

Administrative Changes to OC-ALCI 21-101, *SRAN Engine Management*

OPR: OC-ALC/OBWA

Certifying Official changed from Mr. Matthew Adair to Mr. Brandon Copeland.

Reference throughout to Air Force Policy Directive (AFPD) 21-1, *Maintenance of Military Materiel*, should be changed to Department of the Air Force (DAFPD) 21-1, *Maintenance of Military Materiel*.

Reference throughout to Air Force Instruction (AFI) 20-115, *Propulsion Management For Ariel Vehicles*, should be changed to Department of the Air Force Instruction (DAFI) 63-101/20-101, *Integrated Life Cycle Management*.

Reference throughout to Air Force Material Command Manual (AFMCMAN) 21-1, *Air Force Materiel Command Technical Order System Procedures*, Chapter 5. should be changed to AFMCMAN 63-1202, *Engineering Technical Assistance Request (ETAR) Process*.

Approving Official Changed from Major General Jeffrey R. King to Brigadier General Brian R. Moore.

25 September 2024

**BY ORDER OF THE COMMANDER
OKLAHOMA CITY AIR LOGISTICS
COMPLEX**

**OKLAHOMA CITY AIR LOGISTICS
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Maintenance

SRAN ENGINE MANAGEMENT

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Maintenance of Military Materiel*; Air Force Instruction (AFI) 20-115, *Propulsion Management For Aerial Vehicles*; AFSCMAN 21-102, *Depot Maintenance Management*, AFI 21-101, *Aircraft and Equipment Maintenance Management*, and Air Force Computer Systems Manual, 21-558, *Comprehensive Engine Management System (CEMS)* (IMDS users only). This instruction shall establish standard policy and procedures and assign responsibilities for Tinker Air Force Base (TAFB) Stock Record Account Number (SRAN) Engine Manager (SEM) in the Oklahoma City Air Logistics Complex (OC-ALC). Direction provided in this instruction for the SEM, aircraft, propulsion, commodities personnel, or systems other than the CEMS is for continuity purposes only. This publication may not be supplemented. See DAFMAN 90-161, *Publishing Process and Procedures*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. Refer recommended changes and questions about this publication to the office of primary responsibility (OPR) using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through appropriate functional's chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) AFMAN 33-363, *Management of Records*, and disposed of IAW Air Force (AF) Records Disposition Schedule (RDS) located at <https://www.my.af.mil/afrims/afrims/afrims/rims.cfm>.

SUMMARY OF CHANGES

This document has been revised and must be reviewed completely and its entirety. The SRAN Engine Management contains multiple process and procedural changes that were incorporated and updated.

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Chapter 1

GENERAL INFORMATION

1.1. Propulsion systems, which include aircraft and missile engines, require selective management. The high value of these weapon systems makes them ‘unique’ among the assets managed throughout the AF. One primary and one alternate SEM shall be designated per SRAN within OC-ALC. Four SRANs have been designated in 76th Aircraft Maintenance Group (76 AMXG), three in 76th Commodities Maintenance Group (76 CMXG), and two in 76th Propulsion Maintenance Group (76 PMXG). OC-ALC SRAN designators for 76 AMXG are FJ2336, FJ2141, FJ2142 and FJ2143; 76 CMXG are FJ2034, FJ4506, and FJ4507; 76 PMXG are FJ2335 and FJ2038. Overall engine management is maintained in the CEMS database (D042). The command engine manager (CEM) is located at Air Force Materiel Command (AFMC) Headquarters (HQ) AFMC/A4MM and is focal point for engine management matters for the command.

1.1.1. Primary objective of engine management reporting to CEMS is to maintain timely, accurate data on status, condition, and location of aircraft and missile engines and uninstalled critical life-limited components possessed in OC-ALC’s designated SRAN’s.

1.1.2. Policies and procedures outlining instructions for reporting actions and events to the CEM are outlined in TO 00-25-254-1-WA-1, *Comprehensive Engine Management System Engine Configuration, Status and TCTO Reporting Procedures*, and AFSCMAN 21-102.

Chapter 2

RESPONSIBILITIES

2.1. 76 AMXG, 76 CMXG and 76 PMXG Group Commanders.

2.1.1. The Maintenance Group Commander or equivalent shall appoint a formally trained SRAN manager and alternate for each designated SRAN within their respective group.

2.1.1.1. SRAN Managers and alternates shall:

2.1.1.2. Complete formal training consisting of local course taught by Air Force Life Cycle Management Center (AFLCMC/LPSC) and Depot Maintenance Engine Management Training, Field Training Detachment (FTD), course CTEMAS0141426SU.

2.1.1.3. Ensure training is provided and documented for all authorized personnel reporting in assigned SRAN. Maintains list of authorized personnel and provides list to CEMS Program Management Office (PMO) Helpdesk and CEMS PMO Security.

2.1.1.4. Actively manage the SRAN ensuring engine, module, and component data is reported to CEMS database IAW TO 00-25-254-1-WA-1.

2.1.1.5. Review Engine Manager Data List (EMDL) daily to identify engine shipments reflect correct status in CEMS database.

2.1.1.6. Verify configuration and flying/operating hours on all incoming engines, modules, and components prior to any maintenance performed. Verify configuration and flying/operating hours upon completion of maintenance performed on all outgoing engines, modules, and components prior to shipment to serviceable supply or installation on next higher assembly.

2.1.1.7. Coordinate with designated personnel within their organization to ensure proper reporting of engines, modules, and components within CEMS database to include Time Compliance Technical Order (TCTO) reporting, Time Change Items (TCI), special inspections (SI), serially controlled modules and components.

2.1.1.8. Ensure handling, transportation, storage and receipt of shipping devices for engines (i.e., trailers, cradles, containers, shipping systems and adapters) are properly documented, maintained and reported for incoming and outgoing assets.

2.1.1.9. Ensure SRAN 2038 SEM is notified upon shipment of engines from 76 AMXG SRAN's 2141 and 2143 to 76 PMXG SRAN 2038 for 900-hour phase and 600-hour International Organization for Standardization (ISO) inspections. Appropriate CEMS transactions required for each shipment/receipt of engine within respective SRAN.

2.1.1.10. Retain data in date time order for input when CEMS database operation resumes in the event of a service interruption. CEMS users shall restrict request for output products during recovery period.

Chapter 3

REPORTS AND CODES

3.1. How Malfunction (How Mal) Code. SRAN Managers shall ensure correct How Mal code is used for engine removal, as well as all tracked modules and components. This code reflects accurate status of engine, module, and component in CEMS database. Codes are identified in TO 00-25-254-1-WA-1 and TO 00-20-2-WA-1, *Maintenance Data Documentation*.

Chapter 4

76TH AIRCRAFT MAINTENANCE GROUP (FOR 76 AMXG ONLY)

4.1. SRAN 2141 Procedures.

4.1.1. Production Section Responsibilities.

4.1.1.1. Ensure all E404s, *Serialized Component Installation/Removal*, for TF33 or CEMS Event Report forms are prepared as required for each tracked asset processed. The data annotated on these forms must be accurate, complete and submitted as the work is accomplished. These completed forms shall be provided IAW TO 00-25-254-1-WA-1. All repaired and modified module assemblies, components and engine work control document (WCD) packages tracked in CEMS shall be hand carried by designated production personnel to the Aircraft Logistic Specialist (ALS) for processing IAW TO 00-25-254-1-WA-1 after completion of assembly. Production is responsible for turning in all serviceable tags and WCD paperwork for new parts/engines installed or removed.

4.1.1.2. Prior to an engine being placed on trailer the section first line supervisor will be responsible to ensure engine cradles are serviceable and all required inspections are done and annotated on cradle Air Force Technical Order (AFTO), Form 244, *Industrial /Support Equipment Record*.

4.1.1.3. When serially controlled parts are condemned or deemed unserviceable and require routing out for repair or turn in, production personnel will identify the serially controlled part to the scheduler who will email the SRAN EM and the alternate with the information when it is turned in for deletion from CEMS for TF33 engines.

4.1.2. Engine Management Section Responsibilities.

4.1.2.1. Engine Management and SRAN EM for SRAN 2141 are located in 76 AMXG/565 AMXS, B52 Records, Building 2121.

4.1.2.2. SRAN EM and alternates will assume responsibility for managing and accounting for engines and engine serially controlled components related actions for SRAN FJ2141, from the time of receipt, shipment, transfer or termination.

4.1.2.3. The SRAN EM and alternates will coordinate with applicable weapon system ALS on engine and engine component maintenance, time change items, TCTO modifications to ensure compliance.

4.1.2.4. It is the responsibility of ALS to provide the completed forms on serially controlled engine components (e.g., part removal, installation, time update, TCTO status change, and engine removal or installation in an aircraft or missile) as the work is completed to the SRAN EM, IAW TO 00-25-254-1-WA-1.

4.1.2.5. The ALS will ensure that the SRAN EM receives the following engine documentation for accountability for engines install/removal and all serially tracked engine components that PDM is responsible for.

4.1.2.6. A copy of CEMS Event Report, AFTO Form 10, *TF33 Engine Trim and Exhaust Gas Temperature Spread Check*, yellow tags, as required, for removal and install of engines and trackable components to include How Mal codes, installation/removal dates, SNs of components.

4.1.2.7. The ALS will be responsible for notifying the EM and alternate when serially tracked components are turned into supply by email with verification of SN.

4.1.2.8. Review all TCTO and TCI reports prior to installation of engines to ensure that all engines are in compliance prior to flight.

4.1.2.9. Monitor and ensure engine flying time, sorties, and status are updated, reviewed and validated for accuracy in CEMS and the AFTO 781 Form 781J, *Aerospace Vehicle-Engine Flight Document*, 781H, *Aerospace Vehicle Flight Status and Maintenance*, and 781K, *Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document*.

4.1.2.10. Ensure engine shipments are properly documented and authorized. Prepare DD Form 1348-1A, *Issue Release/Receipt Document* for each shipment and transfer.

4.1.2.11. Annotate the reason for shipment in engine history in CEMS using A295 screen.

4.1.2.12. During periods when CEMS is unavailable for more than 48 hours, ensure maintenance personnel are completing a CEMS Event Report to document any part removals, installs, and turning them in to the ALS as normal. Ensure that EM Section is receiving copies of the forms to monitor actions in CEMS once the systems are back up in chronological order.

4.1.2.13. Ensure depot engine semiannual end of month physical inventory report is completed and returned IAW TO 00-25-254-1.

4.1.2.14. Cannibalization (CANN) procedures for 76 AMXG SRANs are initiated by the ALS in a Maintenance Work Request (MWR). ALS ensures CANN actions accomplished in the shop are IAW AFSCMAN 21-102, Chapter 18 and TO 00-20-2. Scheduling will provide all serviceable tags.

4.1.2.15. The ALS shall provide appropriate form(s) to SEM. SEM ensures sufficient time remains on time changed items prior to CANN action. SEM will ensure CEMS is updated for serially controlled items.

4.2. SRAN 2142 Procedures.

4.2.1. Production Section Responsibilities.

4.2.1.1. If an engine is removed or changed, production will notify the appropriate scheduler with SN, How Mal reasoning and if a shipment takes place, production will supply the trailer number for shipping and front and rear adapter SNs.

4.2.1.2. If a serialized tracked component is changed on an engine, production will notify the appropriate scheduler and provide them with the old/new SNs and How Mal reasoning for removal/change.

4.2.2. Scheduling Section Responsibilities.

4.2.2.1. Once production notifies the scheduler of an engine removal, change, or serialized tracked component change; the scheduler will fill out a CEMS Event Report with all the appropriate information and turn form into the records clerk/SRAN EM.

4.2.3. Engine Management Section Responsibilities.

4.2.3.1. Engine Management SRAN Managers for SRAN 2142 are located 76 AMXG/567 Aircraft Maintenance Squadron, B1 Aircraft Documents, Building 2122.

4.2.3.2. Run and review daily reports.

4.2.3.3. Once CEMS Event Report is received/reviewed, CEMS processing is to be completed in the applicable screens IAW TO 00-25-254-1-WA-1, for engine removals, changes, and serialized tracked components.

4.2.3.4. For all engine shipments to the engine shop ensure DD Form 1348-1A, is prepared.

4.2.3.5. Annotate the reason for shipment in the engine history in CEMS using the A295 screen.

4.2.3.6. During periods when CEMS is unavailable for more than 48 hours, ensure scheduling fills out CEMS Event Report to document engine removals, changes, or serialized tracked component changes. Ensure SRAN managers are receiving these forms to update CEMS in the order that they occurred once CEMS is back up.

4.2.3.7. CANN procedures for 76 AMXG SRANs are initiated by the ALS in an MWR. ALS ensures CANN actions accomplished in the shop are IAW AFSCMAN 21-102, Chapter 18 and TO 00-20-2-WA-1. Scheduling will provide all serviceable tags.

4.2.3.8. The ALS shall provide appropriate form(s) to SEM. SEM ensures sufficient time remains on time changed items prior to CANN action. SEM will ensure CEMS is updated for serially controlled items.

4.3. SRAN 2143 Procedures.

4.3.1. SRAN Engine Management for SRAN 2143 is located in 76 AMXG/566 AMXS, E3 Records, Building 2136.

4.3.1.1. For all engine shipments and transfers ensure DD Form 1348-1A, is prepared and forwarded to appropriate SRAN.

4.3.1.2. Once engine has been installed or removed from aircraft, ALS will inform engine has been removed or installed and EM will update CEMS with information IAW TO 00-25-254-1-WA-1.

4.3.1.3. Production Section will notify EM of any serialized tracked components that are replaced. If so, EM will update CEMS IAW TO 00-25-254-1-WA-1.

4.3.1.4. CANN procedures for 76 AMXG SRANs are initiated by the ALS in an MWR. ALS ensures CANN actions accomplished in the shop are IAW AFSCMAN 21-102, Depot Maintenance Manual, Chapter 18 and TO 00-20-2-WA-1. Scheduling will provide all serviceable tags.

4.3.1.5. The ALS shall provide appropriate form(s) to SEM. SEM ensures sufficient time remains on time changed items prior to CANN action. SEM will ensure CEMS is updated for serially controlled items.

4.4. SRAN 2336 Procedures.

4.4.1. Flight Chief Responsibilities.

4.4.1.1. Perform as 76 AMXG focal point for KC-135 Programmed Depot Maintenance (PDM) engine program, focusing on continuity, compliance and standardization. Provides advice to 76 AMXG leadership on production issues and monitors all aspects of the KC-135 PDM engine program. Coordinates with EM to ensure accurate engine and equipment status and reporting.

4.4.1.2. Ensures an engine flexible borescope certification and blade-blending certification program for each Type, Model, Series and Modification (TMSM) possessed is established IAW Air Force Sustainment Center Manual (AFSCMAN) 21-102.

4.4.2. First Line Supervisor Responsibilities.

4.4.2.1. Ensure documentation of TCTO compliance IAW 00-20-series TOs, TO 00-5-15-WA-1, Time Compliance Technical Order Process, and TO 00-25-254-1-WA-1.

4.4.2.2. Ensure CEMS products obtained from EM are issued/reviewed for all assigned engines; production provides EM with a list of all actual CEMS serial tracked parts and SNs installed on engines.

4.4.2.3. Organize and lead the work scope (preplanning) meeting, give a minimum of two hours' notice when possible. If first line supervisor is unavailable, work leader can chair the meeting.

4.4.2.4. Fill out AFMC Form 202, Engineer Technical Assistance Request, as required when an engine does not meet performance standards or serviceable limits IAW Air Force Material Command Manual (AFMCMAN) 21-1, Air Force Materiel Command Technical Order System Procedures, [Chapter 5](#).

4.4.3. Production Section Responsibilities.

4.4.3.1. For each work scope meeting, review all E407, Online Automated History, CEMS records Option 1 and Option 3 to determine the recommended work. Ensure all maintenance stamp impressions are legible IAW AFSCMAN 21-102.

4.4.3.2. Prior to an engine being placed on the trailer, production personnel are responsible for ensuring the engine cradles are serviceable and all required inspections are done and annotated on AFTO Form 244, Industrial/Support Equipment Record.

4.4.3.3. Production will provide a data download from engine monitoring system processor from applicable CEMS tracked engines to EM section. This data download shall occur during receiving inspections on incoming aircraft.

4.4.3.4. Upon receipt of an engine from Defense Logistics Agency (DLA), the ALS will deliver engine records and shipping documents to EM Section.

4.4.4. Engine Management Section Responsibilities.

4.4.4.1. SRAN EM for SRAN 2336 is located in 76 AMXG/564 AMXS, Building 3001, KC- 135 Records section.

4.4.4.2. Provide data required from management to plan engine maintenance.

4.4.4.3. Load all engine parts into MIS (G081) for F108 engines and the CEMS database when required for both F108 and TF33 engines. Also, remove serially controlled parts from MIS (G081) and CEMS databases once production provides a DD Form 1577, Unserviceable (Condemned) Tag –Material (Red) or DD Form 1577-2, Unserviceable (Reparable) Tag – Material (Green).

4.4.4.4. After maintenance has completed work on an engine, update history in MIS (G081) and CEMS using applicable screens for F108 and TF33.

4.4.4.5. During periods when MIS (G081) or CEMS is unavailable for more than 48 hours, ensure maintenance personnel are filling out an CEMS Event Report to document any part removal and install. Ensure that EM Section is receiving copies of the forms to monitor actions in MIS (G081) and CEMS once the systems restored.

4.4.4.6. CANN procedures for 76 AMXG SRANs are initiated by the ALS in a MWR. ALS ensures CANN actions accomplished in the shop are IAW AFSCMAN 21-102, Chapter 18 and TO 00-20-2-WA-1. Scheduling will provide all serviceable tags.

4.4.4.6.1. The ALS shall provide appropriate form(s) to SEM. SEM ensures sufficient time remains on time changed items prior to CANN action. SEM will ensure CEMS is updated for serially controlled items.

Chapter 5

76TH COMMODITIES MAINTENANCE GROUP (FOR 76 CMXG ONLY)

5.1. SRANs 2034, 4506, and 4507 Procedures.

5.1.1. Responsibilities and Procedures

5.1.2. Production Squadrons

5.1.3. Engine Management SRAN Managers locations are:

5.1.3.1. SRAN 2034 located in 76 CMXG/550 CMMXS, Exchange Production Support Center (EPSC), Building 200.

5.1.3.2. SRAN 4506 located in 76 CMXG/552 CMMXS, Fuel Controls Administration, Building 3907.

5.1.3.3. SRAN 4507 located in 76 CMXG/552 CMMXS, Governor and Accessory Unit, Building 3001.

5.1.4. CEMS forms are required on all CEMS tracked items; if an asset is CEMS tracked and not identified as such on the WCD, the planner will be contacted or an AFSC Form 957, *Work Control Document Change Request*, may be required. Production personnel will assure that each accessory asset received from supply has shipping documents. DD Forms 1577-2 (*Green Tag*), 1348-1, *Issue Release/Receipt Document*, etc., attached to asset.

5.1.5. Production personnel (mechanic) will compare PN and SN from the data plate, paperwork, using CEMS data EA03, *Time Remaining*. If any discrepancies exist, the appropriate 76 CMXG CEMS Workflow (Table 5.1.) will be contacted. Production personnel (mechanic) will attach appropriate documents to include a copy of the EA03 to serviceable tag.

5.1.6. Production personnel (mechanic) will notify appropriate 76 CMXG CEMS Workflow (Table 5.1.) if asset is not in spare status or if asset is not in the CEMS database. These assets will be held until corrections can be made to the CEMS database. Scheduler will not process Receipt Acknowledgement (RA) Inductions until CEMS has been updated to report spare status or asset's SN has been put into the CEMS database.

5.1.7. Production personnel (mechanic) will send forms electronically to the appropriate 76 CMXG CEMS Workflow e-mail address (Table 5.1.). The e-mail subject line will include the CII, SN, and the appropriate SRAN (Table 5.1.). If there is an issue such as Mission Impaired Capability Awaiting Parts (MICAP) 'installed' or 'not in CEMS', the problem will be included in the subject line after the SN. A CEMS Event Report indicating (6N, Initialize SRAN/Change Parts) transaction will be sent to the appropriate 76 CMXG CEMS Workflow email IAW with TO 00-25-254-1. If the Workflow encounters problems when making inputs into CEMS, then a visual verification of the SN and PN from the asset's data plate will be required.

5.1.8. If the SN is unidentifiable, i.e., not readable or there is a missing data plate, production personnel will fill in e-mail subject line: “SN-missing/unreadable”, attach CEMS Event Report (fill out as much as possible), copy of all shipping documents and write in the body of the e-mail “Data plate missing or SN unreadable” and send to the appropriate 76 CMXG CEMS Workflow (Table 5.1.) and courtesy copy the scheduler. The SRAN manager will notify the CEMS Help Desk of the issue and forward all documentation for review. The CEMS Help Desk will coordinate with the Equipment Specialist (ES). If the original Serial Number can be determined, the item will be inducted under that serial number. If it remains unidentified, the ES may authorize the item to be inducted under a new serial number which will be established in CEMS by the CEMS Help Desk. The scheduler can now do the RA Induction. Reporting the repair information will be the same as normal items.

5.1.9. If a SN is not found in the CEMS database; production personnel will visually verify the SN from the data plate, fill in the e-mail subject line as required in CII - SN-NOT IN CEMS. Attach an CEMS Event Report, send copies of all shipping documents, type the statement “I have verified SN: ---- and PN: ----- from the data plate” in the body of the e-mail and send to the appropriate 76 CMXG CEMS Workflow e-mail address for corrective action.

5.1.10. If a SN shows installed; production will visually verify the SN from the data plate, fill in the e-mail subject line as required (CII-SN-INSTALLED), attach an CEMS Event Report, type “I have visually verified SN: ----- from the data plate” in the body of the e-mail and send to the appropriate 76 CMXG CEMS Workflow e-mail address for corrective action.

5.1.11. After the asset is repaired; production will fill in the e-mail subject line as required (CII-SN), attach a CEMS Event Report indicating the repair performed (OCM or Overhaul), attach all other applicable forms, CEMS TCTO Status Report, AFTO Form 95, Significant Historical Data, and send to the appropriate 76 CMXG CEMS Workflow e-mail address (Table 5.1.). If a TCTO is applicable and not in CEMS, appropriate 76 CMXG CEMS Workflow e-mail address will be notified. The applicable part number will be annotated in block 11 of the CEMS Event Report and any updated historical information will be provided on an AFTO Form 95. A CEMS TCTO Status Report will be attached when a TCTO has been accomplished or has an open status.

5.1.12. A CEMS Event Report 6D, Part SRAN To UNKN, will be submitted when a part will be put in an account to be worked at a later time (J- Account, etc.).

5.1.13. A 6C transaction (condemnation) will be prepared when applicable, on CEMS Event Report. A brief reason for condemnation will be provided by attaching an AFTO Form 95 or by using the Sticky Note feature provided on the electronic CEMS Event Report.

5.1.14. Final tag out personnel (mechanic) will confirm CEMS inputs are correct and attach a copy of the EA03 screen, showing UNKN status, to the WCD. All information on manual records and in CEMS must be in agreement before the asset can be sold.

5.1.15. The production supervisor will assure that all applicable forms (CEMS Event Report, CEMS TCTO Status Report and AFTO Form 95) are prepared and sent as required for each CEMS tracked asset processed. The data annotated on these forms must be accurate and completed as the work is accomplished.

5.2. SRAN Manager Procedures.

5.2.1. Air Force Accessories.

5.2.2. 76 CMXG CEMS Workflows (**Table 5.1.**) will process all CEMS forms received IAW TO 00-25-254-1-WA-1. If a problem exists, the persons listed on the e-mail will be courtesy copied when corrective action is requested.

5.2.3. If an asset has an unidentifiable SN (i.e., not readable, missing data plate), the SRAN manager will notify the CEMS PMO Help Desk of the issue and forward all documentation for review. The CEMS Help Desk will coordinate with the Equipment Specialist (ES). If the original Serial Number can be determined, the item will be inducted under that serial number. If it remains unidentified, the ES may authorize the item to be inducted under a new SN which will be established in CEMS by the CEMS Help Desk.

5.2.4. If asset shows to be installed on a Next Higher Assembly (NHA); 76 CMXG CEMS Workflow personnel will ask production personnel to re-inspect the asset's data plate and insert the message "I have verified SN: --- from the data plate" in the body of the e-mail to assure PN and SN is correct. 76 CMXG CEMS Workflow will also ask production personnel to provide a picture of the asset's data plate as well as a picture of the condition tag and email it to the 76 CMXG CEMS Workflow. 76 CMXG CEMS Workflow will then contact the possessing base and ask for verification and removal of the asset from the next higher assembly.

5.2.5. Upon completion of maintenance, 76 CMXG CEMS Workflow will update CEMS based on the information provided on CEMS Event Report (6P transaction) and process all other applicable forms; (CEMS TCTO Status Report, and AFTO Form 95) and input transaction into CEMS database IAW TO 00-25-254-1-WA-1. When an asset is condemned, a 6C transaction will be processed. When a PN is changed for reasons other than TCTO compliance, a PN change will be processed using CEMS screen A400.

5.3. Quality Record Requirements.

5.3.1. The 76 CMXG CEMS Workflow (Table 5.1.) will retain a copy of all CEMS Event Reports, CEMS TCTO Status Report, and AFTO Form 95 until entries are input into the D042A (CEMS) database and file maintained for one year.

Table 5.1. 76 CMXG CEMS Workflows.

SQUADRON	ASSIGNED SRAN	SRAN MGR LOCATION	WORKFLOW ADDRESS
550 CMMXS	2034	Bldg 200	550CMMXSCEMSWorkf@us.af.mil
552 CMMXS (MXDXAB)	4506	Bldg 3907	552CMMXS_MXDXABCEM@US.AF.MIL
552 CMMXS (MXDXAC)	4507	Bldg 3001	552CMMXS_MXDXACCEM@US.AF.MIL

Chapter 6

76TH PROPULSION MAINTENANCE GROUP (FOR 76 PMXG ONLY)

6.1. SRAN 2038 Procedures.

6.1.1. Flight Chief Responsibilities.

6.1.1.1. Perform as 76 PMXG focal point for Centralized Repair Facility (CRF), focusing on continuity, compliance, and standardization. Provides input to Squadron leadership on production issues and monitors all aspects of CRF program. Provides Jet Engine Intermediate Maintenance (JEIM) and/or CRF support to other organizations.

6.1.1.2. Serve as Squadron functional manager, provides technical guidance to maintain CRF program required to support the mission and ensures an equitable grade, skill level, and experience balance of appropriate job series personnel within the flight.

6.1.1.3. Ensure work scopes (pre-planning meetings) are accomplished.

6.1.1.4. Review/analyze all unscheduled engine or module removals and test cell rejects. Reviews/analyzes major component failure trends and provides input to Squadron leadership.

6.1.1.5. Ensure an engine flexible borescope certification and blade-blending certification program for each Type, Model, Series and Modification (TMSM) possessed, is established IAW AFSCMAN 21-102.

6.1.2. First Line Supervisor Responsibilities.

6.1.2.1. Plan and monitor progress of CRF maintenance. Ensures maintenance schedules are met by anticipating materials required and manages delays to prevent schedule disruptions.

6.1.2.2. Ensure TCTO documentation is in compliance IAW 00-20-series TOs, TO 00-5-15-WA-1 and TO 00-25-254-1-WA-1.

6.1.2.3. Ensure utilization of CEMS reports and physical verification to verify actual serial-controlled components installed on all assigned engines.

6.1.2.4. Ensure all part and SNs are inventoried upon receipt and prior to release of engine by production. Production shall review CEMS automated A295 history (E407 program) for comparison to the WCD.

6.1.2.5. Organize and lead work scope (pre-planning) meeting, provide a minimum two hours' notice when possible. If first line supervisor is unavailable, work leader may chair the meeting.

6.1.2.6. Initiate AFMC Form 202, Engineer Technical Assistance Request, as required when an engine or end item does not meet performance standards or serviceable limits IAW AFMCMAN 21-1, *Air Force Materiel Command Technical Order System Procedures*. Chapter 5.

6.1.3. Production Section Responsibilities.

6.1.3.1. Review all A295 program automated history (E407 program, Options 1 and 4) to determine recommended repair actions for each work scope meeting.

6.1.3.2. Ensure all CEMS Event Report (or facsimile) for TF33 are prepared as required for each tracked asset processed. Data annotated on these forms must be accurate, complete and submitted as work is accomplished. Completed forms shall be provided to records section IAW TO 00-25-254-1-WA-1. All repaired and modified module assemblies, components, and engine WCD packages tracked in CEMS shall be hand carried by designated production personnel to engine records section for processing IAW TO 00-25-254-1-WA-1 within two hours of completion of assembly. Production section shall be responsible for providing all serviceable tags, 404s, and WCD documentation for components installed on engine-to-engine records section.

6.1.3.3. Ensure WCDs are completed IAW AFSCMAN 21-102. Prior to an engine being placed on trailer, crew chief shall be responsible for ensuring engine cradles are serviceable and all required inspections accomplished and annotated on cradle's AFTO Form 244, *Industrial/Support Equipment Record*.

6.1.3.4. Validate SN, PN and times of components to WCD and A295 automated history (E407 program, Option 1) product prior to assembly. Ensures components, assemblies and modules being installed into next higher assembly have sufficient life remaining/HSI time remaining and in spare status at SRAN 2038. Discrepancies shall be resolved prior to assembly; re-verification shall be provided on PN/SN upon request by engine records section for any item.

6.1.3.5. Ensure copy of all AFMC Form 202's and NCMR forms are included in final work package. Records section shall enter information from AFMC Form 202 into CEMS database for TF33 engines for inclusion as part of the engine's automated AFTO Form 95, *Significant Historical Data*.

6.1.3.6. Ensure inventory and replacement components identified on WCD matches CEMS databases for TF33.

6.1.3.7. Forward completed WCDs to records. Ensure engines are not cleared by records/sold in (G004L) until engine records section has completed all CEMS updates and all WDC corrections have been accomplished. Engine status is updated to "FB" (Built-up serviceable) in CEMS upon completion of corrections. Engine status is considered "spare" once completion transactions are input into Job Order Production Master System (G004L) and Inventory Tracking System (ITS, G337).

6.1.4. 76 PMXG/OB Engine Records Section Responsibilities.

6.1.4.1. 76 PMXG/OB Engine Records Section located in Building 9001, responsible for CEMS in SRAN 2038.

6.1.4.2. Upload all engine components into CEMS database, when applicable, for TF33 engines.

6.1.4.3. Update history in CEMS databases using appropriate screens for TF33 upon completion of work on engine.

6.1.4.4. Ensure Production personnel are submitting a CEMS Event Report (or facsimile) to document all components removed/installed when CEMS databases are unavailable for periods greater than 48 hours. Ensure records Section receives copies of the forms to update actions in IMDS and CEMS once systems become available.

6.2. SRAN 2335 Procedures.

6.2.1. SRAN Manager Responsibilities.

6.2.1.1. SRAN 2335 EM's are located within 76 PMXG business area.

6.2.1.2. Ensure that appropriate records section is inputting data on engine, module, and component data is reported to CEMS database no later than close of business first duty day after the event (e.g. component removal, installation, time update, and TCTO status change).

6.2.1.3. Ensure all engine shipments and transfers are properly documented using DD Form 1348-1A.

6.2.1.4. Monitor engine inventory from activities within SRAN 2038 and SRAN 2335 area of responsibility for accuracy and timeliness of data.

6.2.1.5. Review Engine Manager Data List (EMDL) daily to identify engine shipments reflect correct status in CEMS database.

6.2.1.6. Ensure training is provided and documented for all authorized personnel reporting in SRAN 2038 and 2335. Maintains list of authorized personnel and provides list to CEMS PMO Helpdesk and CEMS PMO Security.

6.2.1.7. Accomplish physical inventory of all engines possessed as required by TO 00-25-254-1-WA-1.

6.2.1.8. Retain data in date time order for input when CEMS database operation resumes in the event of a service interruption. CEMS users shall restrict request for output products during recovery period.

6.2.2. 76 PMXG/OB, Engine Records Section shall.

6.2.2.1. Provide Propulsion Maintenance Squadron shops with blank copies of CEMS Event Report (404). Production personnel shall record PN and SN for tracked engines, modules, assemblies, and components; identify transaction type (i.e. removal, installation, condemnation), type of maintenance performed (i.e. major, minor, check/test), applicable How Mal code, and justification for condemnation.

6.2.2.2. Provide release of module/rotor assemblies or component to Production shops within one workday after receipt of CEMS Event Report (404), and WCD Packages barring any unresolved issues. All CEMS data must match on the item, E404, and WCDs. Modules, assemblies, or components received from contractor without CEMS access, and have unresolved issues will not be released by Records until all issues are resolved.

6.2.2.3. Research A295 automated history program on all engines modules, assemblies, components processed through this repair facility, as required.

6.2.2.4. Coordinate with designated personnel within their organization to ensure proper reporting of engines, modules, and components within CEMS database to include TCTO reporting, Time Change Items (TCI), special inspections (SI), serially controlled modules and components, and any deficiencies.

6.2.2.5. Input transaction condition code changes (removals, installations, initializations, condemnations, corrections, completions, etc) into CEMS/D042 database. Data input shall include updating engine downloads received from 547 PMXS/Engine Test for engines receiving incoming inspections and all test cell runs for applicable engines.

6.2.2.6. Audit CEMS data on all incoming engines, modules, and components prior to any maintenance performed.

6.2.2.7. Audit CEMS data upon completion of maintenance performed on all outgoing engines, modules, and components prior to shipment to serviceable supply or installation on next higher assembly to ensure sufficient life-limited data exist. Discrepancies shall be resolved prior to assembly; re-verification shall be provided on PN/SN for any item upon request by 76 PMXG Engine Records Section. Research all components and engines with conflicting data or missing paperwork prior to releasing component for further processing.

6.2.2.8. Retain WCD packages for all CEMS/D042 tracked engines, module assemblies, and components processed through this repair facility. Documents shall be electronically scanned for archival purposes.

6.2.2.9. Receive completed CEMS Event Report (404), at respective Engine Records workflow email address. For F107 E404 can be delivered to appropriate records technician.

6.2.2.10. Update A295 program automated history upon completion of all maintenance repair actions for all tracked engines, module assemblies, and components to include justification for condemnation of an end item and mechanic's name/contact information. This update shall be a brief, narrative format describing extent of maintenance performed.

6.2.3. PMXS Propulsion Maintenance Squadrons shall.

6.2.3.1. Ensure CEMS Event Report (404) are prepared as required for each tracked item processed in 76 PMXG SRAN 2335 and submitted to Engine Records Section for processing. Data annotated on these forms shall be accurate, complete, and submitted as work is accomplished. All repaired/overhauled module, assembly, component, and engine WCD packages of CEMS/D042-tracked end items shall be hand-carried by designated Production personnel to Engine Records Section for processing within two hours of completion of assembly.

6.2.3.2. Be responsible for preparing CEMS Event Report (or facsimile) for work stop, work start, and Change of Maintenance (2M) transactions as they occur.

6.2.3.3. Compare SN and PN etched on component to WCD, 404 and CEMS to validate data matches prior to assembly. Ensure module, assembly, and component being installed into next higher assembly have sufficient life cycle/HSI time remaining and in a spare status at SRAN 2335. Discrepancies shall be resolved before assembly is accomplished.

6.2.3.4. Prepare CEMS Event Report (or facsimile) for all CEMS/D042-tracked components, assemblies and modules installed, "VA" transaction, into any next higher assembly. All CEMS tracked components received from supply shall require a "6N" transaction, (*Initializing into CEMS/D042*) prior to "VA" transaction.

6.2.3.5. Prepare CEMS Event Report (or facsimile) for all CEMS/D042-tracked components, assemblies or modules removed, installed, or condemned in CEMS/D042 from any assembly, module or engine, respectively. SN and PN shall be verified with CEMS/D042 and WCD prior to installation. SN and PN shall be verified with CEMS/D042 database for all components, assemblies or modules removed. All items removed shall have SN's verified for accuracy. Unknown SN's shall not be allowed unless item is determined to be condemned by cognizant engineering authority. All CEMS-tracked components with unknown SN's in a status other than condemned shall have SN verified and initiated per TO 00-25-254-1-WA-1.

6.2.3.6. Verify records are present prior to fully uncrating CEMS/D042-tracked MISTR components, assemblies or modules received for repair. Retain all documentation received with shipping container (i.e., manufacture's labels, shipping documents, etc) and provide it to Engine Records Section via electronic means by scanning/emailing to appropriate engine records section working group or by delivering hard copies along with appropriate CEMS Event Report (or facsimile) requesting a "6N" transaction. Components /assemblies/ modules shall not be processed to next workstation until documents have been processed through Engine Record Section and confirmation of transaction completion has been delivered to shop personnel from an Engine Records Section representative. Retain all paperwork received with shipping container of respective end item and hold end item in originating shop until discrepancies have been resolved. Engine Records Section shall research CEMS/D042 database for A295 program automated history data and determine when item is to be released for further processing. Upon receipt of notification, Production personnel are authorized to continue additional processing of end item.

6.2.3.7. Submit CEMS Event Report (or facsimile) for all CEMS/D042 tracked components, assemblies or modules condemned, "6C" transaction, with applicable How Mal code and justification for condemnation.

6.2.3.8. Attach all WCDs and obtain appropriate CEMS/D042 product, EA03 (*Age of Serial Number*) or A252 (*Serial Number Look-up*), prior to processing. Ensure all WCD's are of legible quality. WCD's not dark enough to be electronically scanned shall be subject to return to the final sell organization for correction or replacement.

6.2.3.9. Ensure DD Form 1577-2, *Unserviceable (Reparable) Tag Materiel (Green Tag)*, are prepared for all CEMS/D042-tracked assemblies or components routed to 76 CMXG for overhaul or bench testing. Information shall include noun, PN, SN, TSN/EOT of routed component, SN of next higher assembly from which component was removed, and applicable CII.

6.2.3.10. Provide data downloaded from engine monitoring system processor from applicable CEMS/D042-tracked engines to Engine Records Section. This data download shall occur during the receiving inspection on incoming engines, prior to engine test, and after each test cell start-up in which components have been removed/replaced.

6.2.3.11. All data run sheets shall be submitted to the Engine Records Section for processing upon completion of test cell engine operations prior to final prep inspection for each engine TMS.

6.2.3.12. Ensure all actions, whether in-shop and/or test cell, are accomplished IAW AFSCMAN 21-102, *Depot Maintenance Management*, and TO 00-20-2-WA-1. The Production Supervisor and PLS shall coordinate with SRAN Manager or Engine Records Section to ensure sufficient time remains on TCIs prior to remove/replacement action approval. PLS shall coordinate with Engine Test on CANN items; 547th PMXS/Engine Test Cell shall be responsible for reporting tracked data via CEMS Event Report (or facsimile) to 76PMXG.EngineRecordsTAC@us.af.mil.

6.2.3.13. Provide (2) two copies of DD Form 1574, *Serviceable Tag – Materiel (Yellow Tag)*, with each completed CEMS/D042- tracked engine, module, assembly or component WCD package. This form shall serve as evidence that all work has been accomplished and all required tests are acceptable. The DD Form 1574 shall be stamped “Records Released” by Engine Records Section to show automated history has been updated with latest Depot repair data. The DD Form 1574 for all engines produced shall have the preservation certification stamp prior to release of engine to serviceable supply.

6.2.3.14. 547 PMXS Engine Test Cell shall prepare engines for shipment IAW TO 2J-1-18, *Preparation for Shipment and Storage of Gas Turbine Engines*, and TO 00-85-20, *Engine Shipping Instruction*. Ensures shipping devices for engines (i.e., trailers, cradles, containers, shipping systems and adapters) are properly documented, maintained, and reported for incoming and outgoing assets.

6.2.3.15. Ensure engine trailers are routed to 547th Propulsion Maintenance Squadron (547 PMXS) for management and scheduling. Trailer maintenance shall be accomplished by assigned contractor if required. Management of engine trailers shall follow standard procedures for all engine trailers within 76 PMXG.

JEFFREY R. KING, Major General, USAF
Commander

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

AFPD 21-1, *Maintenance of Military Material*, 31 July 2018

AFI 20-115, *Propulsion Management for Aerial Vehicles*, 12 February 2014

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 06 February 2022

AFSCMAN 21-102, *Depot Maintenance Manual*, 3 June 2021

AFMAN 33-363, *Management of Records*, 31 May 2019

AFMCMAN 21-1, *Air Force Material Command Technical Order System Procedures*, 29 October 2018

AFCSM 21-558, *Comprehensive Engine Management System (CEMS)*, 1 June 2019

DAFMAN 90-161, *Publishing Process and Procedures*, 15 April 2022

TO 00-25-254-1-WA-1, *Comprehensive Engine Management System Engine Configuration, Status and TCTO Reporting Procedures*, 1 September 2020

TO 00-20-2-WA-1, *Maintenance Data Documentation*, 29 October 2007

TO 00-5-15-WA-1, *Time Compliance Technical Order Process*, 12 May 2022

TO 00-85-20, *Engine Shipping Instruction*, 8 July 2022

TO 2-1-18, *Aircraft Engine Operating Limits and Factors*, 15 November 2021

TO 2J-1-18, *Preparation for Shipment and Storage of Gas Turbine Engines*, 12 November 2021

Prescribed Forms

None

Adopted Forms

AFMC Form 202, *Engineer Technical Assistance Request*

AFSC Form 957, *Work Control Document Change*

AFTO Form 95, *Significant Historical Data*

AFTO Form 244, *Industrial/Support Equipment Record*

DAF Form 847, *Recommendation for Change of Publication*

DD Form 1348-1A, *Issue Release/Receipt Document*

DD Form 1574, *Serviceable Tag – Materiel (Yellow Tag)*

DD Form 1577, *Unserviceable (Condemned) Tag – Materiel (Red Tag)*

DD Form 1577-2, *Unserviceable (Reparable) Tag – Materiel (Green Tag)*

Abbreviations and Acronyms

76 AMXG—76th Aircraft Maintenance Group

76 CMXG—76thCommodities Maintenance Group

76 PMXG—76th Propulsion Maintenance Group

564 AMXS—564th Aircraft Maintenance Squadron

565 AMXS—565th Aircraft Maintenance Squadron

566 AMXS—566th Aircraft Maintenance Squadron

546 PMXS—546th Propulsion Maintenance Squadron

547 PMXS—547th Propulsion Maintenance Squadron

550 CMMXS—550th Commodities Maintenance Squadron

552 CMMXS—552d Commodities Maintenance Squadron

76 PMXG/OB—76th Propulsion Maintenance Group, Business Operations Office

547 PMXS/Engine Test Cell—547th Propulsion Maintenance Squadron, Test Cell and Production Logistics Support (PLS)

AF—Air Force

AFB—Air Force Base

AFI—Air Force Instruction

AFLCMC—Air Force Life Cycle Management Center

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFSC—Air Force Sustainment Center

AFSCMAN—Air Force Sustainment Manual

AFPD—Air Force Policy Directive

AFTO—Air Force Technical Order

ALS—Aircraft Logistic Specialist

CANN—Cannibalization

CEM—Command Engine Manager

CEMS—Comprehensive Engine Management System

CII—Configuration Item Identifier

CRF—Centralized Repair Facility

DAF—Department of Air Force

DAFMAN—Department of Air Force Manual

DLA—Defense Logistics Agency

EM—Engine Manager
EOT—Engine Operating Time
FTD—Field Training Detachment
How Mal—How Malfunction Code
HQ—Headquarters
HSI—Hot Section Inspection
IAW—In Accordance With
ITS—Inventory Tracking System
JEIM—Jet Engine Intermediate Maintenance
MICAP—Mission Impaired Capability Awaiting Parts
MWR—Maintenance Work Request
MISTR—Management of Item Subject To Repair
NHA—Next Higher Assembly
OC-ALC—Oklahoma City Air Logistics Complex
OPR—Office of Primary Responsibility
PDM—Programmed Depot Maintenance
PLS—Production Logistics Support
PMO—Program Management Office
PN—Part Number
QEC—Quick Engine Change
RNI—Repair Network Integration
SEM—SRAN Engine Manager
SI—Special Inspection
SN—Serial Number
SRAN—Stock Record Account Number
TCTO—Time Compliance Technical Order
TMSM—Type, Model, Series and Modification
TO—Technical Order
TSN—Time Since New
USAF—United States Air Force

Terms

How Malfunction Code (How Mal)—Reason malfunction/reason for removal

CEMS Event Report—Tool used to provide accurate information on status, condition, and location of engines in the Air Force inventory

A295 Program—Auto History

E407—Automated History Report

EA03—*Time Remaining* - Provides detailed information on a specific item, including part number, current SRAN, last maintenance dates, status (installed or spare), and time remaining

A400—Part Number File Maintenance

PL—Issue Maintenance Repairable Major Overhaul-Depot Only. This Transaction Condition Code (TCC) indicates engine is ready for maintenance a Full/Major Overhaul

6P—Update Maintenance. Utilized to update maintenance data following Depot repair/overhaul; has an option to set individual serial number limits for inspection, warranty expiration, and next scheduled depot visit.

FB—Work Completed Serviceable Built-Up. This Transaction Condition Code (TCC) indicates that maintenance is complete

6C—Condemnation. Condemns spare assembly/part serial number.