



# Maritime Helicopters

MARITIME HELICOPTERS

3520 FAA Road  
Homer, AK 99603  
Telephone: (907) 235-7771

CONTINUOUS AIRWORTHINESS  
MAINTENANCE PROGRAM  
GENERAL MANUAL  
(CAMP)

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## INTRODUCTION

### **Maritime Helicopters Continuous Airworthiness Maintenance Program (CAMP)**

Maritime Helicopters, Inc. (MHI) CAMP program has been prepared in accordance with the current regulations contained in Title 14 CFR Part 135. The primary function of this manual is a management and administrative tool for organizing, directing, amending, and controlling its maintenance program. This program delegates management of the various functions and interrelationships of each maintenance element, such as maintenance time limitations, recordkeeping, Airworthiness Directive (AD) management, maintenance program management and oversight, contract maintenance management and oversight, personnel training and elements of Continuing Analysis and Surveillance System (CASS).

The CAMP objectives are:

- Maintenance, preventive maintenance and alterations performed by MHI or other persons are done in accordance with this manual.
- Competent personnel and adequate facilities and equipment are provided for the proper performance of maintenance, preventive maintenance, and alterations.
- Each aircraft released to service is Airworthy and has been properly maintained for operations under CFR Part 135
- Standardization of the program, consistent accomplishment and administration of the maintenance program.

MHI CAMP has delineated the functions, relationships, and lines of authority between its organizational elements and personnel in this manual;

- Position descriptions, duties, responsibilities, and specific authority and responsibility attributes for each position.
- Identities who have overall authority and/or responsibility and who have direct authority and/or responsibility for given functions.

### **Program Organization**

The Continuous Airworthiness Maintenance Program is comprised of two primary sections, each a "Stand-Alone" Manual. Although they are stand-alone, both must be referenced for the implementation and administration of the MHI CAMP program.

#### **NOTE:**

Both the CAMP and Maintenance Manual are "Stand-Alone" documents each containing its own List of Effective Pages (LOEP) and Numbering System for ease of manual revisions. The LOEP's for maintenance manuals shall not be included in the CAMP Manual other than the Appendix designator.

#### CAMP Manual

The CAMP Manual contains information covering administrative procedures, instructions for the administration and management accomplishment of the maintenance program and RII duties and responsibilities. It addresses policies and procedures covering duties, responsibilities and authority of each of the management personnel defining who has overall authority and/or responsibility for any given process. A major element of the manual is the CASS program to determine the overall effectiveness of the program.

#### Maintenance Manual

Maintenance Manuals are attached to the CAMP manual as a separate appendix. Each manual contains airframe specific maintenance functions such as scheduled maintenance tasks, procedural information and detailed instructions with manufacturers references for accomplishing listed maintenance tasks. Manuals shall be added to the appendix with the addition of new airframes added to OpSpec that require by regulation to be maintained under a CAMP program. Maintenance manuals shall be identified in each appendix by the aircraft's manufacturers make and model designation.

The basis of each maintenance manual is derived from the Original Equipment Manufacturer (OEM) maintenance and overhaul manuals or other approved technical information and data accepted by the FAA. A CAMP requires MHI to develop and use its own maintenance manual, not the OEM manuals; MHI shall reference them in each task function as required. Maintenance Manuals are designed to accomplish segregation between the required inspection and maintenance functions, with interface as required, to ensure smooth transfer of work and information.

Each airframe specific maintenance manual describes criteria for initiating functional evaluation flights along with procedural requirements for them. This includes criteria and procedural information for unscheduled inspections, such as those associated with lightning strikes, tail strikes, exceeding engine temperature, hard or overweight landings, and any very high-load event. Standards for overhaul, repair, replacement, calibration, and other requirements to return the aircraft and its components to its original or properly altered condition are also contained. Maintenance manuals have two primary units;

**Inspections**

Required inspection processes outlined in manufacturer's inspection data, drawings, specifications data are accomplished thru task "work" cards including inspection methods, procedures and standards. Inspection functions are separate from maintenance functions to include RII procedures. Persons performing required inspections are under control of the inspection unit only.

**Maintenance**

Maintenance specific processes, which include maintenance, preventative maintenance unscheduled maintenance and alterations are listed by work cards. Each work card defines the standards, methods, techniques to accomplish each task. Maintenance is separate from inspections with maintenance specific functions individually identified.

Maintenance manuals have detailed process for unscheduled maintenance that addresses extremely high-load events that occur to aircraft. These particular high-load events are those for which flight data might facilitate the subsequent inspection process. The maintenance program will consider the events listed below as most significant:

- Flight Events
  - A severe turbulence encounter,
  - Extreme maneuvers,
  - Exceeding speed limitations, and
  - Heavy stall buffet.
- Ground Events.
  - Hard landings,
  - Over-weight landings, and
  - Drift landings resulting in excessive side/drag load.

**General Statement of Responsibility**

All personnel assigned to airframes operating under a CAMP are required to be trained and familiar with the requirements of the program, applicable FAA regulations, and airworthiness directives. Personnel shall adhere to manual policies, procedures and applicable FAA regulations.

Management and lead personnel may delegate their assigned duties to any qualified individual as necessary; however, such delegation does not relieve them of their overall responsibility.

**Delegation of Duties**

In the absence of any responsible supervisory/management employee, the duties shall be delegated to a qualified replacement in order to ensure required duties continue to be accomplished. Delegated duties may only be assigned to a qualified individual. It shall be the responsibility of the individual authorizing the delegation of duties to determine the capabilities of each candidate for delegation. The individual authorizing the delegation shall remain ultimately responsible for the proper accomplishment of all delegated duties.

**Adding Aircraft to the CAMP**

The following procedures shall be used when entering an aircraft on MHI Continuous Airworthiness Maintenance Program;

- The aircraft registration number, make, model, and serial number shall be on the Operations Specification List of Approved Aircraft.
- If the airframe is not new, a bridging document will be created and remain on file for 1 year. The document shall determine by outline which inspections and maintenance must be complied with before bringing the aircraft onto the CAMP. These inspections and maintenance shall be entered on to the aircraft logbook and signed off before the aircraft entered onto the program.
- Once the bridging requirement inspections and maintenance have been complied with<sup>2</sup> the Aircraft and Engine Log Book shall have an entry made stating that the aircraft and engine are now being inspected in accordance with MHI Continuous Airworthiness Maintenance Program.
- Due to this more stringent maintenance program, aircraft being added to the MHI CAMP will have a period of up to 200 flight hours to be brought into compliance with the MHI CAMP Maintenance Time Limitation on items with a decreased or added maintenance interval, but in no case shall exceed the limitations of the manufacturer.

**Removing aircraft from the CAMP**

Aircraft removed from either the CAMP program shall have an annual inspection performed prior to being released for flight or shall be accepted into the inspection program of another operator prior to being released for flight. A list of the status of the existing inspection program will be provided to the new owner.

The following entry will be made in the log book:

"This aircraft was removed from a CFR Part 135 CAMP maintenance program and must be inspected in accordance with CFR 43.15 Part (a), (a)(1), (b), (c), and (c)(3) before returning to service."



## CAMP AND MAINTENANCE MANUAL REVISIONS

### Revisions and Control

In accordance with CFR 135.21(a), revisions will be prepared by the Director of Maintenance. Each revision will have a revision number and date in the upper right corner of the page. Revisions will be consecutively numbered. All revisions will be submitted to the FAA for review and acceptance prior to being implemented. Revisions will be recorded in the Log of Revisions page and old pages will be replaced with the new effective pages.

New material in the latest revision will be marked with a vertical bar to the right of text, to ease identification of new material. The program shall be amended whenever the following occurs:

- The issuance of changes to CFR's that affect and pertain to this company's manual, operations, equipment, personnel, or facility.
- Major changes to Manufacturer's inspection methods, limits, and procedures.
- Whenever the administrator of the FAA finds that it is necessary (14 CFR 135.21).

The CAMP program is web based, to include any changes or additions, and available to those persons required to comply with it. Additionally, MHI shall furnish access to the FAA Principal Inspectors (PI) assigned.

Maintenance Personnel are to use the MHI Web Portal for all company manuals unless internet access is not available. In the advent of no internet access to manuals, a current company paper format manual shall be provided and used. Once downloaded, it is considered an "Uncontrolled Copy" and shall not be kept once tasks are completed or internet access is restored, whichever occurs first.

### Revision Status

Once the MHI Continuous Aircraft Maintenance Program is approved by the responsible FAA district office, it shall be posted within 5 working day on Maritimes' Maintenance Portal, accessible to MHI personnel through the internet.

### Temporary Revisions

Temporary Revisions to the CAMP will be accomplished thru the use of the Temporary Revision (Temp Rev) page. The Temp Rev page is designed to insert important updates into the CAMP in an expeditious manner without having to go thru the entire revision process.

#### NOTE:

The Temp Rev page is a STAND-ALONE document with its own numbering and approval system. No attempt will be made to incorporate temporary revision changes to the CAMP or Maintenance Manual Table of Contents or List of Effected pages.

The Index of Temporary Revisions will list the current CAMP or Maintenance Manual Revision Number in the header. The Table will include: Temp Rev Item Number (TR#), Section, Page, a brief Description of the revision and Date inserted. When a revision is required to the CAMP or Maintenance Manual, a Temporary Revision (TR) will be generated and then entered on the Temporary Revision page, as outlined above. Both the Temp Rev revision page and temporary revision itself shall be submitted to the FAA with approval indicated by signatures and date on the bottom of the Temp Rev page. The Date Approved stamps at the bottom of the page will reflect dates of approval of the most current temporary revision. Each new revision will require an updated approved signature and date from the FAA.

Once approved, the temporary revision shall be inserted before the affected page(s) in the CAMP or Maintenance Manual. These temporary revisions will be indicated by a yellow background. An inserted Temp Rev page will contain both change(s) and instructions to the affected page(s) of the CAMP or Maintenance Manual. When a mechanic accesses a CAMP or Maintenance Manual on the Portal that has a temporary revision, they shall comply with the revision when completing that inspection interval. Completed temporary revisions shall be maintained with the completed maintenance intervals paperwork until the next interval occurs for that maintenance task or the temporary revision is incorporated into the CAMP or Maintenance Manual; whichever occurs first.

#### NOTE:

All logged temporary revisions will remain on the Temp Rev page until incorporated into the CAMP or Maintenance Manual during a complete CAMP or Maintenance Manual revision. A full revision will clear the Temp Rev page of all entries.



## **AIRWORTHINESS RESPONSIBILITIES**

### **Administration, Management, and Accomplishment of the CAMP**

This section contains instructions for MHI management of the various functions and interrelationships of each maintenance program element, such as limitations, recordkeeping, Airworthiness Directive (AD) management, maintenance program management and oversight, contract maintenance management and oversight, and personnel training.

Each airframe specific maintenance manual includes a description of scheduled maintenance tasks, procedures and detailed instructions to include specific manufacturers maintenance manual references for accomplishing its maintenance tasks. Additionally, these maintenance manuals describe criteria for initiating functional evaluation flights along with procedural requirements for these.

### **Responsibility for Aircraft Maintenance**

MHI is responsible for the airworthiness the performance of all of the maintenance, preventive maintenance, and alterations on its aircraft. This includes all inspections, maintenance, preventive maintenance, and alterations, whether it accomplishes that work or someone else does it for them (e.g., a maintenance provider, such as a repair station).

A listing of all certificate mechanics will be maintained by the Director of Maintenance. Each of these people has the authority to act for MHI in their respective sphere and exercise control of maintenance privileges. Their specific duties and responsibilities are listed in this CAM

MHI has appointed the following person to the Accountable Management position:

Director of Maintenance (DOM)

Director of Maintenance – Has final authority and accountability for managing and implementing MHI's entire maintenance program, including all inspection functions, financial and human resources. Responsibilities include monitoring the airworthiness of all aircraft, engines, accessories, appliances in the aircraft ensuring the personnel assigned to those tasks have been properly qualified, trained and authorized.

The Director of Maintenance must hold the appropriate airmen certificate for this position.

### **NOTE**

MHI shall notify the CHDO within 10 days should a change be made to the Director of Maintenance position.

Chief Inspector - The Chief Inspector is responsible to the Director of Maintenance to ensure a standard level of safety and airworthiness is adhered to and that work performed under this program is accomplished IAW applicable CFR's, Maritime Manuals and manufactures specifications. The Chief Inspector has direct responsibility for implementation and monitoring of the RII program elements.

Quality and Safety Manager – The Quality and Safety Manager shall; develop, define, integrate, and monitor the Safety Management System CASS program to include;

- Provide Leadership and Direction in Risk Management, Loss Control, and Regulatory Compliance to Government and Maritime Safety programs
- Evaluate and audit the safety program.
- Conduct and develop safety training, safety management and accident prevention.
- Evaluate the maintenance training to ensure fundamental safety principles are integrated into the syllabus.
- Investigate and report on incidents and accidents. Make recommendations to preclude a recurrence.
- Conduct hazardous material training as it pertains to this certificate. Direct hazardous material identification and disposal.
- Provide assistance during new employee initial safety training and during recurring training.
- Develop and maintain the MHI Emergency Procedures Plan, provide guidance to determine location, use, adequacy, and serviceability of firefighting equipment and other safety equipment.
- Responsible for a thorough knowledge of this General Maintenance Manual, MHI policies and procedures as well as meeting operational goals and objectives.



Inspection Personnel – Inspection Personnel area responsible to the Chief Inspector to ensure a standard level of safety and airworthiness is adhered to and that work performed for MHI is accomplished IAW applicable CFR's, company manuals and manufactures specifications. The Inspector shall:

- Inspect buildup of aircraft assemblies and installation of assemblies.
- Inspect aircraft for conformance to specifications and quality standards.
- Inspect work in progress to ensure proper procedures are followed.
- To include:
  - Correct parts are used.
  - Correct procedures are used per applicable manuals.
  - Tools are calibrated when required.
  - Verify bulletins such as AD's, ASB's and others affected by the task are being complied with.
  - Correct safeties are installed.
- Ensure all entries in the logbook are accurate and contain all required information.
- Ensure paperwork such as aircraft log cards, 337's, and yellow tags are filled out correctly.
- Assist in keeping all company manuals up to date with the latest manufacture's manuals.
- Review weekly aircraft status sheets for accuracy.
- Inspect incoming parts for bulletin compliance.
- Responsible for a thorough knowledge of this CAMP Manual, MHI policies and procedures as well as meeting operational goals and objectives.
- Verification of the accuracy of the Status Report to the actual configuration of the aircraft and to the data contained on the Historical Service Record Cards ("Hard Cards") regarding Part Number (P/N), Serial Number (S/N), and Total Time / Time Since Overhaul (TT / TSO) of the time-tracked assemblies and components.
- All other duties as assigned by the Chief Inspector.

Certificated Mechanics – Certificated Mechanics are individually responsible for the maintenance tasks they perform and sign for each step. They work under the Director of Maintenance and are authorized and responsible for, but not limited to, performance of the following:

- Performing the aircraft inspection activities specified by this inspection program.
- Scheduling aircraft inspections with the Director of Maintenance (or designee), considering such factors as workflow, location of equipment and facilities, tools, supplies and job requirements.
- Maintaining all required aircraft maintenance records in a current status.
- Maintaining the aircraft in an airworthy condition at all times.
- Providing final approval for return to service.
- Reviewing the full (comprehensive) aircraft status report to assure:
- The status report information is correct.
- No scheduled maintenance intervals will be exceeded.

A certified mechanic shall be considered qualified to perform inspection and maintenance if the mechanic complies with any of these requirements:

- Has been trained at a manufacturer or operator's school for that aircraft.
- Understands the manufacturers maintenance manual instructions.
- Has satisfactorily performed this or similar work at an earlier date.
- Is under the direct supervision of a certified and appropriately rated mechanic who has had previous experience in the specific operation concerned.

Prior to exercising certificate privileges, the mechanic must within the previous 24 months performed any of the following for at least 6 months;

- Served as a mechanic under their certificate and rating,
- Technically supervise other mechanics,
- Supervised, in a management capacity, the maintenance or alteration of aircraft, or
- Been engaged in any combination of the three positions.



## MAINTENANCE MANUAL

### **General**

The FAA regulations §135.21, and 135.427 requires MHI to have an approved maintenance manual. The CAMP manual shall serve as the approved maintenance manual for all work performed and shall be referenced in conjunction with the appropriate airframe specific manual contained in the appendix. While Maritimes' maintenance manuals prescribe the maintenance to be completed, it must be performed in accordance with the manufacturer procedures and technical data or FAA approved data.

Maintenance manuals contain specific procedures for all inspections, preventative maintenance and alterations, to include unscheduled and special inspections. Maintenance personnel are expected to follow prescribed methods and procedures in the maintenance manual for the specific airframe. Maintenance Manuals are contained in the CAMP appendix, each identified by aircraft type. Maintenance manuals include detailed procedures for maintenance, scheduling with work cards for each inspection/maintenance event.

The basis of each maintenance manual is derived from the Original Equipment Manufacturer (OEM) maintenance and overhaul manuals or other approved technical information and data accepted by the FAA. A CAMP requires MHI to develop and use its own maintenance manual, not the OEM manuals, but shall reference them in each function as required. Maintenance Manuals are designed to accomplish segregation between the required inspection and maintenance functions, with interface as required, to ensure smooth transfer of work and information.

Each airframe specific maintenance manual describes criteria for initiating functional evaluation flights along with procedural requirements for them and includes criteria and procedural information for unscheduled inspections, such as those associated with lightning strikes, tail strikes, exceeding engine temperature, hard or overweight landings, and any very high-load event. Standards for overhaul, repair, replacement, calibration, and other requirements to return the aircraft and its components to its original or properly altered condition are also contained.

Maintenance manuals provide two primary functions;

### Inspections

Required inspection processes outlined in manufacturer's inspection data, drawings, specifications data are accomplished thru task "work" cards including inspection methods, procedures and standards. Inspection functions are separate from maintenance functions to include RII procedures. Persons performing required inspections are under control of the inspection unit only.

### Maintenance

Maintenance specific processes, which include maintenance, preventative maintenance unscheduled maintenance and alterations are listed by work cards. Each work card defines the standards, methods, techniques to accomplish each task. Maintenance is separate from inspections with maintenance specific functions identified.

Maintenance manuals have detailed process for unscheduled maintenance that addresses extremely high-load events that occur to aircraft with inspection processes. These particular high-load events are those for which flight data might facilitate the subsequent inspection process. The maintenance program will consider the events listed below as most significant:

- Flight Events
  - A severe turbulence encounter,
  - Extreme maneuvers,
  - Exceeding speed limitations, and
  - Heavy stall buffet.
- Ground Events.
  - Hard landings,
  - Over-weight landings, and
  - Drift landings resulting in excessive side/drag load.

### **Maintenance and Inspection Program**

Method of performing all required maintenance and inspections are designation by MHI by occupational title of personnel authorized to perform each required inspection and/or maintenance event. Procedures for reinspection of work performed under previous required inspection findings will be listed on work cards.

Inspections are to be performed based on hourly or calendar Time Remaining on the aircraft computer maintenance and inspection tracking report (CALM).



## Special Inspections

Special Inspections shall be determined by the DOM, Chief Inspector or Floor Lead Mechanic. These events must be evaluated based on what event has occurred and severity of the event. This may require contacting the manufacturer, as appropriate.

Special inspections for high-load events should:

- Identify that a very high-load event has occurred;
- Assure that indications of structural damage are found in an initial inspection;
- Involve the OEM, if necessary;
- Identify any additional inspections that may be required to positively identify all of the structural damage.

Once the scope of the special inspection has been determined, appropriate log entries must be entered, proper corrective actions performed and entered and a return to service statement entered.

## Technical Data

Maintenance manuals of MHI aircraft maintained under this CAMP contain detailed manufacturers technical data with procedures for accomplishing specific tasks. Each maintenance manual includes procedures for aircraft Weight and Balance (W&B), jacking, lifting, shoring, storage, cold weather operations, towing, aircraft taxi, and aircraft cleaning based on manufacturer's maintenance manuals. MHI shall continuously modify and customize its maintenance manual as necessary to include recommendations based on CASS findings.

## AD's

MHI is required to accomplish the provisions of Part 39 AD's. The DOM, Chief Inspector shall review any issued AD's appropriate to our airframes if the AD is applicable. If it is determined any aircraft is affected by the AD, a Compliance Action Notice will be generated and disseminate to the mechanic responsible for the aircraft maintenance. Management processes contain elements for planning, site-specific locations, support, provisioning, implementing, recording, technical data and auditing. MHI shall not operate aircraft any AD applies to except in strict compliance with the provisions of the AD. MHI shall ensure that:

- It reviews ADs for applicability to its aircraft and highest potential of alteration during normal maintenance;
- If needed, will submit and receive FAA approval for an alternative method of compliance (AMOC);
- It accomplishes the requirements of the AD within the time frame specified in the AD;
- It keeps records of the accomplishment and current status of each AD that applies to its aircraft;
- It considers the unique aspect of the AD, identifies long lead times and impact of future inspection schedules;
- Any subsequent maintenance or alteration to its aircraft does not remove the maintenance or alteration that the AD mandated to include unique product or appliances.

## NOTE

MHI shall not remove any AD-mandated maintenance or alteration.

Any AMOC or a change in the compliance time for an AD submitted to the FAA for approval must provide an acceptable level of safety and include specific actions proposed to address the unsafe condition. They shall be submitted to Principle Maintenance Inspector (PMI) and forwarded to the office identified in the AD. These must be approved before use by the manager identified in the AD and recorded.

AMOC's or changes in compliance will be submitted to MHI's current PMI for the approval process to include authority to fly an aircraft to a repair facility to the required work. If there is a conflict between any maintenance manual or service document, the AD shall take preference. Any aircraft or parts which do not meet the requirements of the AD shall not be installed or operated.

## Work Cards

MHI uses "task" or work cards to comply with regulations for performing maintenance as well as maintenance recordkeeping. They document the results of inspections, checks, and tests for data collection and analysis while providing detailed, concise procedural instructions that organize and control maintenance activities ensuring all maintenance activities comply with the maintenance manual.

The DOM is responsible for controlling and developing work cards based on a manufacturer's instructions ensuring transcribed information is complete and accurately.

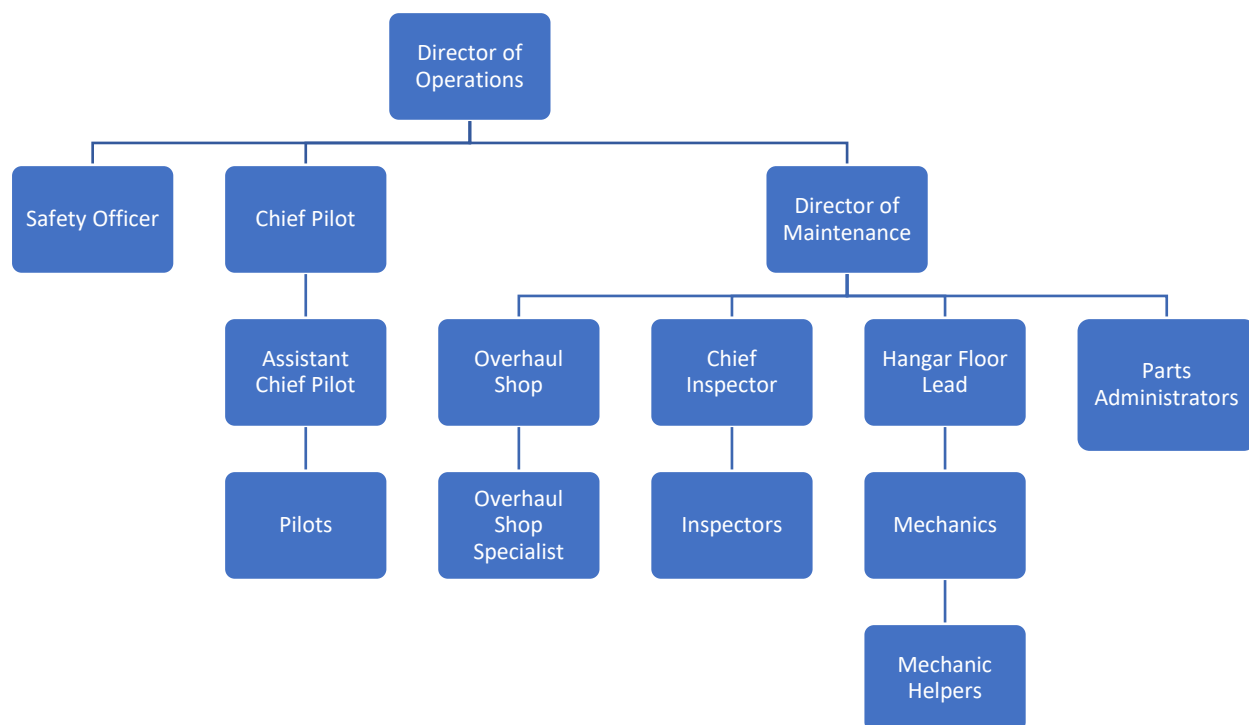
Work cards also document the results of inspections, checks, and tests for data collection and analysis. MHI shall conduct and record work-in-progress audits of work card activities under its CASS to ensure that each individual who accomplishes work on its aircraft is following the appropriate maintenance manual.



## MAINTENANCE ORGANIZATION

### General Organizational Requirements

MHI maintenance organization must be able to perform, supervise, manage, and amend its program to manage and guide its maintenance personnel and provide the direction necessary to achieve its maintenance program objectives. Regulation that apply to MHI also apply to any other organization that provides maintenance services for Maritime. The following chart depicts overall assignments;







## **Maintenance Management Positions**

The following positions have authority to design or change MHI procedures without having to seek higher-level approval while maintaining overall responsibility to ensure financial and personnel resources for successful completion of a task or function.

### Director of Maintenance

The Director of Maintenance has overall responsibility for scheduled, unscheduled maintenance, inspections and may delegate any of these duties but retains the responsibility. The individual serving full-time in this position must be qualified through training, experience, and expertise to the extent of their responsibilities, have a full understanding of the documents with respect to maintenance activities to include;

- Directs and controls resources
- Determines acceptable safety risks
- Title 14 CFR,
- Operations Specifications
- Manuals required under Part 135
- Aviation safety standards and safe operating practices
- Ensuring company aircraft are maintained to the airworthiness standards prescribed by applicable regulations, airworthiness directives, and this inspection program.
- Training and assisting his department personnel in the procedures, methods, and practices to be followed in performance of this inspection program.
- Ensuring that the responsible mechanic properly completes all necessary work records.
- Reviewing this program and initiating the necessary revision(s).

### Chief Inspector

The Chief Inspector is responsible for all inspection functions associated with Part 135 maintenance. Additionally, the Chief Inspector shall be directly responsible for the RII functions to include, but not limited to, ensuring both financial and human resources are provided for each RII event.

## **Maintenance Organization Structure**

### Structure

MHI's maintenance program includes both a maintenance and inspection department. These departments have assigned mechanics, inspectors, middle managers/supervisors under a Director of Maintenance. The DOM shall ensure department managers and personnel understand instructions for their duties to include manufacturer's manuals and ICA's.

### Functions

Maintenance functions include repair, overhaul, parts replacement scheduled and unscheduled maintenance and are performed under assigned managers. Inspection functions such as required inspection items are separate maintenance and shall operate under its own assigned manager. Each department shall operate as a separate entity within each of the departments general organizational functions to ensure that MHI conducts all operations to the highest possible degree of safety. These organizational functional levels include:

- Mechanics and/or inspectors performing the work at the first level;
- Middle managers and supervisors at the second level; and
- The maintenance program Director of Maintenance (DOM) at the third level. The Director of Maintenance is directly in charge and shall be available for consultation and decisions.

### Authority and Responsibility

Position descriptions for each of these functions are listed under AIRWORTHINESS RESPONSIBILITIES. Position duties identify who is responsible for a given element, process, or task and their authority.

## **Maintenance and Inspection Departments**

### General

MHI has organized the performance of all maintenance, inspection, repair, overhaul, and the replacement of parts to separate the function of required inspections from the function of the other maintenance, preventive maintenance, and alteration activities. The organizational separation is clearly defined for maintenance staff operating below level of administrative control.

### Maintenance

All maintenance, preventive maintenance, and alteration activities shall be accomplished by properly certificated and trained maintenance personnel under the supervision of a floor lead.



## Inspections

All inspections shall be performed under the direction of the assigned Chief Inspector who has overall responsibility for the inspections and RII's department.

## **Interface**

Interfaces occur in procedures where the responsibility for accomplishing work is transferred from one person, work group, or organization to another.

The following example illustrates smooth transfer of work and information;

- Pilot enters description of discrepancy in the aircraft log book and briefs maintenance on the event.
- Maintenance then takes control of the discrepancy and completes the required actions to rectify entry, to include a corrective action on the appropriate log page.
- If any check flight must be performed, maintenance shall make the required log entry and brief the pilot on required steps to perform.
- Once the check flight is completed and a return to service statement is entered in the log page, control is passed back to operations.

Both maintenance and inspection departments must interface during most tasks. Managers from each department must be aware there is this requirement during jobs where both functions are performed in conjunction such as obtaining an ok to close from inspections or there is an RII buy back procedure before a mechanic may further perform their work.

Maintenance should make the inspections department aware of any such requirement as soon as possible as to not delay any return to service while performing their tasks.

## **ACCOMPLISHMENT AND APPROVAL OF MAINTENANCE AND ALTERATIONS**

### **Accomplishment of Maintenance**

No aircraft may operate after maintenance, preventive maintenance, or alterations are performed unless MHI or whom MHI arranges for the performance of the maintenance, preventive maintenance, or alterations, unless;

- An airworthiness release; or
- An appropriate entry is entered into the aircraft maintenance log.

The airworthiness release or log entry that is required by must;

- Include a certification that the work was performed in accordance with the requirements of the certificate holder's manual;
- All items required to be inspected were inspected by an authorized person who determined that the work was satisfactorily completed;
- No known condition exists that would make the aircraft unairworthy; and
- So far as the work performed is concerned, the aircraft is in condition for safe operation; and
- Be signed by an authorized certificated mechanic or repairman, except that a certificated repairman may sign the release or entry only for the work for which that person is employed and for which that person is certificated.

The signature of an authorized certificated mechanic or repairman constitutes that certification.

### **Performing Maintenance**

MHI has authorization under § 43.3(f), 43.7(e), and 135.437 to perform maintenance on its own aircraft and to approve them for return to service without obtaining any other maintenance certification. In addition, §135.437 provide clear authority under its MHI certificate to perform maintenance on behalf of other air carriers that conduct operations under Part 135. Maritime shall provide the other air carriers a signed and dated list of discrepancies found including those permitted to be inoperative under 135.179.

### **Airman Certificate**

MHI personnel directly in charge of, makes an airworthiness determination or authorized to issue an approval for return to service, must hold an appropriate airman certificate. Additionally, all designate RII inspectors must hold an appropriate airman certificate.

### **Major Repairs and Alterations**

Major repairs and alterations are to be completed in accordance with the manufacturers technical data approved by the FAA using Part 43 appendix A which lists repairs and alterations that are considered major. MHI shall use the definitions in 14 CFR Part 1 when classifying repairs and alterations. MHI shall prepare and submit a copy after completion of each major repair or alteration to AFS-750 and shall make reports available to the FAA and NTSB.

MHI must evaluate each repair or alteration on a case-by-case basis using such factors as the certification basis of the aircraft; classification of the structure as primary, secondary, or a primary structural element; or classification as a fail-safe, safe-life, or damage-tolerant structure.

### **Airworthiness Release**

After performing any major repair, or alteration and maintenance on its aircraft, MHI shall ensure an approval for return to service is entered in the aircraft maintenance log before flight operations. The approval for return to service must;

- Include a certification that the work was performed in accordance with the requirements of Maritimes' maintenance manual.
- Type and brief description of the extent of the inspection
- Date of inspection and aircraft total time in service
- No known condition exists that would make the aircraft unairworthy; and
- Be signed by an authorized certificated mechanic, certificate number and type.

### **Scope of Maintenance**

Instructions for aircraft specific maintenance and alterations are addressed in maintenance manuals for each aircraft. Maintenance manuals have instructions, data and procedures to addresses the following areas;

#### **Scheduled Maintenance**

Individual maintenance tasks performed according to maintenance time limitations (maintenance schedule) include procedural instructions for the maintenance tasks and requirements to record the results of the inspections, checks, tests, and other maintenance. Scheduling also includes all recurring ADs and life-limited parts retirement.



## Unscheduled Maintenance

Unscheduled maintenance includes procedures, instructions, and standards for maintenance that occurs on an unscheduled or unforeseen basis. Results from scheduled maintenance tasks, pilot reports, or unforeseen events, such as high-load events, hard or overweight landings, tail strikes, ground damage, lightning strikes, or an engine over-temperature are addressed in this CAMP program. This includes instruction, standards and detailed procedures for the accomplishment and recording all types of unscheduled maintenance.

## **Maintenance Requirements for Major Aircraft Components**

### Engine Maintenance Program

MHI's maintenance program covers the maintenance of installed and off-wing engines for each engine model it operates. The installed engine requirements are contained in the maintenance time limitations program. In addition to procedural information, the off-wing program described in each maintenance manual provides scheduling information or intervals for cleaning, adjusting, inspecting, testing, and lubricating each part of the engine that it maintains. Maintenance manuals provides the degree of each inspection, the applicable wear tolerances, and the work required when the engine is in the shop using the technical data and procedures contained in the manufacturer's maintenance program.

### Propeller Maintenance Program

MHI's maintenance includes a propeller maintenance program covering installed and off-wing propellers for each model that operates using scheduled maintenance requirements, to include intervals for cleaning, inspecting, adjusting, testing and lubricating. Each propeller work card encompasses the degree of inspection, the applicable wear tolerances, and the work required at these periods to include unique tools, repair procedures, and specialized training for maintenance personnel, if required.

## **Parts and Appliances Maintenance Program**

MHI's maintenance program covers shop operations, which may include both scheduled and unscheduled tasks. MHI may conduct required shop operations at other locations other than where it performs maintenance. The program included parts and appliance, both on or off wing, defining maintenance for each part and appliance by job cards. Scheduled maintenance requirements will be contained in the maintenance time limitations section of each manual. These include defined intervals for cleaning, adjusting, inspecting, testing, and lubricating each component. The maintenance manual includes the degree of inspection, the applicable wear tolerances, and the work required when the part or appliance is in the shop.

## **Maintenance and Preventive Maintenance Personnel Duty Time Limitations**

The following section is intended to specify guidelines to ensure that Maritime mechanics have adequate rest to ensure optimum performance when on duty. In aviation maintenance, there are occasions when it is necessary to work long hours in order to maintain aircraft in an airworthy condition. It is expected that scheduled inspection and maintenance should be planned and accomplished without the need for long periods of extended work hours.

Mechanics are not authorized to have a workday that exceeds 8 hours without supervisor approval. Once approved, the workday may not exceed 12 hours. At the completion of a 12-hour workday, eight hours of rest are required prior to beginning another workday.

Mechanics are not permitted to work more than 12 cumulative hours in a 24-hour period for example; if a mechanic works 10 hours from 7AM to 5PM then goes home and is called back in at 7PM, they may only work an additional 2 hours. This restriction may be waived by a maximum of 2 hours providing; the project can be completed, verbal approval from the Maintenance Director has been given, and safety is not compromised.

Following extended maintenance of 12 to 14 continuous hours, it is recommended that a mechanic should be scheduled for an uninterrupted rest period of at least 8 hours. A mechanic should be relieved from duty for at least 24 consecutive hours following 10 consecutive extended duty days of 12 or more cumulative hours of actual aircraft maintenance activity in a 24-hour period.

This 12 hours, 10 consecutive days requirement is exclusive of "standby time" a field mechanic may experience while the aircraft is flying and only denotes hours where the mechanic is actually physically working on the aircraft.

In the event a mechanic or supervisor has to exceed 12 hours of aircraft maintenance, a report must be forwarded by the mechanic or his/her supervisor to the DOM who will record and track each exceedance event for the maintenance staff and supervisors. The report will include the mechanics/supervisors name, location, reason for the exceedance, and how many hours in excess of 12 were worked.

Environmental conditions for the above guidelines are presumed to be normal; that is, the mechanic is working outside in good weather or is protected from the elements (i.e. in a hangar, "field shelter", etc.). If the maintenance is taking place outside in very hot, cold or inclement weather, the duty times should be adjusted accordingly. Likewise, conditions inside a hangar, field shelter, etc. may require reduced duty times (temperature extremes, chemical exposure, noise exposure, etc.)

All of the items listed above shall be adhered to and not be deviated from without prior approval from the maintenance department management.



## **MAINTENANCE SCHEDULE**

### **Maintenance Schedule Overview.**

MHI maintains an inspection and maintenance schedule using manufacturers standards for determining its maintenance time limitations, specifying when scheduled inspection and maintenance must be performed including a specific list of each individual maintenance task and its associated time limit. Maritime organizes all of these individual tasks into a series of integrated scheduled work packages that provide a continuous succession of necessary maintenance tasks for the aircraft make and model developed around the aircraft manufacturers recommendations. The tasks are contained in each airframe specific maintenance manual in the appendix.

### **Maintenance Schedule Contents—General**

Unique Identifier - MHI has assigned specific identifiers to each inspection and maintenance event. This allows the individual that it assigns to do the scheduled maintenance task to identify the item easily and accurately. Each identifier is explained in the maintenance manual for each airframe.

How – Each task on job cards is specific on required manufacturers procedures to be completed in order to maintain the item. A scheduled inspection or maintenance task is a maintenance action that the CAMP performs at regular, scheduled intervals so that it can ensure that the item can continue to perform its intended function.

Frequency - Frequency is the time-in-service interval between the times when MHI accomplishes a scheduled maintenance task. MHI measures time-in-service intervals in calendar-time, operational hours, flight cycles, and other appropriate parameters such as RIN count and is annotated on each airframe CALM sheet. In addition, for task management, inventory, and audit purposes, MHI identifies the work card associated with each scheduled maintenance task to ensure that it accomplishes all of its maintenance tasks according to its schedule.

The frequency is based on manufacturer recommendations, with some differences. MHI has decreased the maintenance interval on some items and has added maintenance intervals on other items that are not included in the manufacturer's recommendations due to the operating environment.

### **Maintenance Schedule Objective**

MHI's maintenance schedule objective is to do the correct tasks at the correct interval. If MHI may decide to decrease intervals or add tasks, going through the same justification process as it would for any other change to the maintenance schedule.

### **Effective Scheduled Maintenance**

An inherent function of MHI CASS is to determine the effectiveness of its scheduled maintenance effort through operational data collection and analysis activity. Maritime will use this important function to determine the level of scheduled maintenance effectiveness and to make the necessary changes to achieve the standard of effectiveness that MHI has set. If our aircraft are unavailable for flight operations for maintenance reasons, then our scheduled maintenance program may not be as effective as it should be. There are other elements of the maintenance program besides the scheduled maintenance element that may be deficient as well, but the CASS procedures will identify the root cause and help it identify and make the adjustments/changes necessary to achieve the level of flight operations availability that it has set.

### **Maintenance Schedule Development**

The aircraft manufacturer's maintenance manual is the baseline document used to developing the maintenance schedule. The aircraft manufacturer compiles, publishes, and keeps current the inspection and maintenance schedule for a specific aircraft model and series. The manufacturer outlines the initial minimum scheduled maintenance/inspection requirements for developing a maintenance schedule for the airframe, engines, systems, and components of a particular aircraft model/series. Once the maintenance schedule is in place, MHI experience and CASS will be the main determining factors for changes that may be needed to the schedule.

### **NOTE**

Any manufactures revision to their maintenance manual does not automatically constitute an approval basis for MHI to change its existing maintenance schedule. A revision must be submitted and approved by the FSDO responsible for our 7,7 maintenance program.



## REQUIRED INSPECTION ITEMS (RII)

### RII Program

MHI personnel that perform any item of work are prohibited from performing any required inspection of that work i.e. RII. Specific RII inspection items shall be listed in the specific airframe appendix maintenance manual and must be completed by designated trained and approved MHI RII inspectors. A current list of RII inspectors are maintained by the Director of Maintenance and available to the FAA upon request.

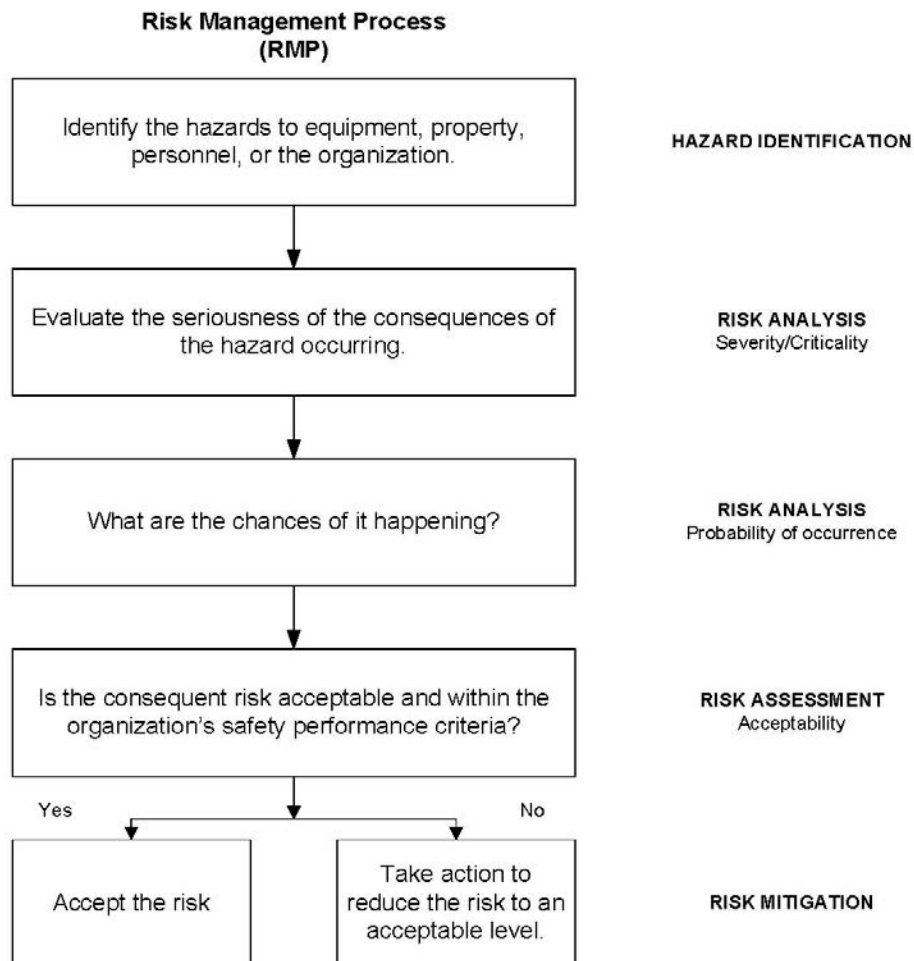
RII inspectors are the final authority as to the status of all maintenance, preventive maintenance, and alterations functions performed that require a RII approval. Only the DOM or Chief Inspector are authorized to change the determination status of an RII.

### RII Tasks

Sections 135.427(b) requires the designation of certain tasks as RIIs. This program designates those items of maintenance and alteration that it must inspect (required inspections). These items including those that could result in a failure, malfunction, or defect that endangers the safe operation of the aircraft if the person performing the maintenance or alteration has not done it properly or if they used improper parts or material. If the MHI uses a maintenance provider to perform maintenance and alterations, it may authorize a provider's employee to accomplish its RII requirement if their maintenance manual satisfies the regulatory requirements. Maritime shall only issue its authorization to an individual rather than a group or company. MHI remains primarily responsible for the performance of each RII accomplished by that person.

### RII Lists

Each CAMP Maintenance Manual identifies specific items of inspection for each aircraft type. The CAMP shall use the below process when creating or adding to the list of RII functions.





## NOTE

MHI may include additional items in its RII list that are not required by regulation and do not result from the recommended decision process. However, company additions do not diminish the significance of an RII inspections on a safety of flight items.

### RII's and Safety

The RII program relates directly to flight safety. Maritime considers all of its RIIs with the same safety of flight consideration and emphasis even if accomplishing an individual RII adversely affects flight scheduling. Whether a scheduled or an unscheduled task arises at an awkward time or at an inconvenient location, RII's shall perform their work as required by the CAMP.

### RII Requirements

RII requirements are clearly identified on forms, work cards, and other methods consistent with its maintenance program. A primary concept of the RII function is to prevent any person who performs any item of work from performing any required inspection of that work. FAA policy includes any person who provides training to another person on the work performed. MHI's maintenance manuals list RII required tasks cards to clearly identify RII procedures.

### RII Inspectors

The CAMP program designates who is authorized as a program RII inspector. Personnel authorized to accomplish RII inspections must be properly trained and qualified thru MHI RII training program for each RII task that they receive the authorization to perform. RII inspector shall be issued a RII card which identifies which airframe(s) they are trained and approved for.

An approved RII Inspector list is maintained by the DOM and available for inspection.

MHI only utilizes A&P certificated mechanics as RII. For A&P mechanics, an RII qualification card will be issued by the Chief Inspector and are not valid until signed by the Chief Inspector or the Director of Maintenance

Required Inspection Personnel are designated by the Chief Inspector. The Chief Inspector has the overall responsibility of administrating the Required Inspection Item (RII) program.

For each model aircraft authorization sought, each designated RII Inspector must have:

- A minimum of three years of working experience on that model or,
- A verifiable record of completed formal training on that model or,
- Complete the RII and Part 135 initial training program for that model or,
- Have a thorough understanding of inspection methods and procedures, and
- Successfully completed the company RII initial training course and passed the written examination.



## MAINTENANCE RECORDKEEPING SYSTEM

### Records Requirements

Maritime shall keep the all records necessary to show that all requirements for the issuance of an airworthiness release under §135.443 have been met for the periods specified in this section. An aircraft maintenance log shall be carried on board each aircraft and readily accessible to record or defer mechanical irregularities. The PIC shall enter any aircraft discrepancies that occur before and during any flight. PIC's shall review any previously entered discrepancies have been cleared and aircraft released for flight.

The Aircraft "Status Report" (CALM) is designed to be used as a tracking aid for aircraft inspections, component overhauls, airworthiness limitations, AD's, ASB's, FAR requirements, and lubrication intervals. All data is supported by a component record card or a logbook entry.

The CALM report breakdown consists of:

- Aircraft ID - Registration Number
- Model - Of Aircraft
- Serial Number - Of Aircraft
- Current hours - As of date of last update
- Task Code Number – Identification of individual line item
- Part Number - Identifies manufacturer's approved part number
- Nomenclature - For identification of each line item
- Serial Number - Of Component
- TSN/TSO at install - Total time of component when installed
- Remains - Time before overhaul, retire, or inspection.
- Current TSN/TSO - Current time on an item as of last revised status sheet da,2te
- Service Life - Manufacturer's assigned service life
- The status of all applicable airworthiness directives and recurring manufacturer's alert service bulletins are listed as to next compliance and next due.

The aircraft CALM report shall be used as a guide to ensure that time or calendar-controlled components, inspections, airworthiness directives and manufacturer's alert service bulletins shall be removed or inspected by the time or date indicated.

CALM reports shall be updated by using the actual aircraft total time logged in the aircraft Logbook.

The Director of Maintenance (or designee) will verify all changes to the CALM are true and correct.

Changes to the CALM involving component changes or maintenance complied with shall be submitted by the mechanic and verified for true and correct updates.

The CALM also includes the CAMP cycle of inspections for upcoming and completed inspections.

The following are items that shall be tracked in MHI's electronic recordkeeping system (CALM) authorized by OpSpec A025;

- The total time in service of the airframe, engine, propeller, and rotor.
- The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance.
- The time since last overhaul of each item installed on the aircraft which are required to be overhauled on a specified time basis.
- The identification of the current inspection status of the aircraft, including the time since the last inspections required by the inspection program under which the aircraft and its appliances are maintained.
- The current status of applicable airworthiness directives, including the date and methods of compliance, and, if the airworthiness directive involves recurring action, the time and date when the next action is required.
- A list of current major alterations and repairs to each airframe, engine, propeller, rotor, and appliance.

The CALM shall be used as a guide to ensure that time or calendar-controlled components, inspections, airworthiness directives and manufacturer's alert service bulletins shall be removed or inspected by the time or date indicated. The Status Report shall be updated by using the actual aircraft total time logged in the aircraft Logbook.

The Director of Maintenance (or designee) will verify all changes to the Aircraft Status Report are true and correct.

Changes to the CALM involving component changes or maintenance complied with shall be submitted by the mechanic and verified for true and correct updates. CALM reports also shall include the cycle of inspections for upcoming and completed inspections.



**Records Keeping**

The record keeping requirements of 14 CFR 91.439 will be complied with in the following manner. The following items will be mailed to Maintenance on a weekly basis:

- The yellow sheet of the Aircraft Log Book.
- A copy of any entries made in the engine log book (or the original engine log book page when it is filled full).
- Original versions of all maintenance release forms.

The Director of Maintenance or a designated representative will ensure that a current CALM Status Reports are posted weekly to the MHI Maintenance Portal and contain the following sections:

- Items Due.
- Airframe Components / Inspections.
- Airframe Bulletins.
- Airframe ADs.
- # 1 Engine Components / Inspections.
- # 1 Engine Bulletins.
- # 1 Engine ADs.
- # 2 Engine Components / Inspections.
- # 2 Engine Bulletin.
- # 2 Engine ADs.

These listings will be used by the pilot and mechanic to determine the airworthiness of the aircraft and to schedule maintenance. None of the above listings is considered part of the permanent aircraft record. CALM status reports shall be compared to the new copies to verify that all changes made are valid. Once the new copies are verified (or corrected by direct consultation with maintenance personnel), the old forms may be disposed of.

Records of the maintenance, preventative maintenance, under the CAMP and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, or appliance of an aircraft will be retained at a minimum until the work is repeated or superseded by other work or for one (1) year after the work is performed §135.65 (d).

Records containing total time in service and/or current status of life limited part and/or time since overhaul of each airframe, engine, propeller, and rotor as well as the current inspection status of the aircraft, will be retained and transferred with the aircraft at the time the aircraft is sold.

Records containing the current status of applicable Airworthiness Directives (AD) including, for each, the method of compliance, the AD number, and revision date, are transferred with the aircraft or the time the aircraft is sold. Maintenance records will be available for inspection by the FAA or authorized representative of the NTSB.

**Airworthiness Release Log Entry**

An airworthiness release or an appropriate entry in the Aircraft Logbook shall be made by an authorized mechanic after maintenance has been performed on an aircraft.

Maintenance performed shall have an airworthiness release signed by a certified and authorized mechanic or inspector.

MHI mechanic shall make an appropriate entry in the Aircraft Logbook and Maintenance Discrepancy worksheet as follows:

- A description of work performed.
- Date of completion of work performed.
- Type of Certificate and Certificate Number of person(s) approving work performed.
- Signature of person approving work performed.

Inspections completed in accordance with MHI CAMP shall be made as described in the individual inspection forms.



Completion of task cards certifies the following:

- The required entries were prepared in accordance with the procedure in MHI CAMP.
- All work was performed in accordance with the requirements of MHI's Continuous Airworthiness Maintenance Program.
- All required items were inspected by an authorized mechanic who determined that the work was satisfactorily completed.
- So far as the work performed is concerned, the aircraft is in a condition for safe operation.
- The signature of the authorized person constitutes the approval for return to service only for the work performed.

All components removed or installed that have a time, cycle, RIN, or calendar life limit shall have the total time, time since inspection, time since overhaul, total cycles, total flights/landings, and calendar date, of both the removed and installed items, as applicable. This information will be entered in the Aircraft Logbook, Engine Logbook (s), and Maintenance Discrepancy worksheet as required.

Recurring Airworthiness Directives shall require the time and/or date and when the next action is due, to be entered in the Aircraft Logbook, Engine Logbook (s), and Maintenance Discrepancy worksheet as required.

All discrepancies noted during CAMP inspection(s) shall be recorded and rectified in the aircrafts logbook before approval to return to service.

Upon satisfactory completion of each maintenance item work card, the mechanic shall initial the pertinent space as provided. All mechanics shall sign and initial, in the space provided, at the end of the form.

At the completion of each CAMP task card, an A&P mechanic shall check the entire form for completion and then enter his/her signature, certificate type and number, and date in the space provided at the end of the form. The same individual is also responsible for assuring the CAMP inspection form is current with the CAMP published on the MHI Portal and making the logbook entry shown at the conclusion of this inspection.

#### NOTE

If a manufacturer extends (escalates) the recommended inspection interval, Maritime shall request FAA approval for the new manufacturer inspection interval using the Temporary Revision process (2.14) to facilitate compliance until the CAMP has been revised. The request shall be accompanied by a copy of the manufacturer's recommendation.

#### Inspection Forms

MHI's Continuous Airworthiness Maintenance Program inspection work cards provide the necessary instructions and procedures to conduct aircraft (airframe, engines, propellers, and appliances, including emergency equipment) inspections. Completed work cards will remain on record for each CAMP inspection until superseded by the next same inspection.



## **CONTRACT MAINTENANCE**

### **Maintenance Providers (Contract Maintenance)**

Contract maintenance means any maintenance, preventive maintenance, or alterations accomplished by an MHI maintenance provider. MHI may contract a maintenance function pertaining to an article to an outside source provided that the FAA approves the maintenance functions contracted to the source per the requirements of Title 14 CFR §135.426.

All maintenance and inspections performed on aircraft that are being operated under Maritime's Continuous Aircraft Maintenance Program by maintenance facilities other than MHI, shall be done in accordance with this CAMP program. A copy of the CAMP shall be provided and appropriate training for the particular job shall be performed, if required.

MHI may contract to a maintenance provider for essential maintenance, regularly scheduled maintenance or a required inspection as authorized in §135.437(a) provided:

- MHI provides a listing to include a description of the type of maintenance, preventative maintenance, or alteration that is to be performed at each location that includes the name and physical (street) address, or addresses, where the work is carried out for each maintenance provider the performs work. The list must be updated with any changes, including additions or deletion and the updated list provided to the FAA in a format acceptable to the FAA by the last day of each calendar month.
- MHI verifies the maintenance provider is under a FAA DOT approved Drug and Alcohol Testing Program
- MHI verifies by test and/or inspection that the work has been performed satisfactorily before approving it for return to service;
- MHI remains directly in charge of all covered work performed. All covered work must be carried out I/A/W MHI Maintenance Manuals §135.427(b)(10).

### **NOTE**

An MHI representative directly in charge of covered work does not need to physically observe and direct each maintenance provider constantly but must be available for consultation on matters requiring instruction or decision.

If for any reason a subcontracted article is rejected as being non-airworthy, it will immediately be quarantined and the proper disposition shall be made, such as to scrap or return to vendor.

The Director of Maintenance is responsible for the contract maintenance program.

### **Maintenance Provider List**

Each aircraft Maintenance Manual listed in the CAMP appendix shall list each person it arranges for the performance of maintenance, preventive maintenance, and alterations. This requirement applies to all maintenance providers that MHI directly arrange for the performance of maintenance, preventive maintenance, and alterations such as a repair station.

### **NOTE**

The requirement does not apply to persons that perform contract maintenance for the repair station under § 145.217. This policy only applies to the list required by § 135.427(a). This policy does not relieve Maritime from its responsibilities for the performance of all maintenance and the airworthiness of its aircraft, regardless of who is or is not listed in this manual.

Maritime shall identify each of its maintenance providers by name, location, and a general description of the work they perform to include the description of work for its maintenance providers using the following five categories;

- Aircraft maintenance
  - Heavy maintenance
  - Line maintenance
- Aircraft engine work
- Propeller work
- Component work
- Specialized service

If for any reason a subcontracted article is rejected as being non-airworthy, it will immediately be quarantined and the proper disposition shall be made, such as to scrap or return to vendor.

The Director of Maintenance is responsible for the contract maintenance program.



MHI shall provide to its FAA Certificate Holding District Office, in a format acceptable to the FAA, a list that includes the name and physical (street) address, or addresses, where the work is carried out for each maintenance provider that performs work on any MHI aircraft certificated for 10 seats or greater. The list shall include a description of the type of maintenance, preventive maintenance, or alteration that is to be performed at each location. The Chief Inspector shall maintain the list and is responsible to update with any changes, including additions or deletions. Any updates to the list must be provided to the FAA in a format acceptable to the FAA by the last day of each calendar month.

If MHI operates more than one type of aircraft, the categories shall include the type of aircraft. MHI shall include the type of specialized service or the kind of component, as appropriate. MHI shall use these lists for its CASS functions and will have a level of detail of the maintenance provider for surveillance and audit planning functions.

If for any reason a subcontracted article is rejected as being non-airworthy, it will immediately be quarantined and the proper disposition shall be made, such as to scrap or return to vendor.

### **Essential Maintenance Provider**

MHI maintains a maintenance provider list of maintenance providers who accomplish essential maintenance. The list identifies the specific required inspection that it has authorized each essential maintenance provider to accomplish.

### **Responsibility for Maintenance**

When MHI uses a maintenance provider to accomplish all or part of the maintenance activities on its aircraft or its component parts, that maintenance provider becomes part of our maintenance organization and must be under Maritime's control and remains primarily responsible for all maintenance performed. MHI must determine that the maintenance provider has the capability to do work on our behalf, manage its work, and determine that it does the work satisfactorily according to the Maritimes' manual and standards. MHI shall provide the maintenance provider with appropriate material from its maintenance manual for that work.

### **Policy and Procedures**

MHI shall ensure that the maintenance provider follows the procedures in the maintenance manual that it has provided. MHI will accomplish this when able, through work-in-progress audits while the maintenance provider is actually accomplishing the work.

The policy and procedures portion of each airframes maintenance manual clearly assigns authority, responsibilities and outlines the procedures for its personnel to administer, control, and direct all contract maintenance. MHI must provide technical material for the use and guidance of the maintenance provider.

When possible, MHI shall have a written contract with anyone performing contract maintenance for it on a continuing basis, helping ensure that the maintenance provider addresses all responsibilities. In the case of major operations, such as engine, propeller, or airframe overhaul, the contract should include a specification for the work.

### **Unscheduled Maintenance Away from Base**

MHI will occasionally need maintenance performed on its aircraft while it is away from its regular maintenance facilities. MHI's maintenance manuals include procedures for obtaining these services under these unanticipated conditions and outlines the procedural steps that it will take to control and direct the unscheduled maintenance accomplished by its maintenance provider.

Maritime is directly responsible to determine the maintenance provider has the organization, adequate facilities and equipment, competent personnel, and appropriate portions of Maritimes' manual(s) for the work the maintenance provider needs to complete. MHI shall take into consideration these determinations before any maintenance provider starts to work on its aircraft. Procedures and a method of determination are contained in each appendix of the airframe's maintenance manual.

Any vendor or contractor must be approved and listed on MHI's Approved Vendor list prior to performing maintenance on MHI aircraft. The approved vendor list shall be kept on file in Maintenance Office.

The MHI Individual that is managing large projects will review the work performed and ensure records and log book entries are sent to MHI's Maintenance Department for review. FAA Form 337's will be reviewed by the Maintenance Department. These records will be reviewed and a new Status Sheet will be sent to the Vendor to verify all items are completed and no maintenance is due prior to releasing the aircraft from the Vendor.

The duty mechanic or a company A & P mechanic will inspect all maintenance performed by an outside vendor as soon as the aircraft returns to determine that such work is satisfactory and the necessary log book entries are made. If the aircraft comes back from major maintenance and/or refurbishment, the mechanic shall review all paperwork, log book entries, and 337's to ensure no additional ICA inspection items are required. If any "additional" inspection requirements are generated by a modification, the mechanic will verify that this requirement has been entered in the applicable computerized tracking system (CALM) for compliance.



## **Airworthiness Release Form or Aircraft Log Entry**

MHI is approved to return to service its aircraft, airframes, aircraft engines, propellers, or appliances after any maintenance, preventive maintenance, and alterations. Approval for return to service must be entered by an MHI certificated A&P mechanic that it authorizes to make the log book entry or issue the Airworthiness Release Form. An individual may not issue an approval for return to service for Maritime aircraft unless MHI authorizes them to do so.

### Log Entry or Airworthiness Release Form

MHI designates each individual authorized to execute the log book entry or Airworthiness Release Form by name and occupational title. The individual making the log book entry or Airworthiness Release Form acts as the Maritimes' authorized agent. He or she certifies that they accomplished the maintenance according to Maritimes' maintenance manual and maintenance program procedures and that no known condition exists that would make the aircraft non-airworthy. This arrangement does not reduce the responsibility of maintenance personnel to accomplish maintenance functions or tasks in accordance Maritimes' manual.

### Procedures for Log Entry or Airworthiness Release Form

MHI's maintenance manual includes the procedures for making an aircraft Airworthiness Release Form or log book entry. A log book entry or complete an Airworthiness Release Form will be completed before operate aircraft for any reason after the accomplishment of any maintenance.

## **New Contract Maintenance Providers**

Before Maritime can use a maintenance provider for the first time, it must determine that the maintenance provider candidate complies with pertinent requirements of Part 135 subpart J. In most cases, MHI will conduct an onsite audit to the maintenance provider has an adequate organization, adequate facilities and equipment, and competent personnel, and is capable of performing the work consistent with the requirements of Maritime's maintenance program. Maritime shall use a risk assessment process to determine whether or not to accomplish an onsite audit taking into account what happens (the failure effect) when the aircraft part or aircraft system that the maintenance provider works on fails. If the failure effect is safety, Maritime shall conduct an initial onsite audit along with recurrent onsite audits.

MHI Air Carrier Certificate ENRA619D, has arranged with MHI Certified Repair Station ENRR619D and Fairbanks Satellite Repair Station EN2D619D to be the primary contractor to conduct its required inspections and the repair and overhaul of components and appliances in accordance with MHI Inc. Air Carrier ENRA619D CAMP maintenance programs.

Other outside contractors will be evaluated, before utilizing them, on a case by case basis to ensure MHI and applicable regulatory standards are met.

Maritime will ensure the airworthiness of its aircraft by conducting audits through its Continuing Analysis and Surveillance System (CASS). This system audits the Repair Station and its vendors to ensure compliance with all maintenance programs and the Federal Aviation Regulations.

The Vendor Audit program is conducted by the Inspection Department, and questionnaires are sent electronically or in hard copy form to the individual vendors every two years. A current vendor list is maintained in the Maintenance Records Office.

Should maintenance or servicing needs occur outside of MHI's normal operation area, the pilot in command becomes responsible for:

- Obtaining permission from the Director of Operations, Director of Maintenance, or his representative, prior to having corrective maintenance performed.
- Ascertaining that maintenance personnel involved are either employees of an FAA Certified Repair Station or are properly certificated airframe and power plant mechanics or certificated repairmen, as appropriate. The pilot in command shall ensure that the persons involved are subject to the requirements of an FAA Approved Drug Program in accordance with 14 CFR Part §135.251(b).
- Assuring that maintenance performed is properly recorded and signed off in the A/C logbook by those involved.

## **NOTE**

Since the failure effect of parts and systems come under essential maintenance relates to safety, MHI must use current policies and procedures to qualify, supervise, and control these maintenance providers, which should include onsite audits.

**Continuing Maintenance Provider Oversight**

The CASS program shall ensure thru auditing and inspecting that each one Maritimes' maintenance providers is in continuous compliance or function of the MHI CASS program using its risk-based process. Inherent with a risk-based process Maritime may determine that some of its maintenance providers do not require an onsite audit. Consistent with the "performance" wording of §135.431, the audits that Maritime accomplishes should be primarily work-in-progress audits that serve to determine that our providers are following Maritime's maintenance manual. The audits shall be accomplished by trained auditors, and the results analyzed by trained analysts. The results of the analysis permit Maritime to determine each maintenance provider's continuing compliance with Part 135 subpart J, as appropriate, and this CAMP maintenance program.

All inspections and maintenance performed on aircraft that are being operated under Maritimes' Continuous Airworthiness Maintenance Program by maintenance facilities other than MHI shall be done in accordance with our Continuous Airworthiness Maintenance Program and Maintenance Manuals. A copy of this CAMP and appropriate maintenance manual shall be provided by either the DOM or Chief Inspector.

**Contract maintenance inspection procedures**

Any work performed by another entity for MHI will be received through the inspection and quality control system. This inspection will serve to verify that the documentation received with the article verifies the authenticity of the part and work performed. The documentation reflects the work performed and the article has been returned to service by the certificated contracted entity. For an article that has work performed by a non-certificated entity, the work will be inspected and returned to service, if found acceptable, by the installing mechanic. The individual performing this return to service must be properly trained and on the inspection roster. At no time shall any articles made by or previously worked on by a subcontractor be installed until the inspector has approved the articles as airworthy.

If for any reason a subcontracted article is rejected as being non-airworthy, it will immediately be quarantined and the proper disposition shall be made, such as to scrap or return to vendor.

Any company subject to product rejection during MHI's receiving inspection process shall have a Corrective Action Request (CAR) initiated by the Chief Inspector. The Chief Inspector shall submit the CAR to the contractor requesting completion and return to his/her office. The corrective action provided shall determine acceptability for the contractor to remain MHI's Vendor/Contractor List (MHI Form 026).



## **PERSONNEL TRAINING**

### **General**

Training on MHI's Continuous Airworthiness Maintenance Program will be conducted on an individual basis. It shall be the inspecting mechanic's responsibility to read and understand the contents of this CAMP prior to implementing and/or participating in the CAMP. Training is conducted in accordance with MHI FAA Approved Part 135 Maintenance Training Program to include computer and web-based instruction.

### **Needs Assessment**

A training needs assessment is used to identify MHI's overall CAMP and individual employee training needs and shall be performed by the Chief Inspector as a method for defining areas of study and/or courses/lessons. The needs assessment is used in documenting employee qualifications and training and used to measure the effectiveness of the Part 135 CAMP training and to make changes as necessary.

To determine MHI's overall training requirements, the Chief Inspector and Director of Maintenance will review MHI's Operations Specifications (OPSS); current Capability List; job position duties and responsibilities. This will provide a general outline and description of skills, knowledge and expertise that MHI maintenance employees should possess. This assessment will include areas including but not limited to the following:

- 14 CFR Part 135 operations and procedures;
- Aircraft maintenance, troubleshooting, handling;
- Aircraft avionics systems, maintenance and handling;
- Awareness of electrostatic discharge (ESD);
- Inspection of aircraft, articles, components;
- Returning aircraft and articles to service;
- Receipt and handling of aircraft materials and components thereof;
- Usage of technical data;
- Human factors in aircraft maintenance;
- Hazardous Material handling;
- Specialized Services.

MHI continuously evaluates its overall training needs. However, MHI will specifically revise the CAMP training module when:

- It identifies additional training needs;
- Changes to its ratings, facilities, equipment, or work scope require additional training areas, classes, or lessons;
- Significant changes to industry standards or regulations occur;
- New complex tooling or equipment is obtained;
- Addition of new model aircraft.

### **Maintenance Program Training Requirements**

CFR Part 135.433 require Maritime to have a training program. The program ensures each person (including inspection personnel) who determines the adequacy of work completed for Maritime, is properly trained on procedures, techniques, and new equipment in use and that each person is competent to perform his or her duties. Maritime is responsible to provide competent personnel for the proper performance of its maintenance program.

### **Types of Training**

Types of training in Maritimes' training program are initial, recurrent, specialized, competency-based training, remedial and maintenance provider training. Maritime bases the appropriate training for its personnel, including its maintenance provider personnel, based on an assessment of training needs. This assessment is a reflection of the required knowledge, skills, and ability to accomplish a given task or function properly and the current capability of those whom Maritime assigns a particular task or function.

### **Initial Training**

Maritime shall provide initial training right after it hires an employee, when its existing employees begin to work on new equipment, or when the Maritime gives the employee a new assignment. The initial training program will include subjects such as:

- Employee indoctrination or orientation,
- Maintenance department policies and procedures,



- Maintenance recordkeeping and documentation,
- Aircraft systems or ground equipment,
- Specific skills (e.g., avionics, composite repair, aircraft run-up and taxi),
- Skills upgrade,
- Safety Role
- Human factors,
- Task-specific training,
- Hazardous materials (HAZMAT) or Environmental Protection Agency (EPA) regulations, and
- Occupational Safety and Health Administration (OSHA) regulations familiarization.

**NOTE:**

Initial training must include a competence-based assessment of employees thus evaluating an employee's previous training and experience and helps identify his or her specific individual training needs. The objective is to provide training that addresses the gap between required competence and the competence an individual already has.

### **Recurrent Training**

Recurrent training is education occurring on a repetitive basis. Recurrent training provides maintenance personnel with the information and skills necessary to maintain its standard of competence. This training also accommodates the introduction of new aircraft; aircraft modifications; new or different ground equipment; new procedures, techniques, and methods; or other new information. Maritimes' recurrent training, although occurring on a repetitive basis, may not adhere to a defined schedule. Maritime shall not provide repetitive information in recurrent training unless it is required to maintain personnel at a desired degree of competence.

Maritimes' current training may include:

- Continuing competency training designed to maintain regulatory and certificate currency requirements.
- Refresher training on a seldom-accomplished task or seldom-used skill.
- Update training for particular tasks or skills. Update training can include training bulletins, bulletin-board items, self-study tasks, and computer-based instruction (CBI).
- Any other continuing education or training that it may not provide on a defined schedule.

### **Specialized Training**

Specialized Training is used to provide instructions to address requirements of specific task and/or to provide initial training required for critical task authorizations, i.e., RII, Airworthiness Release, etc. Maritimes' specialized training focuses on competence in specific tasks or areas of responsibility, such as RII, borescope, nondestructive testing, or flight control rigging. Maritime shall provide this training with initial or recurrent training. Maritime training may include management skills training for new supervisors operation control personnel, computer skills, or other training necessary because of a change in an individual's duties and responsibilities.

### **Maintenance Provider Training**

Maritimes' training program shall provide appropriate information to each employee of a maintenance provider about its specific program. This training includes function-specific training appropriate to each person's job assignment or area of responsibility. Maritime is not required to provide training to maintenance provider personnel in areas that do not concern them. For example, training on aircraft log procedures and minimum equipment list (MEL) procedures would not be required for aircraft interior cleaners, but would be required for maintenance personnel assigned to on call maintenance for Maritime.

**NOTE**

If Maritimes' maintenance provider has specific types of training for its personnel, Maritime is not required to duplicate that training for those individuals. However, Maritime shall ensure that its maintenance provider has actually provided the training and that the training meets Maritimes' own needs and training standards. This may be addressed in a CASS work-in-progress audit.

### **Competency-Based Training**

Maritimes' training generally provides a specified number of maintenance training hours to ensure that employees have the competencies needed for their jobs or to a competency-based standard although Maritime does not have to perform this type of training on a defined schedule or for a specific number of hours. To this, Maritime may test each individual to evaluate what training he or she needs, and then use these evaluations to identify those personnel who retain a high level of subject competence and who may not require a particular block of instruction. Conversely, Maritime shall identify those individuals who require more training. Training to a competence level permits Maritime to tailor training programs to the specific requirements of its individual maintenance personnel and maintenance providers.



**Required Inspection Personnel Training**

Required Inspection Personnel are designated by the Chief Inspector. The Chief Inspector has the overall responsibility of administrating the Required Inspection Item (RII) program.

All perspective RII inspectors shall go thru the RII training program to include testing. A minimum score of 70% is required. The inspector shall be added to the RII Roster upon successful completion of the course and issued an MHI RII Inspector Authorization Card.

Sample RII Inspection Authorization Card;

| Front                                                                                                                                                                                                                                                                                                                                                                                                                                     | Back                                                                                                                                                                                                                                                                                                                                                                                                         |      |                     |          |                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| <p>Maritime Helicopters, Inc.</p> <p><b>RII INSPECTION AUTHORIZATION</b></p> <p>This is to certify that Joe Mechanic/repairmen certificate number 341234771 is authorized to exercise the privileges of the RII Inspector in accordance with the Maritime Helicopters CAMP, has demonstrated competency in this area and accepts the responsibilities of a Maritime Helicopters RII Inspector.</p> <p>_____<br/>Technicians Signature</p> | <table border="1"><thead><tr><th>Date</th><th>Authorized Aircraft</th></tr></thead><tbody><tr><td>12/15/19</td><td>DHC – 400 RII Inspector</td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></tbody></table> | Date | Authorized Aircraft | 12/15/19 | DHC – 400 RII Inspector |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                      | Authorized Aircraft                                                                                                                                                                                                                                                                                                                                                                                          |      |                     |          |                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12/15/19                                                                                                                                                                                                                                                                                                                                                                                                                                  | DHC – 400 RII Inspector                                                                                                                                                                                                                                                                                                                                                                                      |      |                     |          |                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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**When to Require Competency-Based Training**

Maritime may use competency-based training to raise an employee's level of competence to that level required by the individual's duties and responsibilities. Maritime shall determine thru observation if an individual requires competency-based training. MHI may determine the need for this type of training through pre-or post-employment testing, or through the analysis and corrective action functions of our CASS. Competency-based training specifically addresses the lack of competence. In some instances, competency-based training may consist of an appropriately knowledgeable person simply reviewing procedures with an employee through on-the-job training (OJT). MHI may design competency-based training, if needed, to fix an immediate knowledge or skill deficiency; training may focus on one individual or a small group or include this training in its initial or recurrent training requirements.

- Competency Deficiencies
  - For those circumstances where Maritime identifies a competency deficiency through investigation of an event, competency-based training to show an individual what happened, why it happened, and demonstrate, in a positive manner, how to prevent it from happening again.
- Competency Improvement Training
  - Competency improvement provides training to correct personnel competence deficiencies that has identified through its CASS.

Employee Skill Survey, Form TR-007 is used to evaluate an individual and determine his/her previous work experience, knowledge, and skill set. A resume may be provided in lieu of completing page 1 of Form TR-007 so long as it contains all required details of the Employee Skill Survey, Form TR-007.

**NOTE**

An oral interview may also be required to ensure a thorough understanding of the individual's previous work experience, knowledge, types of airframes and skill set. This oral interview will be accomplished by the appropriate departmental head or his/her designee.

**NOTE**

The preferred method of demonstrating past training is through copies of certificates, transcripts, diplomas, military training completion, etc.

**Remedial Training**

Remedial Training will be administered in the event of repeated job tasks/assignment deficiencies at the discretion of the Director of Maintenance and/or the Chief Inspector. Remedial Training will be conducted by a delegated training instructor, Director of Maintenance, Chief Inspector, Lead, or Inspector.



## **CONTINUING ANALYSIS AND SURVEILLANCE SYSTEM**

### **Basic Goals of the Program**

MHI has established and maintains a system for the Continuing Analysis and Surveillance (CASS) of the performance and effectiveness of its maintenance program that covers maintenance, preventive maintenance, other maintenance and alterations. It contains processes and procedures for the correction of any deficiency in those programs, regardless of whether those programs are carried out by Maritime or by another person.

The primary goal of the CASS program is to;

- Ensure continued airworthiness by controlling system and component reliability. This is achieved by using monitoring methods to establish realistic maintenance task and periods to measure deterioration or failure.
- Determine the reliability of systems and structures by monitoring and recording system and components malfunctions using condition monitoring as a primary measure of the effectiveness of processes laid down in the maintenance program.

Additional goals are:

- Recognizing the need for the corrective action and establish the method of corrective action and its effectiveness, thereby improving reliability. Corrective actions may include modification action, introduction of, or changes to life limitations (overhaul, retirement) introduction or revision of inspection requirement.
- Raising statistical evidence of reliability, upon which to base corrective actions and to assist in performance improvement negotiation with manufacturers, repair organizations and internal workshops, further improving reliability.
- Highlighting failure rate patterns, thereby initiating investigation and subsequent remedial action.

### **Correcting Deficiencies**

When it is revealed that a component or system shows an excessive failure rate, an investigation is conducted to determine the cause.

The following areas are examined:

- • Training
- • Maintenance and Operations Procedures
- • Test Equipment
- • Manuals

Contact with and assistance from applicable manufacturers, vendors or other operators with similar equipment may be used to determine if the failure is inherent to the design. The results of the investigation, along with any recommended corrective action, are presented at the next CASS meeting.

When a corrective action is required for problems discovered by the CASS program, the committee will decide on the corrective action and delegate the responsibility of implementing the corrective action to the appropriate department. Status of the corrective action will be reviewed at the next CASS meeting.

Problems concerning mechanical discrepancies, spare parts, scheduled maintenance, MEL items, etc. are discussed with the Director of Maintenance and corrective action taken, if required.

The Compliance Action Notice or CAN Memo system may be used to initiate corrective action on deficiencies if immediate action is indicated. Revisions to maintenance programs, additional training, changes to policies and procedures, changes to time limitations, or other changes, will follow as necessary.

### **CASS Personnel**

#### **Director of Maintenance**

The Director of Maintenance shall ensure that a Continuing Analysis and Surveillance System is introduced and operated to meet the requirements of MHI and Federal Aviation Regulations. The Director of Maintenance also has the responsibility to ensure sufficient properly certificated, trained and authorized personnel are available and suitably assigned to perform the continued maintenance program, reliability, monitoring, and improvement functions. The Director of Maintenance makes all assignments for surveillance and any subsequent investigations. The Director of Maintenance shall delegate personnel to fulfill the duties and responsibilities of the program.

#### **Chief Inspector**

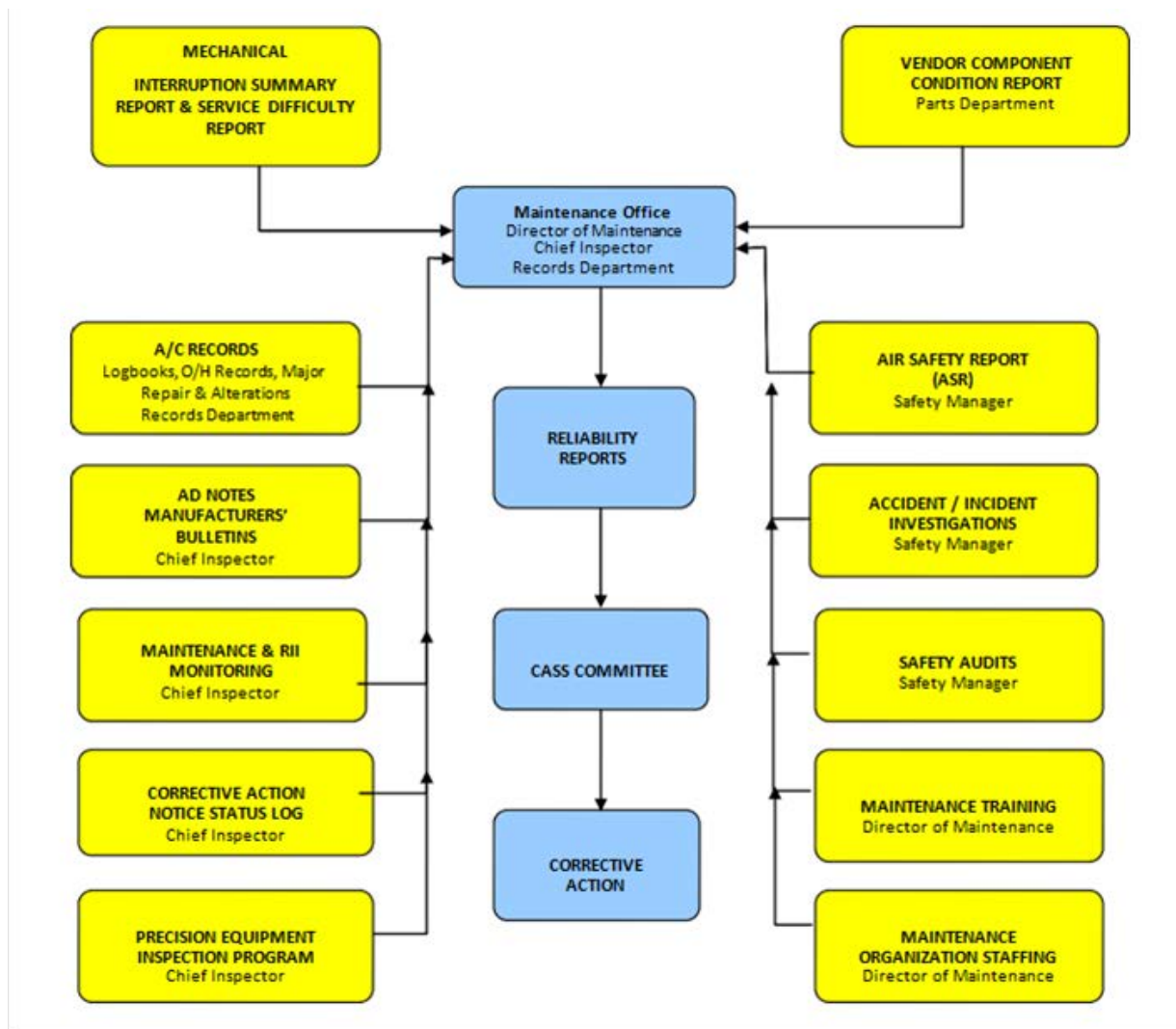
The Chief Inspector is responsible for ensuring procedures by which technical data is analyzed are in place and followed. The Chief Inspector also has responsibility for approving revisions to and determining compliance with the Continuous Airworthiness Maintenance Program.



## Quality and Safety Manager

The Quality and Safety Manager is responsible for Maritimes' CASS program. The Quality and Safety Manager has been trained in auditing and analysis skills particularly those related to root cause determination, risk analysis, and human factors and has the required specific training and experience to administer the program.

## Program Flow Chart



## CASS Processes

Surveillance - An information gathering/audit process that Maritime uses to collect data to measure Maritimes' program execution and results.

Analysis - An analysis process that Maritime uses to identify any maintenance program deficiencies and any necessary corrective actions.

Corrective Action - A planning process that Maritime uses to ensure that it implements its corrective actions.

Follow-up - A performance measurement process that Maritime uses to verify that its corrective actions are effective. This is also an information-gathering and analysis process, thereby closing the loop.

**Surveillance**

Initial and follow-up surveillance can and should have proactive and reactive aspects to them. Maritimes' surveillance gathers data using an internal audit program to support measurement of performance (program execution). Maritimes' primary type of audit is work-in-progress that evaluates if the worker is following the manual, looking at areas such as manuals and other maintenance technical data, aircraft condition, actual in-process maintenance practices, training, publications, and ground operations.

Maritimes' analysis of operational performance data from a systems point of view can result in identification of a system's weakness before a specific unwanted event (such as a cancellation) occurs, which is a proactive process. Investigating and correcting an undesirable operational event related to the maintenance program after it has occurred, though reactive, also is a necessary and desirable procedure.

**Data Analysis and Responsibilities**

Maritime shall analyze the data to identify indications of maintenance program weaknesses. Additionally, Maritime gathers data that will support the measurement of effectiveness of the CASS program, generally a collection of flight operational data such as accidents/incidents, mechanical delays and cancellations, in-flight engine shutdowns, unscheduled landings, engine performance, pilot logbook write-ups, and unconfirmed components or parts removals.

CASS audits and analyzes the following;

|     | <b>Data</b>                                     | <b>Responsibility</b>          | <b>Source</b>                                                                    | <b>Method of Collection</b>                                     |
|-----|-------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------|
| 1.  | Aircraft Records                                | Chief Inspector                | Logbooks, Historical Records, Overhaul Records, Major Repair and Alteration Data | Continual review of maintenance discrepancy data base           |
| 2.  | Service Difficulty Report                       | Director of Maintenance        | Aircraft Safety Reports (ASR)                                                    | Submitted by Safety Department                                  |
| 3.  | Airworthiness Directives                        | Chief Inspector                | FAA                                                                              | Compliance Action Notice                                        |
| 4.  | Manufacturer's Bulletins                        | Chief Inspector                | Manufacturer                                                                     | Compliance Action Notice                                        |
| 5.  | Malfunction or Defect Report                    | Director of Maintenance        | FAA Form 8010-4                                                                  | Daily review of maintenance discrepancies                       |
| 6.  | Mechanical Interruption Summary Report          | Chief Inspector                | Form located in General Maintenance Manual                                       | Submitted by maintenance technicians                            |
| 7.  | Accident/Incident Investigations                | Safety Department              | Aircraft Safety Reports                                                          | Submitted by Safety Department                                  |
| 8.  | Vender Component Condition Report               | Parts Department               | Vender Component Condition Report                                                | Submitted by Parts Department                                   |
| 9.  | Measuring and Test Equipment Inspection Program | Repair Station Chief Inspector | Measuring and Test Equipment Program                                             | Measuring and Test Equipment Calibration Verification data base |
| 10. | Maintenance Training                            | Director of Maintenance        | Maintenance Training Department                                                  | Continual review of Maintenance Training Records                |
| 11. | Compliance Action Notice                        | Chief Inspector                | Form located in General Maintenance Manual                                       | Compliance Action Notice log                                    |

**Corrective Action**

Based on the results of the analysis, MHI develops a corrective action, if necessary, taking human factors into account so that its corrective action is likely to be successful. Once it is determined what the corrective action is, Maritime will develop and implement a corrective action plan, record it, then follow-up to measure effectiveness.



## Follow-up Measurement Process

Using the data collected by the CASS, a System Reliability Report is compiled and published quarterly unless otherwise requested.

The report contains data collected from aircraft records, Service Difficulty Reports, Mechanical Interruption Summary Reports, Aircraft Safety Reports, and Vender Component Condition Report.

Follow-up measures shall include;

- Repetitive defects are monitored on a continuous basis by the Director of Maintenance and the Chief Inspector. Findings and actions are evaluated and presented at quarterly CASS meetings.
- Actions requiring change to the CAMP Maintenance Program are presented by the Chief Inspector at the CASS meeting.
- Review of operator's reliability reports, OEM requirements and warranty reports are carried out on a progressive basis. An overview of findings is reviewed at the CASS meeting where appropriate.
- Where an item of significance is noted, the Director of Maintenance or the Chief Inspector will notify the CASS Committee of the detailing the cause and summarizing initial investigation actions.
- The Air Safety Report log is reviewed by the CASS Committee for any required resultant actions.
- Comparison of operational reliability is made with established or allocated standards where appropriate.
- The Director of Maintenance or the Chief Inspector recommend changes to the Maintenance Program pertaining to possible maintenance practices to improve reliability and recommend changes to overhaul/repair agencies, if considered necessary, at the CASS Committee Meeting.

## Risk-Based Decisions

Maritime's CASS takes into account the need to manage risk to an acceptable level, as well as the practical limitations that Maritime must face when addressing deficiencies. Consequently, Maritime will set priorities and make choices for planning audits and other information-gathering activities, analyzing data, and selecting and implementing corrective actions. Maritime shall tie setting such priorities directly to a risk assessment process, so that the resulting maintenance program achieves its objectives.

## Scope of CASS

- Airworthiness responsibility,
- Maritime CAMP and Maintenance Manual,
- Maritime maintenance organization,
- Accomplishment and approval of maintenance and alterations,
- Maintenance schedule,
- RIIs,
- Maintenance recordkeeping system,
- Contract maintenance,
- Personnel training, and
- CASS.

## Attributes of System Safety

- Clear authority,
- Clear responsibility,
- Specific written procedures,
- Effective controls,
- Performance measures, and
- Well-defined interfaces.



## **CASS Design**

Maritime shall not divide responsibility/authority into two or more parts due to the likely possibility that activity such as auditing and operations data analysis are poorly coordinated. Maritimes' CASS committee ensures good communications and coordination of all CASS functions, maintaining regular senior level management involvement. This oversight group provides a form of control over critical aspects of Maritimes' CASS operation and measure the performance and effectiveness of the CASS itself.

## **CASS Meetings**

In addition to the many elements within Maritimes' maintenance organization, there are many interfaces between the CASS and functions or organizational elements of Maritime that are outside maintenance. Interface occurs at quarterly CASS meetings. Included in the CASS program meetings are flight operations and safety.

When a corrective action is required for problems discovered by the CASS program, the committee will decide on the corrective action and delegate the responsibility of implementing the corrective action to the appropriate department. Status of the corrective action will be reviewed at the next CASS meeting.

Repetitive defects are monitored on a continuous basis by the Director of Maintenance and the Chief Inspector. Findings and actions are evaluated and presented at quarterly CASS meetings. Actions requiring change to the Maintenance Program are presented by the Quality and Safety Manager, or his designee, at the meeting.

CASS reviews reliability reports, OEM requirements and warranty reports on a progressive basis. An overview of findings is reviewed at the CASS meeting where appropriate. Where an item of significance is noted, the Director of Maintenance or the Chief Inspector will notify the CASS Committee of the detailing the cause and summarizing initial investigation actions. Comparison of operational reliability is made with established or allocated standards where appropriate.

Procedural accomplishments are reviewed by CASS committee. The committee consists of the following, or in their absence, their designee:

- Director of Maintenance
- Chief Inspector
- Director of Operations
- Safety Manager

Problems concerning mechanical discrepancies, spare parts, scheduled maintenance, MEL items, etc. are discussed with the Director of Maintenance and corrective action taken, if required.

The Compliance Action Notice or CAN Memo system may be used to initiate corrective action on deficiencies if immediate action is indicated. Revisions to maintenance programs, additional training, changes to policies and procedures, changes to time limitations, or other changes, will follow as necessary.

Minutes or reports of all CASS meetings are maintained by the Quality and Safety Manager and shall contain the following information:

- Date of the CASS meeting.
- Personnel present at the CASS meeting.
- Findings noted during the month.
- Corrective actions taken.
- Status of investigations.
- Recommendations or comments.

The Committee also meets when the Director of Maintenance or Chief Inspector deems it is necessary to consider emergency situations such as engine failures, critical structural failures, or other emergency items to determine the cause, corrective action necessary. The committee shall make an assessment if any action needs to be taken to prevent reoccurrence.

The total effectiveness of the program is reviewed annually by the CASS Committee and the technical staff. Any change or adjustment to the method or procedure is made as necessary. This provides a form of control over critical aspects of Maritimes' CASS operation and measure the performance and effectiveness of the CASS itself.

Committee meetings are held quarterly to review all information and data, and to initiate appropriate corrective action as required. In conjunction with the CASS meetings, all previous action taken by the Committee is evaluated to determine if any changes or adjustments are necessary.

When it is revealed that a component or system shows an excessive failure rate, an investigation is conducted to determine the cause, the following areas are examined:

- Training
- Maintenance and Operations Procedures
- Test Equipment
- Manuals

**Data Identification**

The quantity of maintenance log defects is recorded by the CASS. All unscheduled removals are recorded in part number and description order with the following details:

- Manufacturer's part number and serial number
- Aircraft and position
- Date of installation, removal and repair
- Reported defect
- Hours and cycles run
- Workshop report findings
- Approved life or monitored "on condition"

**System Reliability Report**

Using the data collected by the CASS, a System Reliability Report is compiled and published quarterly unless otherwise requested. The report contains data collected from aircraft records, Service Difficulty Reports, Mechanical Interruption Summary Reports, Aircraft Safety Reports, and Vendor Component Condition Report

Report distribution goes, as a minimum, to attendees of the quarterly Continuing Analysis and Surveillance Committee meeting.

Either Maritime or shops of a certified Repair Station complete the teardown reports. Shops complete these reports when the subject item is removed for the following reasons:

- Unscheduled removals.
- Scheduled removals that have unusual condition (wear, corrosion, etc.)

When the item is repaired and returned to service condition, a report is completed and forwarded to the Maintenance Office.

All applicable items sent for out-of-house repair by MHI are sent with a Vendor Component Condition Report.

The Parts Department ensures that this report is accompanying each item. When items return from outside repair, the receiving personnel ensure that the Vendor Component Condition Report has been completed by the vendor. Completed reports are forwarded to the Quality and Safety Manager.

**CASS Personnel**Director of Maintenance

The DOM shall ensure that a CASS properly operated to meet the requirements of MHI and Federal Aviation Regulations. The DOM also has the responsibility to ensure sufficient properly certificated, trained and authorized personnel are available and suitably assigned to perform the continued maintenance program, reliability, monitoring, and improvement functions. The DOM makes all assignments for surveillance and any subsequent investigations, delegating personnel to fulfill the duties and responsibilities of the program.

Chief Inspector

The Chief Inspector is responsible for ensuring procedures by which technical data is analyzed are in place and followed. The Chief Inspector also has responsibility for approving revisions to and determining compliance with the Continuous Airworthiness Maintenance Program.

Quality and Safety Manager

The Quality and Safety Manager is responsible for Maritimes' CASS program. The Quality and Safety Manager has been trained in auditing and analysis skills particularly those related to root cause determination, risk analysis, and human factors and has the required specific training and experience to administer the program.



# Appendix A

## VIKING

### DHC-6 Series 400

### MAINTENANCE

### MANUAL

**NOTE:** The Viking DHC-6 Seires 400 Maintenance Manual is a stand-alone document and has its own List of Effective Pages and Numbering System. No attempt will be made to include the LOEP's of the CAMP Manual.





# RESERVED