

SECTION 05-00

GENERAL

05-00-1. DESCRIPTION

This Chapter contains the inspection requirements concerning the A109E helicopters equipped with PRATT & WHITNEY 206C engines or TURBOMECA ARRIUS 2K1 engines, but does not contain inspection procedures. Such procedures will be found in the **A109E-MM**.

The inspections are presented in typographic form suitable for the local reproduction in such a way as to be used by personnel to perform helicopter inspections and to constitute, if desired, a data collection.

The inspections must be accomplished by qualified personnel to ascertain the airworthiness of the helicopter. Eventual discrepancies must be eliminated before flight.

Prior to inspection, open or remove as necessary, fairings, cowlings panels and inspection doors.

Flight airworthiness must be determined by inspection of all parts to check the general condition, security of attachment, cleanliness, freedom of movement and security, in accordance with the operational inspection rules and instructions contained in the **A109E-MM**.

The airworthiness of the helicopter is determined by acceptance of all parts with quality standard aircraft practice and specified instructions contained in the pertinent Chapters of this manual. Each inspected component must meet pertinent and applicable Airworthiness Directives requirements.

For acceptance requirements and limits refer to **A109E-MM** or to **A109E SERIES-OM**.

NOTE: The inspection and maintenance of the engine, electronic equipment, instruments, etc. must be performed in accordance with the instructions and procedures required by relevant manufacturers and in accordance with approved maintenance schedule.

NOTE: The inspection and overhaul schedule requirements contained in this Chapter must not be exceeded without explicit approval.

NOTE: When operating under particular environmental conditions (contaminated ambient, near the sea or special missions) it is prerogative and responsibility of the operator to increase or intensify the prescribed inspections as necessary to assure safe operation.

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05-00-2. INSPECTION PROGRAMS

(Fig 05-1)

The operator may choose from three inspection programs, as indicated in figure, designed to provide flexibility for maximum utilization of the helicopter and to most suit the operator's needs. The inspection programs are identified as follows:

NOTE: For the inspection requirements concerning the optional equipment refer to **Section 05-60**.

- A. Standard Inspection Program (refer to **Section 05-20**). The scheduled inspections consist of airworthiness check, 100 hours inspection, 400 hours inspection, 800 hours inspection, 3200 hours inspection and 12 months inspection.
- B. Extended Inspection Program (refer to **Section 05-30**). The scheduled inspections consist of a basic 50 hours/30 days inspection, 200 hours inspection, 400 hours inspection, 800 hours inspection, 3200 hours inspection and 12 months inspection.
- C. Progressive Inspection Program (refer to **Section 05-40**). The scheduled inspections consist of a basic 50 hours/30 days inspection, progressive 200 hours inspection (divided into four phases), progressive 400 hours inspection (divided into four phases), 800 hours inspection, 3200 hours inspection and 12 months inspection (divided into three phases).

The Operator may decide to interrupt one program and revert to the other provided the following is accomplished:

- Changing from standard to extended inspection program:
 - Perform basic 50 hours/30 days and 200 hours inspections of the extended inspection program and continue with the new program.
- Changing from standard to progressive inspection program:
 - Perform basic 50 hours/30 days of the progressive program, the preceding cycle phases of the progressive 200 hours inspection, the preceding cycle phases of the progressive 400 hours inspection (if applicable) and the preceding cycle phases of the progressive 12 months inspection.
- Changing from extended to standard inspection program:
 - Perform 100 hours inspection of the standard inspection program and continue with the new program.
- Changing from extended to progressive inspection program:
 - Perform basic 50 hours/30 days of the progressive program, the preceding cycle phases of the progressive 200 hours inspection, the preceding cycle phases of the progressive 400 hours inspections (if applicable) and the preceding cycle phases of the progressive 12 months inspection.
Example: changing from extended to progressive after 580 flight hours and 9 months after last 12 months inspection: perform basic 50 hours/30 days inspection, phases A, B and C of progressive 200 hours inspection, phase 1 of progressive 400 hours inspection and phases I and II of the progressive 12 months inspection.
- Changing from progressive to standard inspection program:
 - (Helicopters with less than 400 hours) Perform 100 hours inspection and 12 months inspection and continue with the new program.
 - (Helicopters above 400 hours) Perform 100 hours inspection, 400 hours inspection and the 12 months inspection and continue with the new program.

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- Changing from progressive to extended inspection program:
 - (Helicopters with less than 400 hours) Perform 200 hours inspection and the 12 months inspection and continue with the new program.
 - (Helicopters above 400 hours) Perform 200 hours inspection, 400 hours inspection and the 12 months inspection and continue with the new program.

This chapter includes:

- A. Time Limits:
 - Permissible inspection interval tolerances.
 - Component overhaul schedule.
 - Miscellaneous replacement Schedule.
- B. Scheduled Maintenance Inspection:
 - Standard Inspection program.
 - Extended inspection program.
 - Progressive inspection program.
- C. Unschedule Maintenance Checks:
 - Special inspection
 - Conditional inspection.
- D. Optional equipment scheduled / unscheduled inspections:
 - Special inspection.
 - Conditional inspection.

05-00-3. COMMON SCHEDULED MAINTENANCE CHECKS

This Section gives the date necessary to do the common scheduled maintenance checks on the helicopter. The common-scheduled maintenance checks are applicable to:

- Standard Inspection Program (Airworthiness Checks) - [Section 05-20](#)
- Extended Inspection Program - [Section 05-30](#)
- Progressive Inspection Program - [Section 05-40](#)
- Unschedule Maintenance Checks - [Section 05-50](#)

The common scheduled maintenance checks includes:

- Expiry of components' retirement life and inspection in accordance with [Chapter 04](#)
- Components' overhaul interval in accordance with [Section 05-10](#).
- Non flight critical parts replacement time in accordance with [Section 05-12](#).
- Servicing in accordance with [Section 05-70](#).
- Perform applicable optional equipment inspections in accordance with [Section 05-60](#).

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- Other inspection requirements.
- Check log book for recorded discrepancies. Correct any fault that could affect safety of operations.

Refer to the latest issue of Engine Maintenance Manual for the scheduled and unscheduled maintenance requirements applicable to the Pratt & Whitney Canada 206C or Turbomeca Arrius 2K1 engines.

NOTE 1: With respect to the Rescue Hoist Assembly, there is a set of tasks for which Operators shall obtain the Official Component Maintenance Publication from the OEM (BREEZE EASTERN) and must be certified to a suitable level. For reference of the Operator, a copy of the Component Maintenance Publication is included in the A109/A119-CMP (CD-ROM only), for information only.

NOTE 2: With respect to the Cargo Hooks, there is a set of tasks for which Operators shall obtain the Official Component Maintenance Publication from the OEM (Onboard System) and must be certified to a suitable level. For reference of the Operator, a copy of the Component Maintenance Publication is included in the A109/A119-CMP (CD-ROM only), for information only.

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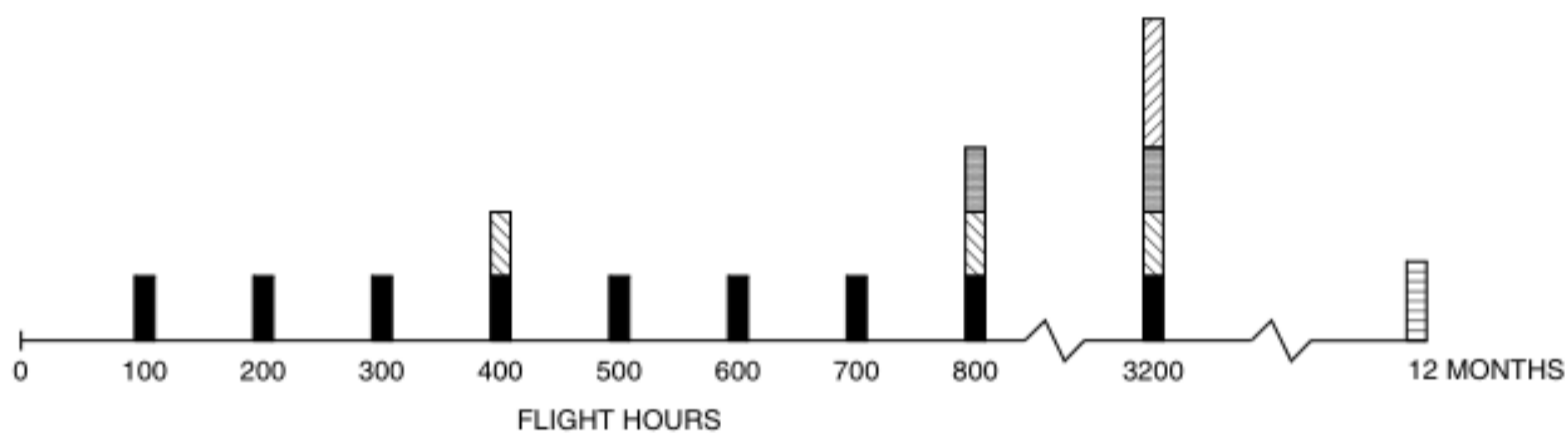
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NOTE: For each program, accomplish special inspection and conditional inspections as required (Section 05-50).

LEGEND KEYED TO STANDARD INSPECTION PROGRAM (REFER TO SECTION 05-20)

- 100 HOURS INSPECTION
- 400 HOURS INSPECTION
- 800 HOURS INSPECTION
- 3200 HOURS INSPECTION
- 12 MONTHS INSPECTION

NOTE: IN ADDITION PERFORM AIRWORTHINESS CHECK AT PRESCRIBED INTERVALS.



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Figure 05-1 (sheet 1 of 2). Inspection scheduling programs

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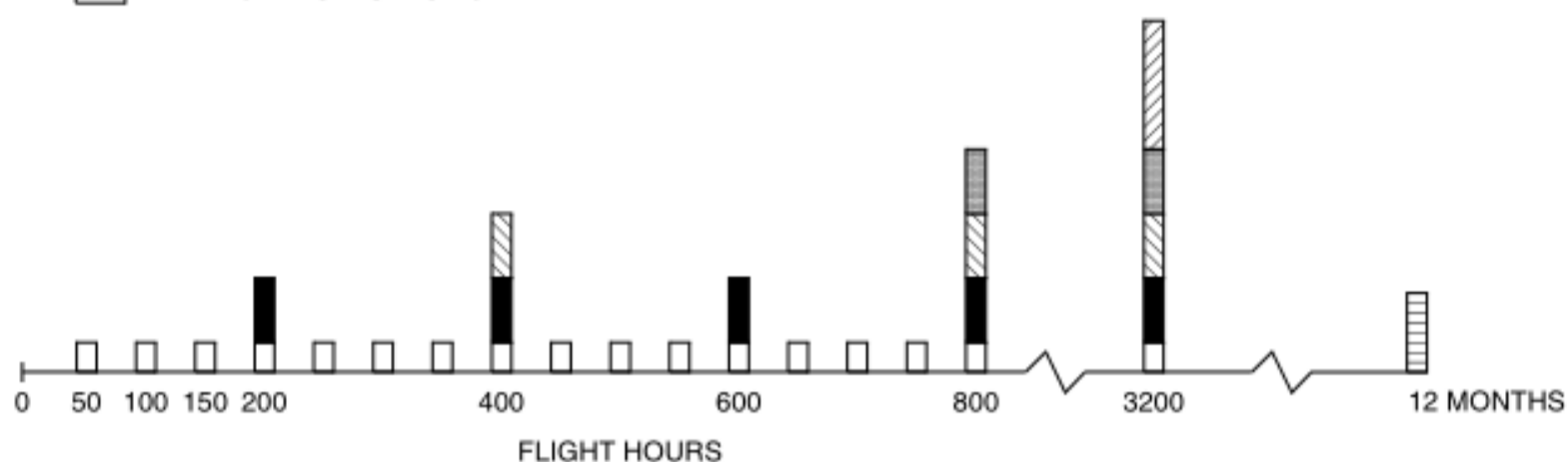
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LEGEND KEYED TO EXTENDED INSPECTION PROGRAM (REFER TO SECTION 05-30)

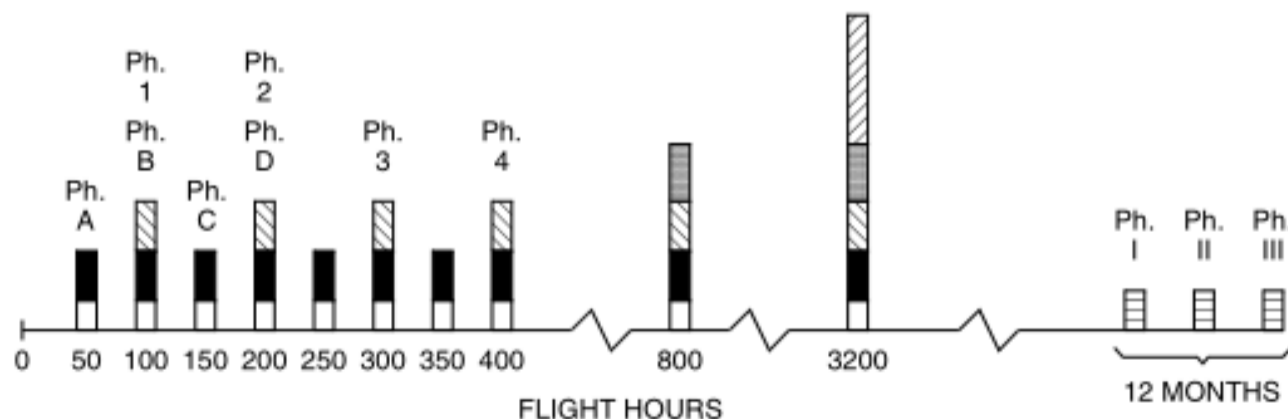
-  BASIC 50 HOURS / 30 DAYS INSPECTION
-  200 HOURS INSPECTION
-  400 HOURS INSPECTION
-  800 HOURS INSPECTION
-  3200 HOURS INSPECTION
-  12 MONTHS INSPECTION



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LEGEND KEYED TO PROGRESSIVE INSPECTION PROGRAM (REFER TO SECTION 05-40)

-  BASIC 50 HOURS / 30 DAYS INSPECTION
-  200 HOURS INSPECTION (1 CYCLE COMPRISES PHASES A THRU D)
-  400 HOURS INSPECTION (1 CYCLE COMPRISES PHASES 1 THRU 4)
-  800 HOURS INSPECTION
-  3200 HOURS INSPECTION
-  12 MONTHS INSPECTION (1 CYCLE COMPRISES PHASES I TO III)



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Figure 05-1 (sheet 2 of 2). Inspection scheduling programs

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05-00-4. PERMISSIBLE INSPECTION INTERVAL TOLERANCES

In order to facilitate the inspection planning in accordance with the helicopter inspection schedule, the following tolerances are permissible:

NOTE: Tolerances are not cumulative and they do not change the date at which the next inspection was scheduled. A practical example, for those pertaining to the standard inspection program is shown below:

Standard 800 hours inspection	: Accomplished at 815 hours.
Second standard 800 hours inspection	: Accomplished at 1625 hours.
Third standard 800 hours inspection	: Inspection is due at 2400 helicopter flight hours but shall not exceed 2430 flight hours.

SCHEDULED MAINTENANCE CHECKS**Standard inspection program**

<u>Inspection</u>	<u>Tolerance</u>
- Airworthiness check	: none
- 100 hours inspection	: 10 hours
- 400 hours inspection	: 10 hours
- 800 hours inspection	: 30 hours
- 3200 hours inspection	: 50 hours
- 12 months inspection	: 3 months

Extended and Progressive inspection programs

<u>Inspection</u>	<u>Tolerance</u>
- Basic 50 hours/30 days inspection	: 5 hours/5 days
- 200 hours inspection	: 10 hours
- 400 hours inspection	: 10 hours
- 800 hours inspection	: 30 hours
- 3200 hours inspection	: 50 hours
- 12 months inspection	: 3 months.

A109E-MPM**UNSCHEDULE MAINTENANCE CHECKS****Special inspection**

<u>Inspection</u>	<u>Tolerance</u>
- Between 5 - 10 hours of flight (new aircraft or after reinstallation of major components)	: None
- At each wheel tire removal	: None
- At each main rotor blades removal/installation	: None
- At each pilot doors removal/installation	: None
- At each engine removal	: None
- At each fan belt removal/installation	: None
- Each 25 hours	: 5 hours
- Each 100 hours	: 5 hours
- Each 150 hours	: 5 hours
- Each 200 hours	: 10 hours
- Each 300 hours	: 10 hours
- Each 600 hours	: 30 hours
- Each 1200 hours	: 30 hours
- Each 1600 hours	: 30 hours
- Each 2400 hours	: 30 hours
- Each 200 hours or 12 months	: 10 hours/3 months
- Each 400 hours or 24 months	: 10 hours/3 months
- Each 600 hours or 24 months	: 20 hours/3 months
- Each 900 hours or 3 years	: 30 hours/3 months
- Each 1800 hours or 6 years	: 30 hours/3 months
- Each 5 years	: 3 months

Servicing

The tolerances (hours or calendar) are the same as for the applicable inspections with these exceptions:

<u>Interval</u>	<u>Tolerance</u>
- 7 days	: 3 days
- 50 hours or 3 months	: 5 hours/5 days.
- 100 hours or 6 months	: 10 hours/1 month
- 300 hours or 12 months	: 10 hours/3 months
- 400 hours or 12 months	: 10 hours/3 months

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05-00-5. GLOSSARY

For a correct understanding of the inspection requirements contained in this Chapter, the meaning of the following terms are defined:

DENT	A point where the surface of a body is deformed by a concavity.
CONDITION	Term used to determine if the item under examination presents external damage which could jeopardize its safe operation.
DAMAGE	Failure, malfunction, inconvenience. The term is always used to cover its most extensive meaning.
DISTORTIONS	Shape alteration. The term is always used to cover its most extensive meaning.
SECURED	Term used to determine if the item under examination is correctly attached; mainly referred to doors and disconnectable items.
CRACK	A partial fracture of an item.
INSPECT	Observe, examine.
SECURITY	Term used to determine if the item under examination is connected to relative attachment area.
WEAR	Mechanical deterioration due to extensive use. The term is used to indicate excessive consumption.

05-00-6. ABBREVIATIONS

The following list contains the abbreviations used in this Chapter.

<u>ABBREVIATION</u>	<u>MEANING</u>
a.c.	Alternating current
A.F.C.S.	Automatic flight control system
A/F	Airframe
d.c.	Direct current
I.D.S.	Integrated display system
INST.	Installation
LH	Left hand
MFR	Manufacturer
No.	Number
P/N	Part Number
RH	Right hand

05-00-7. DIVISION OF THE TEXT

This Chapter is divided into these Sections:

SECTION 05-10	- Component Overhaul Schedule	List of components with overhaul interval.
SECTION 05-12	- Miscellaneous Replacement Schedule	List of non flight critical parts with replacement time.

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SECTION 05-20-1 - Airworthiness check	Accomplish after the last flight of the day or prior the first flight of the following day.
SECTION 05-20-2 - 100 Hours Inspection	Accomplish each 100 flight hours.
SECTION 05-20-3 - 400 Hours Inspection	Accomplish each 400 flight hours.
SECTION 05-20-4 - 800 Hours Inspection	Accomplish each 800 flight hours.
SECTION 05-20-5 - 3200 Hours Inspection	Accomplish each 3200 flight hours.
SECTION 05-20-6 - 12 Months Inspection	Accomplish each 12 calendar months.
SECTION 05-30-1 - Basic 50 Hours/30 Day Inspection	Accomplish each 50 flight hours or after 30 calendar days, whichever comes first.
SECTION 05-30-2 - 200 Hours Inspection	Accomplish each 200 flight hours.
SECTION 05-30-3 - 400 Hours Inspection	Accomplish each 400 flight hours.
SECTION 05-30-4 - 800 Hours Inspection	Accomplish each 800 flight hours.
SECTION 05-30-5 - 3200 Hours Inspection	Accomplish each 3200 flight hours.
SECTION 05-30-6 - 12 Months Inspection	Accomplish each 12 calendar months.
SECTION 05-40-1 - Basic 50 Hours/30 Days Inspection	Accomplish each 50 flight hours or after 30 calendar days, whichever comes first.
SECTION 05-40-2 thru -5 - 200 Hours Inspection	Four separate phases at 50 flight hours intervals.
SECTION 05-40-6 thru -9 - 400 Hours Inspection	Four separate phases at 100 flight hours intervals.
SECTION 05-40-10 - 800 Hours Inspection	Accomplish each 800 flight hours.
SECTION 05-40-11 - 3200 Hours Inspection	Accomplish each 3200 flight hours.
SECTION 05-40-12 - 12 Months Inspection	Three separate phases at four calendar months intervals.
SECTION 05-50-1 - Special Inspections	Systems or components requiring attention at other than scheduled time intervals.
SECTION 05-50-2 - Conditional Inspections	These inspections must be accomplished as a result of an unusual event occurred during operations (for example after hard landing, overspeed, etc.).
SECTION 05-60 - Optional Equipment	These optional equipment inspections shall be performed only if applicable, at prescribed intervals.
SECTION 05-70 - Servicing	List of items which require servicing.

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Document Status and Identification

Document Code: 05-00
Document Title: Section General
Issue Number: Rev. 15
Issue Date: 2023-07-26
RFU:
QA:
Effectivity: