CHAPTER 14: HELICOPTER MAINTENANCE.

I. Introduction.

The standards for vendor aircraft maintenance are found in the procurement document (for example, a contract, USDA-FS Rental agreement, OAS Aircraft Rental Agreement, National Call-When-Needed (CWN) contract, state or local agreements, etc.). It is highly recommended that if questions arise concerning helicopter maintenance, agency maintenance specialists be immediately consulted.

II. Inspection.

➔ Upon aircraft arrival, the Helicopter Manager/Helicopter Flight Manager shall determine that the following has been accomplished (see Chapter 5).

A. All Procurements.

The aircraft has been inspected by maintenance specialists according to agency inspection criteria. There are interagency standards common to USDA-FS, OAS, and some state and local agencies.

B. Military Aircraft.

Military aircraft utilized under a Letter of Agreement (LOA) or Memorandum of Understanding (MOU) are maintained in accordance with the terms of the agreement (usually to military or National Guard standards).

III. Pilot Functioning as a Mechanic.

A Pilot may function as a mechanic when he or she holds a valid Airframe and Powerplant (A&P) mechanic certificate, meets experience requirements as specified in the procurement document, and the terms of the document do not prohibit this activity. When a Pilot functions as a mechanic, duty day and/or flight time limitations may be affected, per the procurement agreement or agency directive.

IV. Pilot Performing Preventative Maintenance.

(Note that servicing an aircraft with fuel and oil is not considered to be maintenance.) Pilots who are not certificated mechanics may perform preventative maintenance if they have completed an approved training program and are authorized in writing by the vendor (certificate holder) to perform said maintenance. Each item a Pilot is authorized to perform must be specified in writing. Examples of preventative maintenance which may be authorized include:

- Removal, inspection and reinstallation of magnetic chip detector plugs;
- Removal and installation of passenger seats.

V. Mechanic Approval.

Mechanics shall be approved prior to use. Chapter V discusses mechanic approval and carding in detail.

VI. Maintenance Ferry Flight.

Ferry flight may be required to relocate an aircraft to a suitable maintenance location for either scheduled or unscheduled maintenance purposes. Managers should remember that if maintenance time requirements have been (or will be) exceeded during flight, government passengers are not allowed on board the helicopter, nor may the vendor perform any government-ordered missions.

The sole purpose of the flight must be to ferry the helicopter to a maintenance facility or location where the work can be performed.

EXAMPLE: A 100-hour inspection is due in 0.5 hours, but it will take 0.8 hours to fly to the vendor's maintenance facility. Although the manufacturer and/or the FAA may allow flight up to 10% over the scheduled maintenance timeframe (that is, may fly up to 110 hours since the last 100-hour inspection), flight may be performed only for the purpose of ferrying the helicopter to the maintenance facility.

If the maintenance time limit will not be exceeded during the ferry flight, the helicopter may be utilized to perform government work as part of the flight. Be aware, however, that it will be a revenue flight, and, as with any government-ordered flight, there should be a justifiable reason for payment.

VII. Scheduled Maintenance.

Helicopters shall be maintained in accordance with the Vendor's Operation Specifications, applicable Federal Aviation Regulations, and the manufacturer's recommendations. Under normal circumstances, scheduled inspections are not to be overflown. Scheduled maintenance should be performed before or after daily standby or as approved by the Contracting Officer or designated representative.

The following inspections are to be performed by authorized personnel and require a logbook entry:

A. Duties Authorized to Be Performed by the Pilot.

1. **Daily Preflight Check**. The Pilot shall perform a daily preflight check prior to the first flight of each day. The Pilot shall make an entry in the helicopter's logbook or record that such an inspection has been performed.

2. ➔ **Turbine Engine Power Assurance Check**. A Power Check shall be accomplished on the first day of operation and thereafter within each 10 hour interval of contracted flight operation unless prohibited by environmental factors (e.g. weather, smoke). The power assurance check shall be accomplished by the contractor in accordance with the Rotorcraft flight manual or approved (per AMD/USFS maintenance) company performance monitoring program. The results shall be recorded and either kept in the helicopter or at the assigned work location. A current record of the power check will be maintained with the aircraft under the contract and any renewal period.

Helicopters with power output below the minimum published performance charts shall be removed from service. The below minimum power condition shall be corrected before return to service and contract availability.

NOTE: Turbine Engine Power Assurance Checks for some aircraft cannot be trended. The reading may be correct or incorrect, or above or below specification, instead of having a numeric value.

See procurement document and Appendix A for more specific information on Power Checks.

3. **Test Flight**. Test flights do not have a specified minimum flight time requirement. Test flights will normally be of sufficient duration to determine that the item repaired, replaced or adjusted operates correctly. The Pilot is required to make an entry in the helicopter's logbook or record. Passengers are not permitted to be aboard the aircraft during test flights.

B. Inspections or Maintenance Performed by the Mechanic.

1. **50/100-Hour Inspections**. The vendor shall provide the necessary maintenance personnel and equipment to inspect and service the aircraft in the field. Under normal circumstances, 50/100-hour inspections should be performed before or after daily standby or as approved by the Contracting Officer or designated representative.

2. **Annual Inspection**. An annual inspection is required once every 12 calendar months. This inspection is identical to the 100-hour inspection in scope and detail, but must be performed by a licensed Airframe and Powerplant (A&P) mechanic with Inspection Authorization (IA). This inspection shall not be overflown.

3. **Approved Aircraft Inspection Program (AAIP)**. In lieu of 100-hour/annual inspections, phase inspections may be authorized by the vendor's maintenance program. Phase inspections can normally be accomplished in a very short period of time, since only a portion of the aircraft is inspected at each phase.

4. **Time/Calendar Life Inspections**. Various engine and airframe components require hourly or calendar inspections or replacement. These inspections will normally be performed in conjunction with other inspections. These inspections shall not be overflown unless the vendor has an FAA-approved extension from the manufacturer.

5. **Airworthiness Directives and Service Bulletin Compliance**. Special inspections may be required by the FAA or by the manufacturer. These inspections must be accomplished within the time frames indicated in the directive or bulletin. The vendor is required to provide a compliance list at the designated base.

VIII. Unscheduled Maintenance.

Chart 14-1 defines those steps to be taken by Helicopter Managers in DOI and USDA-FS for proper documentation of unscheduled maintenance, and individual(s) to notify for each type of mechanical problem and return-to-service approval. State and local agencies should consult agency directives.

IX. Mechanic Subsistence and Travel.

Although not specifically a maintenance issue, the question of whether to pay for mechanic subsistence and travel often arises. The Helicopter Manager should consult the procurement document for requirements.

Chart 14-1: Required Actions To Be Taken By Helicopter Manager For Maintenance Problems And Return-To-Service

SITUATION	REQUIRED ACTION(S) DOI AND USDA-FS
Failure of Minor Components (Gauges, Chip Detectors, etc.)	1. File Safecom Report 2. Document In Daily Diary 3. Approval By Vendor's Mechanic 4. Notify agency maintenance inspector within 24 hours
Major Components (Transmission, Engine, Rotor Blades, Main Rotor Hub, etc.)	1. File Safecom Report 2. Immediately notify maintenance inspector and PI/COAR/COR 3. Notify Contracting Officer within 24 hours 4. Document In Daily Diary 5. **Return-to-service requires verbal approval or physical inspection by agency maintenance inspector (will make determination if physical inspection is necessary)**