

## Appendix B

# Sample Aviation Unit Maintenance/Aviation Intermediate Maintenance Internal Standing Operating Procedure

Figure B-1 is a sample format for an AVUM/AVIM internal SOP.

### 1. NAME

Head the SOP with the name of the organization and the station, the date, and the SOP number.

### 2. PURPOSE

This SOP provides a standardized guide for maintenance support procedures used by this AVUM/AVIM unit in performing its mission. This SOP can be tailored for use by AVUM/AVIM units as appropriate.

### 3. MISSION

The mission of this unit is to perform maintenance on aircraft, aircraft armament, and avionics and to provide related repair parts supply; to provide maintenance assistance teams to support units, when possible; and to provide aircraft recovery support.

### 4. FUNCTIONS

The functions of this unit are as follows:

- To prepare maintenance support plans for new aviation units to be supported and for those relocated from other areas.
- To provide timely exchange of essential aircraft maintenance information with supported units.
- To recommend general maintenance policies and procedures for aircraft, aircraft armament, avionics, and related repair parts.
- To prepare statistical analysis, as required, to accurately depict the status of all maintenance operations, including man-hour expenditures, items and systems repaired, backlogs, and aircraft processed.
- To review and analyze aircraft maintenance reports and statistical data to detect trends and problem areas.
- To determine requirements for contractor technical assistance personnel.
- To provide technical assistance and information to supported units.
- To prepare plans to provide maintenance support for new types of Army aircraft and avionics equipment.
- To provide repair parts, maintenance materials, and recovery and evacuation assistance to supported units.

**Figure B-1. Sample Format for AVUM/AVIM Internal SOP**

## 5. RESPONSIBILITIES

a. **Quality Control.** The success of this unit's maintenance effort and its reputation depend on the reliability and integrity of the personnel assigned to the QC section. TIs must base their decisions, as objectively as possible, on information in technical publications. Files are maintained on all aircraft the unit is required or expected to support.

b. **Technical Training.** Specialized and technical training is needed for logistics support to keep pace with current developments. The need for a timely, comprehensive training program must be recognized. The training program must ensure that each individual receives training to develop maximum potential and the highest level of efficiency.

c. **Technical Assistance.**

(1) Technical assistance is a command responsibility at all levels of maintenance and supply down to, and including, this unit. This unit provides maintenance and supplies technical assistance teams to supported units and activities in the problem areas of maintenance and repair parts supply. This assistance is provided through continuous contact and routine maintenance and supply activities. For technical assistance, the supported unit contacts this unit and states its requirements, essential data concerning the problem area, and when and where the team is required. A formal request for technical assistance is not required. Technical assistance improves aircraft maintenance and supply systems, thereby increasing aircraft availability. Assistance required beyond the capability of this unit will be referred to higher headquarters. This unit submits reports of completed team visits directly to the supported unit. Reports are not used for disciplinary action. They will be narrative and include, as a minimum, the following information:

- Date of visit.
- Unit visited and its location.
- Team members.
- Key personnel contacted.
- Observations and comments.
- Recommended actions.

(2) During the visit, this unit informs applicable personnel of observations, comments, and recommended actions and conducts an exit interview, if practical. A written report of the visit is forwarded to the supported unit commander as soon as possible. A copy of the report is kept in the technical assistance file for future reference.

Figure B-1. Sample Format for AVUM/AVIM Internal SOP (Continued)

**d. Repair Parts Supply.**

(1) To improve the efficiency and effectiveness of supply support, this unit will perform the following duties:

- Accurately report all data for all required reports.
- Consolidate all storage locations where multiple locations exist for the same item.
- Establish an NMCS section to provide effective response to supported units on NMCS requisitions.
- Walk-through requests from support units if the situation justifies such action. Honor requests for follow-up (AF1) and status (AS1) from supported units.
- Accept serviceable and unserviceable turn-ins.
- Ensure 100-percent accountability on repairables.
- Perform a 100-percent inspection on all unserviceable turn-ins to ensure that all such items are packed, crated, and boxed as needed for transport.
- Keep sufficient packaging and crating materials on hand for mission support.
- Ensure proper control over parts in transit.

(2) The supply section will make every effort to achieve the following established performance standards:

- Maintain at least 90-percent accuracy in storage.
- Eliminate double locations in storage.
- Maintain a minimum of 85-percent agreement between quantity recorded and quantity on hand (inventory accuracy).
- Process all requests within 24 hours of receipt.
- Expedite turn-in of excess and nonstock-list items.

**e. Status Report.**

(1) The AVIM unit is responsible for keeping supported units informed of the status of their aircraft while in the maintenance shops. A supported unit must have a realistic forecast on the completion date. This information should be provided on a continuing basis and on request.

**Figure B-1. Sample Format for AVUM/AVIM Internal SOP (Continued)**

(2) As soon as PC determines the initial target date, it is telephoned to the supported unit. When unanticipated events or circumstances force extension of the target date, notify the supported unit immediately. If the target date is extended by more than one working day, notify the supported unit.

(3) To assist a supported unit in preparing DA Form 1352, the blue copy of DA Form 2407 is annotated during the month the aircraft is returned to the owning unit with the following information "This aircraft was in AVIM maintenance from \_\_\_\_ thru \_\_\_\_\_. There were \_\_\_\_ aircraft not mission capable maintenance and \_\_\_\_ supply hours." These data must be accurate.

f. **Production Control.** Maximum production of shop maintenance operations will be established. Uniform flow of the aircraft and its associated components through the shops will be maintained and regulated. Records will be processed as repairs are completed or parts are removed to reflect the current status of aircraft and parts. Information originates from the maintenance crews and passes by way of reports to the PC office. The PC office maintains DA Form 2405 for all aircraft work orders. Shop platoon clerks also maintain a maintenance request register for all aircraft components routed through the allied shops. The PC office also maintains an MWO request register.

(1) Procedures for controlling the flow of DA Form 2407 are as follows:

- PC clerks date the work request and enter it on the PC board. DA Form 2407 and the logbook are then passed to the TI section, where a TI is assigned. He reviews the work package and prepares for the initial inspection. He inspects the aircraft and records all faults noted during the initial inspection. The TI also reviews and processes the following:
  - Faults (on DA Forms 2408-13, 2408-13-1, 2408-13-2, and 2408-14-1).
  - Type of work requested (on DA Form 2407). MWO requirements.
  - Faults that require reentering from DA Forms 2408-13 series and 2408-14-1.
- PC supervisor notifies the appropriate section chiefs (maintenance/allied shops and maintenance officers) of the work assignment, based on evaluation of estimates returned from QC. PC supervisor estimates the date/time of the work's completion. Maintenance officers evaluate current workloads and priorities of work to be done.
- Final TI is made on all work accomplished. A run-up and test flight are made, but only after a complete TI is performed and appropriate entries recorded. If the inspector notes faults that require extensive or additional work, return the aircraft component to the shop foreman and return to work status. Appropriate data and time entries are monitored and recorded.
- PC computes total man-hours and cost figures as required and closes out work requests on DA Form 2407 when the work is completed. The PC board is posted, and the supported unit is notified that the aircraft is ready for pickup.
- Supported unit representative signs and dates DA Form 2407. He checks the aircraft records and departs with the aircraft. Routing procedures are the same for component repair except that an intershop work order is used; one person can usually do the work. Distribution and disposition of DA Form 2407 is according to DA Pam 738-751/738-750.

**Figure B-1. Sample Format for AVUM/AVIM Internal SOP (Continued)**

g. **Quality Control.** Usually, the QC section performs the following actions:

- Inspects aircraft and associated components received for maintenance to determine the need for requested repairs and the quality of maintenance accomplished.
- Determines when functional test flights are required according to TM 1-1500-328-23.
- Maintains a complete reference file of technical publications applicable to the unit's operation.
- Prepares and controls equipment EIRs and DRs required by DA Pam 738-751/738-750.
- Maintains an MWO status file.
- Requisitions and maintains control of all required kits and parts until equipment is received for modification.
- Ensures proper reporting of all modifications applied at that level by use of DA Form 2407.

(1) The QC officer or another qualified person is appointed as the weight and balance technician as directed by AR 95-1. Appropriate records are completed as required by AR 95-1, the applicable operator's manual, and TM 55-1500-342-23.

(2) QC personnel review each incoming technical publication or other directive applicable to their organization. They determine how to apply the document within the maintenance function or to the items being maintained. All directives applicable to that equipment are immediately posted to the organic equipment's historical records. Special attention must be given to those publications requiring MWO actions. The PC section is furnished an information copy of this type of publication.

(3) Publication files throughout the organization are inspected at least once every three months to ensure that they are complete and that the publications in use are current. At this time, pinpoint distribution requirements are reviewed and updated if necessary. The QC supervisor ensures that his personnel read all applicable incoming publications. During each inspection, the inspectors determine whether personnel in the maintenance activity are familiar with pertinent directives and are using them with repair actions.

(4) The QC section initiates and follows up all correspondence needed to clarify technical publications when the intent or requirement is not clear or specific. Using DA Form 2028 the person or section recommending changes to DA publications routes suggestions through the QC section.

**Figure B-1. Sample Format for AVUM/AVIM Internal SOP (Continued)**

(5) The QC section is responsible for ordering all required publications using the company's pinpoint distribution account number. In cases where required publications have not been initially distributed the QC section uses DA Form 17 (Requisition for Publications and Blank Forms) with DA Form 17-1 (Requisition for Publications and Blank Forms [Continuation Sheet]). A card file with the following information will be maintained:

- Publication number, date, and title.
- Quantity requested and for whom, if required.
- Dates of request and of due-out received.
- Date received.

(6) QC will review each publication center bulletin to determine those items for which a due out was received or shipped. If QC does not receive these items within 30 days of the publication date, a follow-up request will be submitted and so noted on the file card.

## 6. PROCEDURES

a. **Initial Receipt.** When this unit receives an aircraft on a work request, the work package is immediately routed to the QC supervisor. A TI is assigned to review the maintenance request to identify faults for repair. The required information is then posted to the assignment sheet. Policies for receiving aircraft are as follows:

- **Records.** All historical records accompany the aircraft into the shop. Hold all requests received without records until the records arrive. DA Form 2408-16, which has critical-time figures of components, is especially important. TIs review the logbook to determine if the necessary records are included and whether time entries are on the form before the work request is submitted to the PC officer for acceptance. TIs will also check DA Form 2408-15 for proper entries. Review aircraft armament records, if appropriate.
- **Work Request.** DA Form 2407 is properly filled out according to DA Pam 738-751/738-750. The supported unit indicates on the form the faults or symptoms of trouble, based on the diagnostic procedures outlined in the applicable equipment TM. After the PC officer accepts the work request, the receipt copy of the form is given to the supported unit's representative, and the aircraft is placed in a work status. The work request will not be refused because DA Form 2407 was not properly prepared. The PC clerk will give the supported unit representative a blank form, if required, and will help prepare it correctly.
- **Inventory.** A loose equipment basic item issue list inventory is made on all aircraft that are admitted to the shop for maintenance.
- **Emergency Maintenance.** Emergency maintenance services are provided to any transient aircraft when service is within the capabilities or limitations of this unit. DA Form 2407 is filled out and signed by either the pilot or crew chief. If records for the aircraft are not available, the pilot or crew chief will telephone the parent unit for the required information. A SOF inspection is made by the TI section and the PC officer prior to release of the aircraft. Aircraft components beyond the unit's repair capability are reported to the backup unit. The MAC found in the applicable aircraft TM is used as a guide in determining the category of maintenance required.

Figure B-1. Sample Format for AVUM/AVIM Internal SOP (Continued)

b. **Initial Inspection.** TIs will have a thorough knowledge of FM 3-04.500(1-500) and will perform a thorough inspection before the aircraft enters maintenance. They make maximum use of available diagnostic equipment. Engine and systems operational checks follow the visual inspection, if possible. TIs ensure that required modifications have been applied and that all faults are recorded on DA Forms 2408-13-1, 2408-13-2, or 2408-13-3. TIs have the applicable aircraft maintenance manuals with them during inspections and conduct inspections according to standards in those manuals.

c. **In-Progress Inspection.** The assigned TI keeps abreast of ongoing maintenance progress to determine serviceability of parts and to ensure that safety policies are practiced. He is available for advice and assistance. The TI enters his signature or inspection stamp in the corrective action column after the work has been accepted. He is familiar with every fault on the aircraft and pays close attention to quality maintenance practices.

d. **Final Inspection.**

(1) When all maintenance work is done, the PC section routes the work package to the QC section. If possible, the responsible team chief accompanies the completed records. TIs perform the following tasks:

- Review forms and records to ensure that all required maintenance has been done and properly documented and that all special inspection items have been properly posted, such as items due for retorque or inspection.
- Assist the team chief in properly preparing any required DA Form 2410 (Component Removal and Repair/Overhaul Record) and ensure that the required information is properly posted on DA Form 2408-16.
- Post information as required on DA Form 2408-15. All major repairs that should be made a permanent part of the aircraft's historical records are posted, such as crash damage, repairs, and engine internal inspections.
- Perform a thorough inspection, paying special attention to the proper completion of all maintenance performed. Any improperly completed work or newly discovered faults are entered on DA Forms 2408-13 and 2408-13-1 and corrected on the spot, if possible, by the repair team. Faults that indicate negligence or obvious disregard for accepted maintenance practices are promptly reported to the QC officer for corrective action. Record the final inspection on DA Forms 2408-13 and 2408-13-1 with time expended.

(2) When all required maintenance has been done, the aircraft is prepared by the maintenance crew for a functional test flight, if required. If a test flight is not required, the team chief returns all forms to the QC section. All historical records are given a final review. All uncorrected faults are reentered on the current DA Form 2408-13-1, and the work package is returned to the PC section for disposition.

**Figure B-1. Sample Format for AVUM/AVIM Internal SOP (Continued)**

**e. Functional Test Flight.**

(1) Prior to the functional test flight, the TI reviews the aircraft historical records and checks DA Forms 2408-13 and 2408-14-1 for correct entries according to DA Pam 738-751/738-750. He corrects only AVIM faults, except in the following instances:

- When organizational maintenance faults prevent or delay completion of AVIM.
- When conditions are "red X."
- When they are beyond the capability of the supported organization.
- When performing organizational maintenance will not interfere with this unit's primary mission.

(2) The TI also reviews the following, after which he files the logbook on the locator shelf:

- DA Form 2408-5 for MWOs listed as current and checks it for MWOs applied and proper entries. If this unit has responsibility for AVIM on this aircraft, the TI checks the MWO suspense file for any outstanding MWO requests for which kits are on hand or can be otherwise completed. DA Form 2407 is returned to PC with the work package. MWO kits, if required, are delivered to PC.
- DA Form 2408-15 for unusual entries, such as hard landings, crash damage, and other pertinent data.
- DA Form 2408-16 for proper entries as required by DA Pam 738-751/738-750 and the retirement schedule as listed in the applicable -20/-23-series aircraft organizational maintenance manuals. Maintains a separate form for time replacement and condition components. The TI ensures that time entries are correct, checks DA Form 2408-16 serial-numbered components physically against those installed on the aircraft, and corrects any faults discovered before the aircraft is released for maintenance.
- Aircraft armament records, if appropriate.
- DA Form 2408-17.
- DA Form 2408-18 for any inspections due while the aircraft is in maintenance and notes any inspection due on DA Form 2408-13.

(3) Maintenance operational checks and functional test flights are conducted according to TM 1-1500-328-23, the applicable aircraft organizational maintenance manuals, and maintenance test flight manual.

**Figure B-1. Sample Format for AVUM/AVIM Internal SOP (Continued)**

(4) Functional test flights have two important and distinct purposes. The first, and most important, is to ensure that the aircraft is safe for flight and capable of accomplishing its assigned mission. This is done through in-flight inspection and functional testing of the aircraft and its operating systems. The second purpose is to accurately determine and report the quality of maintenance performed.

(5) The commanding officer designates, as prescribed in TM 1-1500-328-23, maintenance test pilots authorized to flight-test aircraft. Copies of all such orders are furnished to the QC section. The number of crews appointed is held to a minimum in order to standardize functional test flights.

(6) Crew scheduling is coordinated with the flight operations section. Functional test flight crews are scheduled to preclude delays to the maintenance work schedule. QC personnel supervise test flights and brief the purpose of the flight to the crew before the flight.

(7) Functional test flight check sheets are guides prescribing format and test flight inspection items as contained in the appropriate aircraft test flight manual. They become part of the aircraft's records when completed. When check sheets are needed to check specific equipment or systems, only applicable portions of the checklist are used. QC personnel indicate which sections are not applicable for the proposed test flight. All faults are recorded on DA Form 2408-13-1 and explained in enough detail to make prompt corrective action possible. After each test flight, a thorough visual inspection is made to detect faults developed during the test flight. The faults are corrected before the aircraft is released for flight. After the faults are corrected, all test-flight work sheets with the aircraft logbook are forwarded to the QC section. QC personnel review each completed work sheet and determines the adequacy of corrective action. After all review actions are completed, the complete set of maintenance documents is forwarded to the PC section.

f. **Repairable Exchange.** Units requesting items for exchange will have on file at the RX point a properly completed, current DA Form 1687. DA Form 2765-1 is completed for the repaired exchange. Units should also have a current copy of their supporting AVIM's RX listing.

**Figure B-1. Sample Format for AVUM/AVIM Internal SOP (Concluded)**