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Federal Aviation Agency

ADVISORY CIRCULAR

AC NO:	AC 127.13-1
	AIR CARRIER AND COMMERCIAL OPERATIONS
EFFECTIVE:	11/2/64

SUBJECT: HELICOPTER MAINTENANCE TIME LIMITATIONS

Cancelled

1. PURPOSE. This Advisory Circular provides a method and procedures for the initial establishment and revision of time limitations.

2. REFERENCES. This document is appropriate for the guidance of that segment of the public which operates or plans to operate aircraft in accordance with Federal Aviation Regulations, Part 127.

3. GENERAL. The operator may submit for inclusion in the operations specifications other methods and procedures for time limitations, or standards for determining time limitations.

4. INITIAL TIME LIMITATIONS. The Administrator will approve those initial time limitations set forth in Advisory Circular No. 121-1 or the Maintenance Review Board Document for the aircraft. For those aircraft not listed in AC 121-1 or the Maintenance Review Board Document, the basic principle followed by the Administrator will be that the inspections, checks, maintenance, or overhaul be performed at times well within the expected or proven service life of each component of the aircraft. In determining what the expected or proven time limitation of an aircraft or any of its components might be, the Administrator will consider the following factors: (1) geographical area or areas of operation; (2) engine operating power, procedures, etc.; (3) number of landings, long haul versus short haul, etc.; (4) maintenance organization and inspection procedures; (5) other operators' service experience records; (6) manufacturers' recommendations; (7) service history, particularly of known or evident trends toward malfunctioning. Special reliance will be placed on service experience, including the information obtained from such tests, inspections, or measurements as have been performed in accumulating such service experience.

5. REVISION OF TIME LIMITATIONS - GENERAL. The inspection and overhaul time limitations applicable to airframes, powerplants, propellers, and appliances are normally revised on the basis of service experience. Increases in such time limitations may be made as often as every 90 days. The record of service experience for the previous 90 days should indicate that such increase will not adversely affect the continuous condition of airworthiness. When the service records indicate that any component or subcomponent consistently requires repair, adjustment, or other maintenance because of damage, wear, or deterioration, within the current time limitations, the air carrier will be responsible for initiating corrective action.

Time limitations may be established in terms of hours of operation, multiples of engine overhaul periods or multiples of inspection periods. Time limitations for components on which deterioration is not necessarily a function of operating hours, such as electronic units, pitot tubes, and emergency flotation equipment, may be established in terms of calendar months. Certain items may be maintained on an "on condition" overhaul basis.

"On condition" overhaul is applicable to components on which a determination of airworthiness may be made by visual inspection, measurements, tests, or other means without a teardown inspection or overhaul.

6. AIRFRAME - REVISION OF TIME LIMITATIONS. The increases of time limitations for overhaul (or major inspection in case of pattern system, etc.) of airframes are normally based on evaluation of all pertinent service records and examination of at least one aircraft, of the model involved, that has been overhauled at the currently approved time limitations. When a pattern or block overhaul type of maintenance system is used, it will be permissible to reschedule individual items in another block or pattern, if performance and condition of the specific item warrants such an increase.

7. POWERPLANT AND ASSOCIATED MECHANICAL APPLIANCES - REVISION OF TIME LIMITATIONS. Increases in engine overhaul periods are usually approved in increments of 100 hours. Increases in time limitations of the approved engine overhaul period are normally considered on the basis of satisfactory service experience at the currently approved time limitations. The operator may request amendment to the currently approved time limitations by submitting a letter to the assigned FAA inspector indicating the desired time limitations on the particular engines involved, and should designate three to five engines for disassembly inspection by the FAA inspector. The engines chosen for exhibit should have operated in a satisfactory manner for the maximum time permissible under currently approved time limitations. If, after disassembly inspection of the exhibit engines and related components, it is found that the new time limitations are justified, the air carrier may then submit a formal application for an amendment in the routine manner requesting the extension of the overhaul period on the entire fleet of engines and

related components of the same type and model. Engine accessories may be operated to double or triple the approved engine overhaul time limitations if it is found that previous satisfactory service and overhaul experience, including the service to be performed at each engine change period, would justify the increase as not adversely affecting the continuous condition of airworthiness of the component involved.

8. APPLIANCES, GENERAL - REVISION OF TIME LIMITATIONS. Increases in established times for inspections, bench tests, or overhaul periods are normally based on consideration of the following factors: (1) geographical area or areas of operation; (2) number of landings, long haul versus short haul; (3) maintenance organization and inspection procedures; (4) manufacturers' recommendations; (5) service history, particularly of known or evident trends toward malfunctioning. When electrical/electronics appliances are overhauled on an on condition basis, special consideration should be given to the continued airworthiness of mechanical components of such equipment.

9. EMERGENCY EQUIPMENT. The inspection periods for first aid kits, flotation equipment, and other emergency equipment should assure the continued serviceability and immediate readiness of such equipment for its intended emergency purposes. Major inspection periods are established for the purpose of determining that all components of the emergency equipment are complete and airworthy and may be expected to remain in this condition until the next major inspection or actual use under emergency conditions. Routine inspection periods are established to assure that such equipment (or any component thereof) is installed or stored properly, has not been tampered with, damaged, or had articles removed since the last inspection. Inspection periods are usually adjusted on the basis of service experience and pertinent operating conditions.

10. CONTENT OF OPERATIONS SPECIFICATIONS. The Operations Specifications, contains a listing of the components of airframes, engines, propellers, and appliances and the time limitations for checks, inspections and overhauls applicable to each listed component. The list of components should be complete and inclusive except that subcomponents which are subject to check, inspection, and overhaul at the same time limitations as the components to which they are related may be omitted from the listing (e.g., that form commonly called the "short form"). When this is done, the operations specifications usually bear a statement to the effect that parts and subcomponents not listed are checked, inspected, and overhauled at the same time limitations specified for the component or assembly to which such components are related.

When coded identifications or titles, such as "operation #1, #2, #3, etc." or "line check, intermediate check, base inspection, etc.," are used in connection with specified time limitations in the operations

specifications, a brief description of such terms should be included which identifies the operation concerned.

If the carrier proposes operations specifications, which would permit for all or any part of an aircraft a block overhaul system, a sampling inspection and overhaul system, or any other maintenance system which either (1) does not prescribe a fixed period for overhaul, inspection, or check of each component of an aircraft, or (2) includes alternative standards and procedures under which the air carrier may be given authority to establish and adjust such time limitations, the air carrier should define and describe the manner in which such a special maintenance program will be performed.

George S. Moore
Director
Flight Standards Service