the aircraft was produced, not the month in which the QDR was received. SPMs are required to comply with Deficiency Reporting, Investigation and Resolution guidance IAW Technical Order (TO) 00-35D-54 *United States Air Force Deficiency Reporting, Investigation, and Resolution*. SPMs will ensure accuracy of data entered in JDRS to include the correct AMREP completion date.

A3.5.1. AFMC/A4D will develop and publish annual quality standards for each MDS in October using the formula below. Standards will be posted on the AFMC A4 Metrics EIM (Microsoft SharePoint®) Community Site as described in **paragraph A3.1.3**

$$0.9x \frac{\sum \text{Defects Accepted (previous 3 years)}}{\sum \text{Aircraft Produced (previous 3 years)}} = \text{Accepted Defects Standard}$$

A3.5.2. Due to the 90 day interval between the receipt of the QDR and investigation process, July–June data will be used to calculate fiscal year standards. Requests for deviations from the approved calculation of the standard must be submitted with justification by the Center to HQ AFMC/A4D not later than 30 Nov each year. The Center Accepted Defects Standard is a weighted average of all MDSs produced. In no case will the individual MDS standard be less than 0.10 accepted critical or major defects per aircraft produced. After the MDS Accepted Defects Standard is calculated and the calculated standard is found to have increased, the previous standard will be used.