TRANSNORTHERN AVIATION

GENERAL MAINTENANCE MANUAL

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REVISION – FIVE
NOVEMBER 15, 2024

TransNorthern Aviation
General Maintenance Manual

HIGHLIGHTS OF CHANGE FIVE

- **Modification of Calibrated Tools Section in Section C page 7**

GENERAL MAINTENANCE MANUAL

INTRODUCTION

§ 135.21 requires Certificate Holders to develop and maintain a Manual. § 135.23 describes the contents of this manual. Subpart J of 14 CFR 135, reference: §135.427 describes manual requirements for Carriers operating aircraft in a 10-or-more passenger seating configuration. TransNorthern's General Operations Manual (GOM) is designed to meet the general requirements of 14 CFR Part 135. TransNorthern's General Maintenance Manual (GMM) can be considered an appendix to the General Operations Manual and contains items more specific to the maintenance department. The GMM is not a stand-alone document but requires that personnel understand and comply with the GOM for general company information.

This General Maintenance Manual has been prepared to comply with the Federal Aviation Regulations and in keeping with the Company's policy, has been designed to provide all Maintenance personnel the necessary information and instructions to guide and assist them in the proper discharge of their duties. This Manual is utilized to provide total compliance with FAA, Manufacturer's and other industry-accepted procedures. The very nature of our business requires that we establish and maintain precautionary measures in the form of rules, regulations, and methods, practices and procedures that members of the Maintenance department thoroughly understand and follow. There is no substitute for good practices in this business; however, these practices are not to be construed as a substitute for good judgment.

All company maintenance activities will be conducted in compliance with Federal Aviation Regulations. The company's policies and procedures stated in its manual(s), in some instances, might be more conservative than the Federal Aviation Regulations (FAR). In the event that this manual is less restrictive than the FAR's, the FAR's will take precedence over this manual. If any employee discovers or believes that the company's manual is less restrictive than the FAR the employ should advise the Director of Maintenance of his findings.

Each employee directly engaged in aircraft maintenance and servicing duties will have available and provided by the company a copy of this manual for review or download on the Company's Employee web site. A copy will be maintained at each maintenance base for. It is required by the FAR's and the company to keep this manual current at all times. This is accomplished by entries on the revision record sheet, at the front of each manual, and prompt insertion of new pages listed on each numbered revision notice. Revisions must be accepted by the FAA PMI prior to issuance. Acceptance is documented by signature on the Effective Pages Section of this document

Manuals are not issued for reference purposes only. Persons to whom this manual has been made available, who are directly engaged in maintenance activities are expected to be familiar with the contents of this manual as applicable to the work they perform. Should there be any doubt as to the interpretation of any part of this manual; a correct interpretation must be secured immediately by consulting the Director of Maintenance or the Chief Inspector. The Director of Maintenance may provide copies of certain portions of this Manual for Training Purposes but such copies are NOT considered FAA accepted documents.

No compromise of safety will ever be tolerated or excused.

REVISION CONTROL

In accordance with FAR 135.23, each manual shall have the date of the last revision on each revised page.

Each mechanic and any other person assigned maintenance duties are responsible to have access to a copy of this manual at all times while maintenance operations are in progress. Therefore: there will be a copy of this manual maintained in the Company Maintenance office and any other base of operations where maintenance is performed on company aircraft. The Director of Maintenance is responsible to assure that revisions to this manual are inserted to each copy maintained by the company in a timely manner. This actual task is delegated to the Records and Manuals Manager for implementation. It is the company's responsibility to provide the manual Employees are encourage to access the company web site for reviewing or printing the current GMM.

All manual revisions will be submitted to the FAA for review prior to being implemented. The operator will submit revisions to the FAA via Certified Mail or Hand Carry with documented Receipt Notification. This document is "Accepted" Not "Approved" by the FAA. If the FAA doesn't notify the operator of the revision's unacceptance, then the revision will be distributed after 10 days.

REVISION CONTROL RECORD

Revision #	Pages	By	Date
Original	All	Alan G. Larson	01/01/02
One	Page ii, iii, D-10	Alan G. Larson	11/25/02
Two	All Pages	Alan G. Larson	11/15/17
Three	All Sec A, B, C, D, E and G	Alan G. Larson	12/11/17
Four	Pages iii, iv, v, All Sec A, C, and E	Alan G. Larson	06/04/23
Five	Page C-7	Alan G. Larson	11/15/24

EFFECTIVE PAGES

EFFECTIVE PAGES

This listing contains all current pages, with effective dates, of the General Maintenance Manual. It should be used after posting changes to ensure the manual is complete and up-to-date.

PAGE	Revision	DATE
Preface		
i	FIVE	11/15/24
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iii	FIVE	11/15/24
iv	FIVE	11/15/24
v	FOUR	06/04/23
vi	FOUR	06/04/23
Section A		
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1	TWO	11/15/17
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4	TWO	11/15/17

ACCEPTED BY
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Date: 2025.01.13 08:54:59 -09'00'

FAA Acceptance Box

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SECTION A - GENERAL

MANUAL ASSIGNMENT

- It is the responsibility of the Director of Maintenance to make certain that the necessary current manuals are available for the use of the personnel assigned to the Maintenance department. Currently only one copy is maintained by the company and it is kept in the Maintenance Office. Company employees are authorized to view, download and/or print their own copy from the company website. www.tnaemp.com **Caution:** Previously printed manuals may not be current. Always access the company web site for current manuals.
- General Maintenance Manuals shall be considered company property and are not to be distributed in any form to non-company personnel.
- No copies of this manual will be issued except as available to employees on www.tnaemp.com
- The Company's Principal FAA Maintenance Inspector will be provided with a digital copy of the current Company General Maintenance Manual

CARE OF MANUAL

A single copy of the company General Maintenance is provided for each company base of operation where maintenance is performed by company employees. This copy should NOT be removed from the facility.

INSPECTION PROGRAMS

Though not incorporated in this document, the Manufactures' Maintenance Program found in the BEECH 99 Airliner Maintenance Manual P/N CD990015-1B22 Dated 12/24/2003 shall be considered part of this program.

Though not incorporated in this document, the Manufactures' Maintenance Program found in the King Air 200 Series Maintenance Manual P/N 101-590010-19E1 Dated 1/1/2019 shall be considered part of this program.

Though not incorporated in this document, the TransNorthern Aviation FAA Approved Airplane Inspection Program for the Volpar B18T Dated May 14, 2014 shall be considered part of this program.

Though not incorporated in this document, the TransNorthern Aviation SA 227 Limitations and Inspection Manual, dated 4/23/2021 (or current version) shall be considered part of this program.

Though not incorporated in this document, the TransNorthern Aviation DC-3 / DC-3S Continuous Aircraft Maintenance Program shall be considered as part of this manual. Programs may be found in separate binders kept at each applicable maintenance base.

IF TransNorthern obtains FAA issued Operations Specifications or Management Specification authorizing additional aircraft the approved Maintenance Programs authorized in those Specifications shall be considered part of this program.

Any 9 or less passenger aircraft maintained by TransNorthern Aviation may be maintained on a 100/hr – Annual program IAW 14CFR part 43. The inspection paperwork for these aircraft can be found in the applicable manufacture's maintenance manual.

CONTINUED AIRWORTHINESS

All Aircraft operated by TransNorthern that have been Altered by STC or FAA Form 337 (Field Approval) shall have those Alterations inspected to assure continued airworthiness. When available the STC holder's instructions for continued airworthiness will be used, when a STC holder has not provided instructions for continued airworthiness the Director of Maintenance shall initiate what he believes an appropriate inspection program. All of these recurring inspections are contained in the individual aircraft Fleet Status II database and updated in the individual Aircraft's Continuous Airworthiness Record binder(s). The Director of Maintenance will monitor the reliability of these alterations and adjustments to time limits, inspection procedures etc. will be made as necessary.

REVISIONS

GENERAL

Maintenance experience, changes in equipment, manufacturer recommendations, changes in the FAR's or errors may require revisions to this manual. The Director of Maintenance is responsible for accomplishment of manual revisions. The Director of Maintenance will submit revisions to the PMI assigned to TransNorthern. The FAA's PMI may also ask for a manual revision at any time he or she determines that a revision is required. Within 2 weeks after submission to the company's PMI the manual will be published on the company web site unless the FAA objects to any of the changes to that revision.

REVISION PREPARATION AND FORMAT

Revisions for each manual are numbered in sequence. The Manual shows the current Revision Number on the bottom left of each page. The General Maintenance at www.tnaemp.com always has the current version available.

REVISION DISTRIBUTION AND TRAINING

AFTER A revision is reviewed and accepted by the FAA PMI the Director of Maintenance will arrange to a training session for each member of the maintenance department. Training will assure that each person understands all revised portions of the manual. The Maintenance Training Record for each maintenance department employee found on page D-2 of this manual will be updated showing the date of revision training and instructor's name.

PROCEDURE FOR INCORPORATING REVISION IN MANUALS

ASSIGNED TO INDIVIDUALS

Maintenance manuals are not assigned to individuals. The current General Maintenance Manual is available on line to all employees at www.tnaemp.com

ASSIGNED TO AIRCRAFT

Maintenance manuals are not assigned to aircraft.

MANUAL EXCERPTS AND EXCERPTS FROM OTHER PUBLICATIONS

If additional copies of manual pages or pages from other publication such as AD notes or service bulletins are required for training, work stand assignment, replacement, etc., they shall be obtained from the Director of Maintenance or Records and Manuals Manager.

COPIES OF EQUIPMENT MANUFACTURERS PUBLICATIONS

If the company performs maintenance at locations other than its principal base of Operations in Anchorage then the following shall apply:

In order to control the expense of publications used by maintenance personnel, only copies of the publications required for each station's assigned aircraft will be maintained at that station. That is, if a particular type of aircraft is not maintained at a particular station then the manuals applicable to that type aircraft will not be assigned to that station. The Lead Mechanic at each maintenance base will obtain replacement manuals or new manuals from the Director of Maintenance.

SECTION B - THE MAINTENANCE ORGANIZATION

MAINTENANCE DEPARTMENT

- Aircraft Maintenance Department is located in Anchorage at the TransNorthern Aviation, Inc. Hanger Facility.
- The Records and Manuals Department is located in Anchorage at the TransNorthern Aviation, Inc. Hanger Facility.
- The Quality Control Department is located in Anchorage at the TransNorthern Aviation, Inc. Hanger Facility.

See Company General Operations Manual for Organizational Chart and Maintenance Personnel Titles, Duties and Responsibilities.

PURPOSE OF MAINTENANCE SECTION

The purpose of the Maintenance Organization is to perform functions that are necessary to the safe and profitable operation of the aircraft. Responsibility specifically delegated to persons in the organization is listed in this section. The items listed below are the general areas of concern of the maintenance organization.

- To assure the continued airworthiness of aircraft operated by the Company.
- To provide for the maintenance, repair, overhaul or modification of aircraft operated by the Company.
- To provide trained qualified and certified personnel as necessary to accomplish the maintenance and inspection work.
- To provide supervision and training as required accomplishing the above listed responsibility.
- To maintain complete, current, and orderly records as required by this manual and the FAR's.
- To provide a system of ground support either through company-operated equipment or through contracts with properly qualified agencies.

CONFLICT RESOLUTION

In the event a Mechanic and a Lead Mechanic fail to reach agreement on an airworthy item the Director of Maintenance shall mediate. In the event of a conflict between a mechanic and an inspector, the Chief Inspector shall mediate. In the event of a conflict between the Director of Maintenance and the Chief Inspection the General Manager shall mediate. In all cases of mediation about airworthiness of an item the person mediating the decision shall note his/her name and title on the ARL entry. Note: Mediate means to listen to both arguments and make the final decision.

"**Directly in Charge**" In accordance with FAR 135.435 ONLY persons holding an appropriate airman certificate may be directly in charge of maintenance, preventive maintenance, alterations, or performing inspections.

For the purpose of this section, a person "directly in charge" is each person assigned to a position in which that person is responsible for the work of a shop or station that performs maintenance, preventive maintenance, alterations, or other functions affecting airworthiness. A person who is "directly in charge" need not physically observe and direct each worker constantly but must be available for consultation and decision on matters requiring instruction or decision from higher authority than that of the person performing the work.

SECTION C - POLICIES AND PROCEDURES

Maintenance Entries

When signing off maintenance entries mechanics must comply with the following:

For Inspections: The person approving or disapproving for return to service an aircraft, airframe, aircraft engine, propeller, appliance, or component part after any inspection performed in accordance with Part 91, Part 43, Part 125, §135.411(a)(1) or §135. 411(a)(2) shall make an entry in the maintenance record of that equipment containing the following information:

(1) The type of maintenance and a description (or reference to data acceptable to the Administrator) of work performed.
(2) The date of the inspection and aircraft total time in service.
(3) The signature, the certificate number, and kind of certificate held by the person approving or disapproving for return to service the aircraft, airframe, aircraft engine, propeller, appliance, component part, or portions thereof.
(4) Except for progressive inspections, if the aircraft is found to be airworthy and approved for return to service, the following or a similarly worded statement - "I certify that this aircraft has been inspected in accordance with (insert type) inspection and was determined to be in airworthy condition."
(5) Except for progressive inspections, if the aircraft is not approved for return to service because of needed maintenance, noncompliance with applicable specifications, airworthiness directives, or other approved data, the following or a similarly worded statement - "I certify that this aircraft has been inspected in accordance with (insert type) inspection and a list of discrepancies and unairworthy items dated (date) has been provided for the aircraft owner or operator."
(6) For progressive inspections, the following or a similarly worded statement - "I certify that in accordance with a progressive inspection program, a routine inspection of (identify whether aircraft or components) and a detailed inspection of (identify components) were performed and the (aircraft or components) are (approved or disapproved) for return to service." If disapproved, the entry will further state "and a list of discrepancies and unairworthy items dated (date) has been provided to the aircraft owner or operator."
(7) If an inspection is conducted under an inspection program provided for in Part 91, 125, or §135.411(a)(1), the entry must identify the inspection program, that part of the inspection program accomplished, and contain a statement that the inspection was performed in accordance with the inspections and procedures for that particular program.

In accordance with FAR 135.443(d) and this program, the signature of an authorized certificated mechanic or repairman constitutes the above certification.

Whenever a maintenance procedure or inspection on a 10 or more-passenger aircraft requires any disassembly of the aircraft it must have a Log Entry IAW with FAR 135.443 prior to flight. An example of an appropriate log book entry for returning the aircraft to service is: *I certify that the work performed was done in accordance with the Company General Operations and/or Maintenance Manual and that all items required to be inspected were inspected by an authorized person who determined the work was satisfactorily completed, that no known condition exists that would render the aircraft unairworthy. and, that so far as the work performed is concerned, the aircraft is in condition for safe operation.* This release must be signed by an authorized certificated mechanic or repairman.

In accordance with FAR 135.443(d) and this program, the signature of an authorized certificated mechanic or repairman constitutes the above certification.

FAA-CERTIFICATED REPAIR STATION MAY ISSUE AN AIRWORTHINESS RELEASE (LOG BOOK ENTRY) ON COMPANY AIRCRAFT.

Under 14 C.F.R. § 1.1, a repair station is considered to be a "person," and the regulations provide that the person with whom the air carrier arranges to perform the maintenance could prepare, or cause to be prepared, either an airworthiness release or an appropriate entry in the aircraft log. This clarification distinguishes between preparing an airworthiness release or log entry for an air carrier and issuing (signing) it. The airworthiness release or log entry must be signed by an authorized certificated mechanic or repairman.

While a repair station, as an entity, may prepare an airworthiness release or log entry for the work it performed, a person employed by the repair station who does not hold an FAA-issued mechanic or repairman certificate may not sign the document unless the repair station is located outside the United States. For repair stations located within the United States, a person employed by the repair station may sign the airworthiness release or log entry, but only if that person is authorized by the air carrier to do so, and the person holds an FAA-issued mechanic or repairman certificate. See 14 C.F.R. §§ 121.709(b)(3) and 135.443(b)(3). The person signing the document does so for the air carrier, not the repair station or other entity that performed the work for the air carrier.

Persons accepting the work of a repair station for the certificate holder must be authorized to do so by the Records Manager.

Author's note: TNA's procedures are partially based on an FAA Legal Interpretation Dated Sept 11, 2015 by Lorelei Peter, Acting Assistant Chief Counsel for Regulations.> **In-so-far as this document is concerned, there is no technical difference between an "airworthiness release", a "log book entry" or a "return to service".**

COMPANY PROCEDURES CONCERNING AIRWORTHINESS RELEASE, RETURN TO SERVICE AND LOG BOOK ENTRIES.

In order to maintain consistence and be in compliance with applicable federal regulations TransNorthern utilizes the term "**ARL**" to mean Airworthiness Release, Return to Service OR Log book entry. An Authorized person may sign an ARL and his signature constitutes compliance with the appropriate language or 14CFR §43.9, §43.11 or §135.411(a)(1), or §135.419, or §135.443 without restating the individual items detailed language of those sections.

Scheduled maintenance (§43.11) – Scheduled maintenance includes; inspection program items such as phases or hourly engine, propeller or airframe inspections, recurring Airworthiness Directives, specific requirements for reweighing multi engine aircraft, recertifying altimeters & transponders, checking ELT performance, component overhaul or replacement times, and any other items deemed important to track by the Director of Maintenance. The company tracks scheduled maintenance items utilizing a computer program called FSIII that maintains the current aircraft times, cycles and landings (as applicable) and shows which item is next due for consideration. This Next Maintenance Due time is recorded on the Aircraft Flight Log so that pilots can be assured that they do not operate an aircraft when maintenance items are due. (Refer to GOM Section T for information about the completion and use of the Aircraft Flight Log). The program also produces TASK SHEETS when scheduled maintenance items are coming due. When a Task is coming due, the Task Sheet is printed and assigned to a mechanic (or repair station) for compliance. That person signs the Task Sheet and the authorized signature on the task sheet is an ARL. The completed Task Sheet is returned to the Records department. The records department is responsible to update the FSII program showing completion of the task, file the task sheet in the aircraft's Continuous Airworthiness Manual and update the Aircraft Flight Log. The update of the Aircraft Flight Log indicated: (1) Completion of the scheduled maintenance accomplished, (2) an authorized signature ARL with the company's certificate number (TN8A405) and (3) time next scheduled maintenance is due.

Unscheduled maintenance (§43.9) – Unscheduled maintenance includes discrepancies discovered by a pilot either during preflight or inflight, discrepancies discovered by maintenance during an inspection, damage to a parked aircraft, completion of a major alteration or repair, a One-Time Airworthiness Directive, etc. The company records such events either on the Aircraft Flight Log in the Discrepancy section OR the company Discrepancy Correction Form (described later in this section) OR an Entry in the applicable Airframe Log Book, Engine Log Book or Propeller Log Book as appropriate. Correction for such unscheduled maintenance items is documented on the form utilized and an authorized signature ARL with the Mechanic or Repair Stations Certificate number constitutes the Aircraft's Return to Service. Completed forms must be returned to the Records Department and become a permanent part of the aircraft record. These unscheduled maintenance items with the corrective action and ARL are filed in the AIRCRAFT DISCREPANCY Binder or, in the case of 1 time - AD Compliance, major alteration or repair records, and Service Bulletin compliance, in the AIRCRAFT RECORDS Binder.

Aircraft Flight Logs

Reference GOM Section T for information about instructions for completion and use of Aircraft Flight Log.

Minimum Equipment Lists

Reference GOM Section I for information about instructions for completion and use of Minimum Equipment Lists.

MEL Management Program

Reference GOM Section I for information about instructions for completion and use of Minimum Equipment Lists.

Airworthiness Directives

Each Aircraft will have a list of all applicable ADs containing all One Time ADs and a list of all applicable ADs. Airworthiness Directives and Mandatory Service Bulletins shall be handled as follows:

ONE TIME ADS

A list of One Time ADs (non-recurring) will be maintained in the appropriate Aircraft Permanent Record – Binder titled AIRCRAFT DOCUMENTS for each company aircraft. At each scheduled 100-hour (or greater by CAMP or AAIP) inspection a check of applicable ADs will be conducted. One-time ADs will be recorded and corrected on the Discrepancy Correction Form or Aircraft Flight Log Page. The Director of Maintenance will update the One Time AD list for the aircraft upon receipt of the Discrepancy Correction Form.

RECURRING ADS

Recurring ADs will be recorded in the Fleet Status III Program in the form of a Task Sheet containing the inspection interval, Date or Time in Service of compliance, Date or Time in Service of next required compliance and a brief description of the maintenance preformed. When a Recurring AD is completed and Signed off on the Task Sheet. When completed, the Task Sheet is inserted in the Aircraft's Continuous Airworthiness Binder.

MANDATORY SERVICE BULLETINS

The company will review all Mandatory Service Bulletins associated with its fleet of aircraft and assure that all Service Bulletins required by Regulation or that are in the interest of Safety as determined by the Director of Maintenance are complied with in a timely manner. Full documentation of the work performed relative to a Service Bulletin will be documented in the Aircraft Permanent Record - Binder titled AIRCRAFT DOCUMENTS for each company aircraft.

Required Inspection Items

For 10 or more passenger aircraft, certain Maintenance functions that could have a direct effect of the safe operation of the aircraft require a signoff by a Company Inspector ***and*** the mechanic performing the work. Provisions for Return to Service for aircraft incurring this type of maintenance are contained on the Task Sheets produced for maintenance on each of the company's aircraft.

The company will maintain a record of each person authorized to perform RII signoffs. This record contains the name, title and identifies which RII items the individual is authorized to perform. Each record also contains the statement that persons who perform maintenance or repair on company aircraft are not authorized Required Inspections of that work. A copy of the Company Authorized Inspector Authorization is given to the Inspector to assure that each authorized inspector understands that he/she may not signoff their own work.

These records are contained in a volume titled "Maintenance Personnel Records" .

RII ITEMS

The following is a list of items requiring inspection after work is accomplished and before the aircraft is returned to service:

- Installation of an Engine
- Installation, Rigging or Re-rigging of any control surface
- Installation of any wing or tail structure
- Installation or Re-rigging of a retractable landing gear
- Installation of a Propeller
- Installation of a Carburetor or Fuel Control Unit.
- Any Major Repair or Alteration

Maintenance functions that Require RII are noted in each CAMP program inspection checklist.

ENGINE RUN-UP AND LEAK CHECK

In addition to the requirement for the RII signoff an engine operation check shall be accomplished whenever an engine or aircraft system has been disturbed for reasons such as component change or repair, which would affect or be affected by engine operation. This specifically includes each time a component is changed or whenever a fluid carrying line is disturbed.

Discrepancy Correction Form

Whenever discrepancies are noted, either by the pilot or a mechanic performing an inspection associated with the continuous airworthiness of a Company Aircraft the Discrepancy Correction Form shown below or the Aircraft Flight Log may be utilized to document the discrepancy, corrective action and return to service. When completed the form is signed ARL it is filed in the aircraft discrepancy record as a permanent part of the aircraft maintenance records. Multiple discrepancies are permitted to be on one page; however, all must be for the same aircraft.

Note: Discrepancies noted on the aircraft flight log require signoff and return to service – ARL signature. A discrepancy noted and corrected on the aircraft flight log does not require a duplicate entry on the Discrepancy Correction Form. This form is primarily utilized to record discrepancies discovered during non-flight operations.

TransNorthern Aviation - Discrepancy Correction Form

Aircraft: N _____ Aircraft Total Time: _____ Date: _____

Number:	Discription of Discrepancy or work reqd:			
Entered by:				
Corrective Action or Work:				
	Part # OFF	S/N OFF	Mechanic Signature:	Inspector Signature:
	Part # ON	S/N ON	Cert#	Cert #

Number:	Discription of Discrepancy or work reqd:			
Entered by:				
Corrective Action or Work:				
	Part # OFF	S/N OFF	Mechanic Signature:	Inspector Signature:
	Part # ON	S/N ON	Cert#	Cert #

Tool Calibration

Policy

- During maintenance functions, whenever specific measurements are required, maintenance employees who are assigned maintenance tasks will utilize calibrated tooling. Such precision measuring tools must be calibrated in accordance with the Manufacturer's instructions or annually, which ever time is more restrictive.
- The company will provide all required calibrated tools for maintenance personnel use.
- The company will provide recalibration of employee-owned tools if approved by the DOM.
- Tools that are not currently calibrated MAY be utilized during aircraft maintenance functions if they are tested for accuracy just prior to use utilizing Company provided Testing Equipment.
- Calibrated tools are kept is a separate location from uncalibrated tools. Employee's personal calibrated tools may be in the same drawer as other tools but must be separated in some obvious manner acceptable to the D.M.
- The list of all company owned calibrated tools, including calibration certification documentation, are maintained in the FSII program and located in a separate binder. The records manager is responsible to assure all tools, requiring recalibration are calibrated in a timely manner.
- IF a Calibrated tool is dropped or suspected of being inaccurate it must be Tagged with information indicating the problem and moved to the UNSERVICABLE parts section until it is recalibrated. Records and Parts Department shall be notified that the tool is out of service.
- Calibrated Testing equipment may be provided by the company for use by maintenance personnel to verify tool accuracy without compliance with tool calibrating rules. Such equipment includes but is not limited to; Torque Wrench Testers, Pressure Testers, and Gauge Block sets. When such Testing equipment is provided by the company:
    - Testing equipment must be maintained in a calibrated condition IAW company record keeping procedures.
    - Instructions for this type equipment use must be available to maintenance personnel.
    - Maintenance Personnel must have received training on the use of calibrated tools and testing devices.

Procedures

- An employee may utilize personal owned calibrated tools for the performance of maintenance on company aircraft if:
    - It is stored in a separate location from other tools.
    - They maintain documentation of calibration status of the tool.

      OR
    - If the Employee would like the company to maintain recalibration and documentation of calibration certification the employee must request such from the DOM. IF approved the Records department shall maintain a binder of employee-owned tools sorted by employee name and notify employee when recalibrating testing is due.
- Whenever tool calibration is due, Records shall provide a task sheet to the Parts department to collect the tool, have the calibration testing preformed, replace the calibrated tool to its storage location and then return the Signed Task Sheet with Calibration documentation to the Records Department.

Parts Handling

- When parts arrive, they will be unpacked and inspected by qualified maintenance or records department personal.
    - That there was no damage to the part during shipping
    - Packing lists and invoices will be sent to the accounting department
    - 8130 forms will be inspected to assure part numbers and serial numbers are correct. The traceability form will stay with the part.
    - The part will be stored in the appropriate SERVICEABLE PARTS section of the facility.
    - If there is any discrepancy noted or the part is suspected of being unairworthy the person inspecting the part must PERSONALLY notify the Director of Maintenance for disposition of the part.
- Persons qualified to receive parts must be training and that training and be signed off on the Maintenance Task Training Sheet (Sec D p 3).

S.O.A.P

S.O.A.P (Spectrometric Oil Analysis Program) is a program of repeated oil analysis done at specified intervals for determining internal function of an aircraft engine. The turbine engines that are on the MORE (Maintenance on Reliable Engines) program are required to have a "SOAP" performed each 150 hours of time in service. Other company aircraft may also have oil analysis performed as required by the Director of Maintenance by specific Airworthiness Directives.

Note: Some aircraft engines may have AD's limit evaluation of required samples to specific laboratories.

A task sheet will be generated by the Records Department when SOAP samples are due to be taken in accordance with the company's maintenance program. The mechanic taking the sample shall enter the date the sample is recorded on the Task Sheet and the completed task sheet (with the sample) will be forwarded to Records Department. Records shall send the sample to the appropriate laboratory via FedEx or UPS 2nd day courier and note the date sent on the Task Sheet. When the results are returned from the Lab they will be filed with the task sheets in the Aircraft's Continuous Airworthiness Record book at least until superseded.

C.A.F.P

C.A.F.P (**Continuous Authorization Ferry Program)** is a program authorized by the Company's Operations Specifications D-084 for certain flight operations **without** obtaining a Special Ferry Permit from the FAA.

Background

The US Code of Regulations § 21.197 Special flight permits.

(a) A special flight permit may be issued for an aircraft that may not currently meet applicable airworthiness requirements but is capable of safe flight, for the following purposes:
  (1) Flying the aircraft to a base where repairs, alterations, or maintenance are to be performed, or to a point of storage.
  (2) Delivering or exporting the aircraft.
  (3) Production flight testing new production aircraft.
  (4) Evacuating aircraft from areas of impending danger.
  (5) Conducting customer demonstration flights in new production aircraft that have satisfactorily completed production flight tests.

(b) A special flight permit may also be issued to authorize the operation of an aircraft at a weight in excess of its maximum certificated takeoff weight for flight beyond the normal range over water, or over land areas where adequate landing facilities or appropriate fuel is not available. The excess weight that may be authorized under this paragraph is limited to the additional fuel, fuel carrying facilities, and navigation equipment necessary for the flight.

Company Program

- The Director of Maintenance has ultimate responsible for the administration of this program. The Chief Inspector also has responsibility and authority to conduct operations under this program.
  - These responsibilities include:
    - Training and authorizing maintenance personal involved with the CAFT.
    - Evaluating or having the aircraft evaluated to determine that is safe for required flight.
    - Recording Results of that evaluation to present at sequent CASP meetings. (This record can be in any format at the discretion of the Director of Maintenance and is not required to be maintained as part of the aircraft's permanent records.)
    - Issuance of a Ferry Permit – See Section E, page 9 for example.
    - Assuring that the flight crew is briefed on the all of the limitations of the Ferry flight including routing, inoperative equipment, minimum weather requirements, etc.
    - Log Book Entry
    - CASP Review

- The company CAFP authorizes the company to conduct ferry flights with an aircraft listed in Ops Spec D-085 that does not meet all applicable airworthiness requirements but has been determined to be capable of safe flight to a base where necessary maintenance or alterations are to be performed.

- Each incident shall be considered a unique event conducted in accordance with specific instructions by the Director of Maintenance or Chief Inspector. Items for consideration are:
  - Determine the situation that does not meet applicable airworthiness requirements by interview with the individual that discovers the discrepancy.
  - Assure Aircraft Flight Log has the discrepancy recorded by discovering individual.
  - Determine what will need to be evaluated to determine that the aircraft will be safe for a single specific flight.
  - Assign a certified individual exactly what must be evaluated. Note: Provisions for maintenance away from home base as listed in Section H of the Company General Operations Manual are applicable in the evaluation is assigned to a certified mechanic that is NOT an employee of TransNorthern.
  - Verbally review the evaluation with the inspecting individual and determine if the aircraft is considered safe for ferry flight.
  - Determine any limitation required for the proposed ferry flight.
  - Prepare a Ferry Permit per example in Section E, Page 9.
  - Provide and verbally review the Ferry Permit to the Flight crew.
  - Advise Flight Crew to record "Ferry Flight Authorized under CAFP" in the Corrective Action section of the Aircraft Flight Log. And sign the line with PIC's name and Company Certificate Number. (TN8A405Y)

- At the termination of the Ferry Flight.
  - Flight Crew should complete the Aircraft Flight per GOM requirements and instructions and REENTER the Original Discrepancy on the next line in the Discrepancy column. – leaving the Corrective Action Column blank.
  - Crew must verbally advise Director of Maintenance or Chief Inspector (or their designee) that the flight has been completed and the aircraft's location. Also discuss any pertinent discoveries during the flight.
  - The aircraft shall be considered 'unairworthy' until the corrective action for the Discrepancy carried forward on the next Aircraft Log Page has been corrected.

- At the next scheduled CASP meeting the specifics of the Ferry Flight shall be discussed and assessed.

SECTION D - TRAINING

Every new employee coming into the maintenance department will be briefed on company and maintenance policies – including instruction for accessing the information on the company's employee web page. All employees will receive, at a minimum, an introduction to the Company General Operations Manual which contains information important to all Employees. The Company Maintenance Procedures Manual, (or General Maintenance Manual) has specific information for personnel performing inspections, maintenance, alterations or repair for company aircraft. Each employee of the maintenance department will receive training on the location and use of this document. Training will be given to mechanics on an "on the job" basis. Classroom instruction will be arranged as necessary when it becomes evident that a number of employees may benefit from a specific course of instruction. On the job training will be given by a qualified person, appointed by, and under the supervision of the Director of Maintenance.

There are specific maintenance tasks which require some amount of training predicated upon the individual's previous level of experience. The Maintenance Task Authorization Sheet listed in this chapter will be maintained by the records department showing the date a task was authorized and by whom the authorization was given for each employee

Maintenance Training Records will be kept in a file by the Records Department. The following page contains a form that may be utilized to record such Training. Completed Training Forms shall be maintained as long as the person is authorized to maintain aircraft for the company.

Employees working on "10 or more passenger aircraft" must have documented Annual Recurrent Training.

TRANSNORTHERN MAINTENANCE TRAINING RECORD

Name: _____
Certificate No: _____

SUBJECT

1) AIRCRAFT MAINTENANCE SAFETY
   Apply safety precautions when:
   a) Servicing aircraft and equipment
   b) Performing aircraft maintenance
   c) Propeller plane of rotation
   d) Ground handling of aircraft
   e) Knowledge of hand signals

   Instructor: _____
   Date completed: _____

2) PUBLICATIONS FAMILIARITY
   Become familiar with the contents of:
   a) Company General Operations Manual
   b) Company General Maintenance Manual
   c) Company Inspection Programs
   d) Specific Aircraft Maintenance Manuals
   e) Specific Aircraft AAIP programs.
   f) Specific Aircraft CAMP programs
   g) MORE Program Manual
   h) Component Maintenance Manuals
   i) Regulatory Publications (paper or digital)

   Instructor: _____
   Date completed: _____

3) MAINTENANCE MANAGEMENT
   a) Have understanding of applicable portions of FAR's
   b) Malfunction and Defect reporting
   c) Prepare necessary reports

   Instructor: _____
   Date completed: _____

4) AIRCRAFT AND EQUIPMENT RECORDS
   a) Logbook responsibilities
   b) Status Reports
   c) Prepare the following forms:
      i) Non Routine forms
      ii) Inspection checklists
      iii) DMI and MEL Procedures
      iv) AD Compliance
   d) Tool Calibration
   e) GSE equipment

   Instructor: _____
   Date completed: _____

5) GMM Revision Training

   Instructor _____ Date: _____

TRANSNORTHERN
MAINTENANCE TASK TRAINING

Name: _____

Aircraft	Date	By:
1) Beech 99		
a) Starting, Run-up	_____	_____
b) Taxi	_____	_____
c) Towing	_____	_____
d) Other _____	_____	_____
2) Volpar		
a) Starting, Run-up	_____	_____
b) Taxi	_____	_____
c) Towing	_____	_____
d) Other _____	_____	_____
3) Beech 200		
a) Starting, Run-up	_____	_____
b) Taxi	_____	_____
c) Towing	_____	_____
d) Other _____	_____	_____
4) Merlin SA226		
a) Starting, Run-up	_____	_____
b) Tax	_____	_____
c) Towing	_____	_____
d) Other _____	_____	_____
5) Metroliner SA227		
a) Starting, Run-up	_____	_____
b) Tax	_____	_____
c) Towing	_____	_____
d) Other _____	_____	_____
6) Super DC-3		
a) Starting, Run-up	_____	_____
b) Taxi	_____	_____
c) Towing	_____	_____
d) Other _____	_____	_____
7) GSE Equipment		
a) Tugs	_____	_____
b) GPU	_____	_____
8) Parts Receiving (unapproved parts)	_____	_____

SECTION E - FORMS & REPORTS

SERVICE DIFFICULTY REPORTS

OPERATIONAL - § 135.415

The Director of Maintenance is responsible to have submitted each occurrence of the below listed "Operational Service Difficulties" to the FAA covering each 24-hour period beginning at 0900 local time of each day and ending at 0900 local time on the next day. Each report of occurrences during a 24-hour period shall be submitted to the FAA within the next 96 hours. However, a report due on Saturday or Sunday may be submitted on the following Monday, and a report due on a holiday may be submitted on the next workday. The Chief Inspector should be involved in this process. The actual submission of the form is typically performed by the Records and Manuals Department, however the Director of Maintenance retains overall responsibility.

The Company will utilize the FAA's Internet Service Difficulty Report (iSDR) Form 8070-1 found at http://av-info.faa.gov/SDRx to assure that all requirements of the regulation are complied with. The instructions for completion of this form are found in this document after the list of reportable items.

The company will maintain a 30-day file containing a printed copy of each Service Difficulty report submitted within the previous 30 days in a SDR binder for review by the CHDO/FSDO. SDR's will be review by the CASP department quarterly.

Items requiring Reporting are:

- Fires during flight and whether the related fire warning system functioned properly;
- Fires during flight not protected by related fire warning system;
- False fire warning during flight;
- An exhaust system that causes damage during flight to the engine, adjacent structure, equipment, or components;
- An aircraft component that causes accumulation or circulation of smoke, vapor, or toxic or noxious fumes in the crew compartment or passenger cabin during flight;
- Engine shutdown during flight because of flameout;
- Engine shutdown during flight when external damage to the engine or aircraft structure occurs;
- Engine shutdown during flight due to foreign object ingestion or icing;
- Shutdown of more than one engine during flight;
- A propeller feathering system or ability of the system to control overspeed during flight;
- A fuel or fuel dumping system that affects fuel flow or causes hazardous leakage during flight;
- An unwanted landing gear extension or retraction or opening or closing of landing gear doors during flight;
- Brake system components that result in loss of brake actuating force when the aircraft is in motion on the ground;
- Aircraft structure that requires major repair;
- Cracks, permanent deformation, or corrosion of aircraft structures, if more than the maximum acceptable to the manufacturer or the FAA; and
- Aircraft components or systems that result in taking emergency actions during flight (except action to shut down an engine).

ADDITIONAL INFORMATION RELATING TO SDR REPORTING

The Service Difficulty Program is an information system designed to provide assistance to aircraft owners, operators, maintenance organizations, manufacturers, and the Federal Aviation Administration (FAA) in identifying aircraft problems encountered during service. The Service Difficulty Program provides for the collection, organization, analysis, and dissemination of aircraft service information to improve service reliability of aeronautical products. General Aviation operators are encourage to report "***when a system component or part of an aircraft (powerplants, propellers, or appliances) functions badly or fails to operate in the normal or usual manner, it has malfunctioned and should be reported***." Although the list of reportable items required for Part 119 carriers is relatively specific nothing precludes the company from reporting any system or component failure that may be beneficial to the intent of the program. It should be noted that the last item on the required reporting items list can be construed as a "catch-all". "Taking Emergency Actions" is not defined by 14CFR or Advisory Circular or FAA Order. The dictionary defines Emergency as: "An incident, to be an emergency, conforms to one or more of the following, if it: Poses an immediate threat to life, health, property, or environment (2) Has already caused loss of life, health detriments, property damage, or environmental damage or (3) has a high probability of escalating to cause immediate danger to life, health, property, or environment

It's always a good idea to inform and discuss any situation that may not be required to be reported, or is questionable, with the company PMI for a concurrence as to its application.

INSTRUCTIONS FOR ACCESSING INTERNET SERVICE DIFFICULTY REPORT (ISDR)

iSDR is found at: http://av-info.faa.gov
Username: alan@transnorthern.com
Password: Trapperface1*
Instructions are found on the web site.

Note that you must assign a unique number to each submission. It is required to submit reports required by §135.415 within the prescribed time period even if the exact nature of the problem has not been determined or corrective action has been yet accomplished. Resubmit the report with the same control number and note place the words "supplemental information" in the problem description field if additional information is discovered after the initial submission.

MECHANICAL INTERRUPTION SUMMARY REPORT.

FAR § 135.417 requires that the company submit, before the end of the 10th day of the following month, a summary report for the previous month of each:

(a) interruption to a flight
(b) unscheduled change of aircraft en route
(c) unscheduled stop or diversion from a route
or
(d) unscheduled engine removal

that was caused by known or suspected mechanical difficulties

The Director of Maintenance (or his designee) is responsible for the submission of this report to the Company's Principal Maintenance Inspector. The report must contain the following information for each reportable occurrence on Company Letter head:

(a) Type of Incident
  (1) Interruption to Flight
  (2) Unscheduled AC change during Trip
  (3) Unscheduled stop or diversion on a Route
  (4) Unscheduled Engine Removal
(b) Date of the Incident
(c) Aircraft Type
(d) Aircraft Registration Number
(e) Flight Number
(f) Reason for Mechanical Interruption

CONTRACT VENDOR REPORT

FAR § 135.426 (h) requires that company must 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 for the certificate holder on its 10 or more passenger aircraft, and a description of the type of maintenance, preventive maintenance, or alteration that is to be performed at each location. The list must be updated with any changes, including additions or deletions, and the updated list provided to the Companies assigned FAA Principal Maintenance Inspector by the last day of each calendar month. Typically via email.

MAJOR REPAIR AND ALTERATION

GENERAL

The purpose of the FAA Form 337 is to report major repairs and alterations (as defined by FAR 43 appendix B see below) that have been made to an aircraft, propeller, engine, and or instrument. The FAA does not require the preparation of a 337 Form for work accomplished within the scope of minor repairs and minor alterations.

All equipment changes and/or permanent aircraft configuration changes will be recorded on a Form 337.

The FAA requires that the work be inspected by an FAA Inspector each time a major repair or alteration is accomplished ***unless*** the work is completed in accordance with the instructions contained in one of the following publications.

- FAR Part 43
- FAA Approved Aircraft or Engine Manufacturers Manuals
- FAA Approved Aircraft and Engine Specifications documents
- Supplemental Type Certificates

If an inspection by the FAA is required ("field approval") the Director of Maintenance will notify the PMI assigned to the Company prior to starting the work.

When work is accomplished which requires the submission of a 337 Form, the following will apply in filling out and filing the form:

1. The form will be filled out as specified below.
2. If FAA Field Approval is required, all copies must be signed by the FAA.
3. One copy will be maintained with the aircraft records.
4. One copy will be forwarded to the FAA within 48 hours after the item is returned to service.

The following requires completion of a Form 337

43xA.a Major alterations

(1) Airframe major alterations. Alterations of the following parts and alterations of the following types, when not listed in the aircraft specifications issued by the FAA, are airframe major alterations:

(i) Wings.
(ii) Tail surfaces.
(iii) Fuselage.
(iv) Engine mounts.
(v) Control system.
(vi) Landing gear.
(vii) Hull or floats.
(viii) Elements of an airframe including spars, ribs, fittings, shock absorbers, bracing, cowling, fairings, and balance weights.
(ix) Hydraulic and electrical actuating system of components.
(x) Rotor blades.
(xi) Changes to the empty weight or empty balance which result in an increase in the maximum certificated weight or center of gravity limits of the aircraft.
(xii) Changes to the basic design of the fuel, oil, cooling, heating, cabin pressurization, electrical, hydraulic, deicing, or exhaust systems.
(xiii) Changes to the wing or to fixed or movable control surfaces which affect flutter and vibration characteristics.

(2) Powerplant major alterations. The following alterations of a powerplant when not listed in the engine specifications issued by the FAA, are powerplant major alterations.

(i) Conversion of an aircraft engine from one approved model to another, involving any changes in compression ratio, propeller reduction gear, impeller gear ratios or the substitution of major engine parts which requires extensive rework and testing of the engine.
(ii) Changes to the engine by replacing aircraft engine structural parts with parts not supplied by the original manufacturer or parts not specifically approved by the Administrator.

(iii) Installation of an accessory which is not approved for the engine.
(iv) Removal of accessories that are listed as required equipment on the aircraft or engine specification.
(v) Installation of structural parts other than the type of parts approved for the installation.
(vi) Conversions of any sort for the purpose of using fuel of a rating or grade other than that listed in the engine specifications.

(3) Propeller major alterations. The following alterations of a propeller when not authorized in the propeller specifications issued by the FAA are propeller major alterations:
(i) Changes in blade design.
(ii) Changes in hub design.
(iii) Changes in the governor or control design.
(iv) Installation of a propeller governor or feathering system.
(v) Installation of propeller deicing system.
(vi) Installation of parts not approved for the propeller.

(4) Appliance major alterations. Alterations of the basic design not made in accordance with recommendations of the appliance manufacturer or in accordance with an FAA Airworthiness Directive are appliance major alterations. In addition, changes in the basic design of radio communication and navigation equipment approved under type certification or a Technical Standard Order that have an effect on frequency stability, noise level, sensitivity, selectivity, distortion, spurious radiation, AVC characteristics, or ability to meet environmental test conditions and other changes that have an effect on the performance of the equipment are also major alterations.

43xA.b Major repairs

(1) Airframe major repairs. Repairs to the following parts of an airframe and repairs of the following types, involving the strengthening, reinforcing, splicing, and manufacturing of primary structural members or their replacement, when replacement is by fabrication such as riveting or welding, are airframe major repairs.
(i) Box beams.
(ii) Monocoque or semi monocoque wings or control surfaces.
(iii) Wing stringers or chord members.
(iv) Spars.
(v) Spar flanges.
(vi) Members of truss-type beams.
(vii) Thin sheet webs of beams.
(viii) Keel and chine members of boat hulls or floats.
(ix) Corrugated sheet compression members which act as flange material of wings or tail surfaces.
(x) Wing main ribs and compression members.
(xi) Wing or tail surface brace struts.
(xii) Engine mounts.
(xiii) Fuselage longerons.
(xiv) Members of the side truss, horizontal truss, or bulkheads.
(xv) Main seat support braces and brackets.
(xvi) Landing gear brace struts.
(xvii) Axles.
(xviii) Wheels.
(xix) Skis, and ski pedestals.
(xx) Parts of the control system such as control columns, pedals, shafts, brackets, or horns.
(xxi) Repairs involving the substitution of material.
(xxii) The repair of damaged areas in metal or plywood stressed covering exceeding six inches in any direction.

(xxiii) The repair of portions of skin sheets by making additional seams.
(xxiv) The splicing of skin sheets.
(xxv) The repair of three or more adjacent wing or control surface ribs or the leading edge of wings and control surfaces, between such adjacent ribs.
(xxvi) Repair of fabric covering involving an area greater than that required to repair two adjacent ribs.
(xxvii) Replacement of fabric on fabric covered parts such as wings, fuselages, stabilizers, and control surfaces.
(xxviii) Repairing, including rebottoming, of removable or integral fuel tanks and oil tanks.

(2) Powerplant major repairs. Repairs of the following parts of an engine and repairs of the following types, are powerplant major repairs:
(i) Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with an integral supercharger.
(ii) Separation or disassembly of a crankcase or crankshaft of a reciprocating engine equipped with other than spur-type propeller reduction gearing.
(iii) Special repairs to structural engine parts by welding, plating, metalizing, or other methods.

(3) Propeller major repairs. Repairs of the following types to a propeller are propeller major repairs:
(i) Any repairs to, or straightening of steel blades.
(ii) Repairing or machining of steel hubs.
(iii) Shortening of blades.
(iv) Retipping of wood propellers.
(v) Replacement of outer laminations on fixed pitch wood propellers.
(vi) Repairing elongated bolt holes in the hub of fixed pitch wood propellers.
(vii) Inlay work on wood blades.
(viii) Repairs to composition blades.
(ix) Replacement of tip fabric.
(x) Replacement of plastic covering.
(xi) Repair of propeller governors.
(xii) Overhaul of controllable pitch propellers.
(xiii) Repairs to deep dents, cuts, scars, nicks, etc., and straightening of aluminum blades.
(xiv) The repair or replacement of internal elements of blades.

(4) Appliance major repairs. Repairs of the following types to appliances are appliance major repairs:
(i) Calibration and repair of instruments.
(ii) Calibration of radio equipment.
(iii) Rewinding the field coil of an electrical accessory.
(iv) Complete disassembly of complex hydraulic power valves.
(v) Overhaul of pressure type carburetors, and pressure type fuel, oil and hydraulic pumps.

INSTRUCTIONS FOR COMPLETING FORM 337 REF: AC 43.9-1F

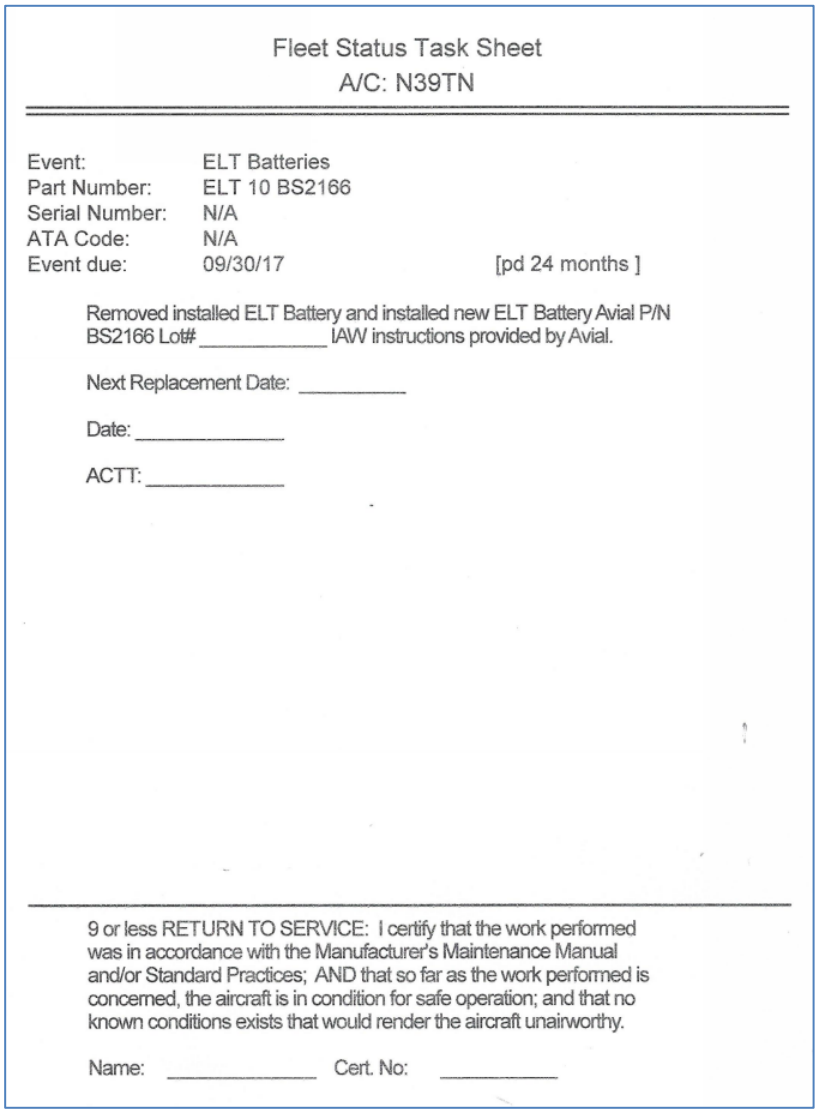
ON THE FRONT SIDE OF THE FORM.

1. AIRCRAFT-Enter the make, model, serial number, nationality and registration mark of the aircraft.
2. OWNER-Fill in the name and address of the owner as shown on the registration.
3. FOR FAA USE ONLY- This block is reserved for the FAA.
4. UNIT IDENTIFICATION-Designate the unit on which a major repair or alteration has been made, specifying make, model, and serial number.
5. TYPE- Check the applicable block, repair or alteration.
6. CONFORMITY STATEMENT- Fill in the name and address of the agency doing the work, the type of agency and the certificate number. In addition the date and the signature of the authorized individual.
7. APPROVAL FOR RETURN TO SERVICE-Upon approval of the work accomplished, the approved block should be checked, and the type of agency granting the approval specified. Below this enter the date of the approval, the certificate number of the agency, and the signature of the authorized individual approving this work.

ON THE BACK SIDE OF THE FORM

8. DESCRIPTION OF WORK ACCOMPLISHED- This section should include the following:
   a. On the first line enter the Aircraft registration number, serial number, make/model and date. This information should be provided on the first line of the back of each 337 form to help identify the aircraft in question when copies of the original 2-sided 337 are made for whatever purpose.
   b. Description of the work accomplished or reference to approved instructions or procedures that were utilized.
   c. The Approval basis
   d. Reference to any equipment list and/or weight & balance changes necessary.
   e. Provisions or Instructions for continued airworthiness secondary to the Repair or Alteration.

EXAMPLE OF TASK SHEET



Fleet Status Task Sheet
A/C: N39TN

Event: ELT Batteries
Part Number: ELT 10 BS2166
Serial Number: N/A
ATA Code: N/A
Event due: 09/30/17 [pd 24 months]

Removed installed ELT Battery and installed new ELT Battery Avial P/N BS2166 Lot# _____ IAW instructions provided by Avial.

Next Replacement Date: _____

Date: _____

ACTT: _____

9 or less RETURN TO SERVICE: I certify that the work performed was in accordance with the Manufacturer's Maintenance Manual and/or Standard Practices; AND that so far as the work performed is concerned, the aircraft is in condition for safe operation; and that no known conditions exists that would render the aircraft unairworthy.

Name: _____ Cert. No: _____

Task Sheets are created by the Fleet Status II® Program and filed in the Aircraft's Continuous Maintenance File after completion by a mechanic and an ARL signature is affixed.

EXAMPLE OF C.A.F.P. FERRY PERMIT

TRANSNORTHERN AVIATION

C.A.F.P.

Ferry Flight Permit

Aircraft Make/Model:			
Aircraft Number:			
Flight Number:			
Date:			
Route:			
Aircraft Inspected by:		**Signature:**	

SPECIAL LIMITATIONS

	Flight Crew Authorized IAW with company Operational Control Procedures including weather briefing/limitations.
	Flight Log "Corrective Action" completed per CAFP.
	Flight Plan filled with FAA or per Company VFR Procedures.
	Required Aircraft Configurations authorized confirmed with Crew.
	Fuel Requirements/Limitations Determined for specific Ferry Flight.
	C.G. and MTOW limits determined for specific Ferry Flight.
	No unauthorized personnel on flight.
	Other:

Flight Authorized by Director of Maintenance / Chief Inspector (Circle One)

OR	Signature:	
	Verbal with Flt crew - Time/Date:	

Notes to review at CASP:

SECTION F - CONTRACT AGENCIES

The company does not utilize "Contract Agencies" at this time.

SECTION G - CASP CONTINUING ANALYSIS AND SURVEILLANCE PROGRAM

ELEMENT 1 - Description

FAR 135.431 mandates that aircraft certified for operations with 10 or more seats maintained in accordance with a system or program for the continuing analysis and surveillance of the performance and effectiveness of its inspection program and the program covering other maintenance, preventive maintenance, and alterations and for the correction of any deficiency in those programs, regardless of whether those programs are carried out by the certificate holder or by another person.

ELEMENT 2 – Abbreviations & Definations

CASP	Continuing Analysis and Surveillance Program Or Continuing Analysis and Surveillance System
TNA	TransNorthern Aviation Cert TN8A405Y
GM	General Manager
CM	CASP Manager
DM	Director of Maintenance
CI	Chief Inspector
RM	Records Manager
RD	Records Department
RII	Required Inspection Item
Vendor	Company who supplies parts or overhauls parts
PMI	FAA assigned Principal Maintenance Inspector
GOM	General Operations Manual
GMM	General Maintenance Manual (This document)

ELEMENT 3 – Functions of the program

The Company's CASP has two functions:

The "**audit function**" which includes:

1) A follow up for those components removed due to premature failure and the evaluation of any teardown reports to determine if company procedures need modification.
2) Quarterly review of the company's entire maintenance functions with recommendations for improvements provided to the GM as needed.
3) Continuous monitoring of company maintenance facilities for compliance with company procedure. This includes such things as:

a. Ensuring that all publications and work forms are current and readily available to the user.
b. Ensuring that major repairs/alterations are classified properly and accomplished with approved data.
c. Ensuring that carryover items and deferred maintenance are properly handled.
d. Ensuring that vendors are properly authorized, qualified, staffed, and equipped to do the contractor function according to the operator's manual.

The "**performance analysis function**" includes daily and long-term monitoring and emergency response related to the performance of affected aircraft systems, including aircraft engines and components. This function includes monitoring such things as:

a) Daily mechanical problems for affected aircraft (daily monitoring)
b) Deferred maintenance items including excessive number and times (daily monitoring)
c) Pilot reports compiled by Air Transport Association (ATA) code (long term monitoring)
d) Mechanical Interruption Summary Reports (MIS) (long term monitoring)
e) Contained engine failures (emergency response)
f) High number of unscheduled component removals (long-term monitoring)

The company will use internal audits for the verification of in house practices, and an onsite evaluation form is provided for evaluation of maintenance tasks and adherence to manual procedures. These forms will be controlled by the CM and will be reviewed at the CASP meetings, and used for Systems Audits in Element 8 to audit the program and provide recommendations for improvements based on empirical analysis. It contains a revision procedure, listed in Element 9 for follow up and procedural changes by the GM for items, or the program itself for deficiencies found.

The CM will perform External Audits on vendors. These should occur on site when deemed practical and/or necessary. A vendor audit form is provided to auditors. The CM will maintain a file on the audits, and the audits will be reviewed at the CASP meeting, and will undergo evaluation and recommendations using the same process as the CASP itself.

Due to the scope of the operation, TNA does not use third party audits, but at quarterly review should it become needed the program has the ability to expand and implement Third Party Audits.

ELEMENT 4 – Responsibility

TransNorthern's CASP Manager (CM) manages the Continuing Analysis and Surveillance Program (CASP) and is responsible for all of its functions. The Records department assists

the CM by organizing and providing data. All company employees are encouraged to provide suggestions for improvement of the Company's Maintenance procedures.

The CM should have both formal and in-house training, preferably with some formal training and/or experience, but must have the experience, whether classroom or practical, to coincide with the complexity of the operation and position. The CM is encouraged to have recurrent and additional training to keep abreast of modern systems for auditing and risk management/analysis.

The CM also has the authority to addresses operational matters, such as maintenance scheduling, control and accountability of work forms, conformity to technical instruction, the adequacy of equipment and facilities, parts protection and inventory, mechanic competency, compliance with procedural requirements, and shop orderliness. Recommendations are passed on directly to the General Manager.

The CM is responsible for ensuring the CASP remains current by evaluating processes, maintaining effective communication and feedback between the different departments, including but not limited to Maintenance, Operational, Records, and GM. The CM is also responsible for implementing changes when the audit system shows system deficiencies.

The CM is responsible for maintaining the forms required by this system, and implementing revisions when needed, and ensuring CASP records are retained as specified in the system.

While overall responsibility for the CASP lies with the CM, it is the responsibility of ALL employees to provide the highest level of safety by actively participating in the system and providing feedback at all times.

ELEMENT 5 – Delegation

The company's daily paperwork is processed through the Records Department (RD) therefore the CM relies upon the RD to provide immediate notification of any abnormalities or discrepancies provided by Flight Operations.

The CM should ensure to the extent possible and in accordance with the scope and complexity of the operation that individuals responsible for evaluating and auditing should be independent of the areas they audit.

The CM may delegate responsibilities, and is in fact encouraged to do so. The overall effectiveness of the system relies on all employees participating in all hazard identification.

All employees will have initial and recurrent training in both overall operation of the CASP and procedures for identifying and reporting ANY safety hazard, whether it is a safety hazard in the hangar, deficiencies in the program itself, whether in maintenance, safety,

operationally, or policy. A form is provided to report these, and they will be evaluated by the CM in accordance with the CASP.

ELEMENT 6 – Meetings

The GM will schedule meetings quarterly and within the 1st 30 days of the start of each quarter. The GM will give written notice to the following persons as to the date and time of each meeting. This notice must be made at least 5 days prior to the date of the meeting and will be scheduled during normal business hours on a weekday. The GM will preside at each meeting.

Company	General Manager
	Director of Maintenance
	Director of Operations
	CASP Manager
	Chief Inspector
	Chief Pilot
	Records Manager
FAA	Principal Maintenance Inspector

Additionally, the GM will post a copy of the meeting announcement in the maintenance office and invite any interested company employee to attend.

ELEMENT 7 – MEETING AGENDA

Prior to each meeting the CM will review the aircraft discrepancies for each company aircraft from the prior quarter and prepare a summary of the number and type of significant or recurring discrepancies that occurred. Copies of this summary will be made available to each interested person at the meeting. (Utilize Form in this section)

The agenda for each meeting shall contain (at a minimum) the following:

1. Review of Discrepancy Records
2. Review of Teardown Reports
3. Review of Service Difficulty Reports of previous quarter
4. Review of Mechanical Interruption Summary Reports
5. Suggestions for improving the Maintenance Program
6. Review of Hazards and Safety submissions forms and corrective actions
7. Review of Audits
8. Recommendations for improvements to CASP procedures to correct hazards, deficiencies found in audits
9. Evaluation of CASP improvements to determine effectiveness

The CM will be responsible for maintaining records of the meetings.

ELEMENT 8 – Program Procedures

The program is designed to monitor the activities of the Maintenance Department, operations of the Flight Department, and practices and policies of all employees to ensure TNA maintains the highest level of safety. The program is designed to identify, evaluate, and correct deficiencies in policies, procedures, and environment that decrease the overall safety of the entire operation. The program is further designed to be self-evaluating, and correct these deficiencies in the program itself. It does this through the quarterly evaluation, improvement, and improvement evaluation process.

Flight Department Input

The PIC is responsible for accurate completion of the Aircraft Flight Log. This flight log is forwarded daily to the Records Department.

Maintenance Department Input

The Maintenance Departments corrects discrepancies in accordance with the GMM, Federal Aviation Regulations, and FAA approved Manuals and procedures. After maintenance entries are signed off they are forwarded to the Records Department. The Maintenance department also forwards completed Discrepancy Sheets to the Records Department.

Records Department Function

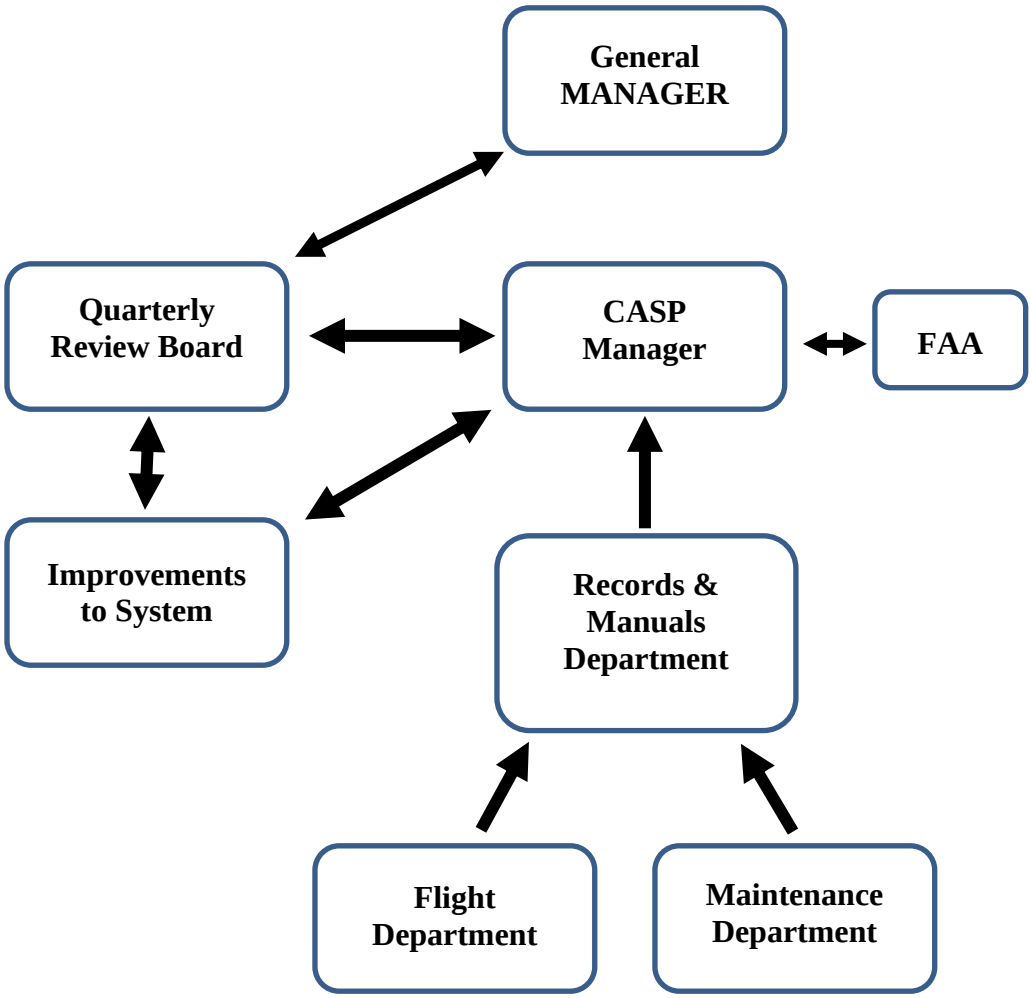
Input Functions

1. The Records Department monitors aircraft engine Trends and reports any abnormalities to the Director of Maintenance and the CM.
2. The Records Department assures that any discrepancies noted have been properly signed off and a copy of all flight logs containing discrepancies is placed in the Aircraft Discrepancy Record.
3. The Records Department shall update Maintenance manuals in a timely manner when the company receives approved manual updates.

Output Functions

1. The Records Department provides Weekly reports to the Director of Maintenance as to projected time lines for scheduled maintenance.
2. The Records Department provides Task Sheets to the Director of Maintenance for completion of scheduled maintenance.
3. The Records Department provides Reports and documents to the CM as requested.

CASP Data Flow Chart



ELEMENT 9 – Revisions

Revisions to the GMM (which contains the CASP) will be made as Outlined in Section "A" of this manual.

Revisions to the CASP program will be made following the recommendations of the review conducted during the quarterly meetings. These revisions will be audited and evaluated following the procedures of this Manual, and in accordance with current FAR`s.

ELEMENT 10 – Audit Frequency, Maintenance Audits, Vendor Audits

The CM is responsible for monitoring on a continual basis the company maintenance facilities for compliance with company procedure as part of the Audit function. The includes such things as; Ensuring that all publications and work forms are current and readily available to the user, ensuring that major repairs/alterations are classified properly and accomplished with approved data, ensuring that carryover items and deferred maintenance are properly handled, ensuring that vendors are properly authorized, qualified, staffed, and equipped to do the contractor function according to the operator's manual. There are audit forms provided for this, and these forms are to retained by the CM, and are to be evaluated at the quarterly meetings, and reviewed annually for effectiveness, and changes made as required in accordance with the procedures set forth in this Manual.

The CM is responsible for reviewing all Audit Forms, Hazard Identification Forms, Form 337, Discrepancy Records, Mechanical Interruption Summaries, Service Difficulty Reports and Engine Trend Monitoring status on a quarterly basis. This is typically done during the quarterly CASP meetings.

The CM is responsible for reviewing (or assigning a qualified person to review) aircraft Weight & Balance Records, Approved Vendor Lists, Maintenance Training Records, Maintenance Manual Currency and any other item that he/she deems necessary at least annually.

The CM is responsible for determining the Audit frequency as needed, and evaluating and changing this frequency when conditions warrant. The CM is also responsible for determining the audit types used and revising the procedures used based on risk assessment. The complexity of the system will be based on the scope and complexity of the operation, and the overall effectiveness of the system, and the deficiencies found in the program itself.

ELEMENT 11 – Reporting Procedures

Reporting procedures are described throughout the GOM and the GMM and must be adhered to. The CASP Manager (CM) reports only to the GM. These reports are accomplished at Quarterly Meetings, however any specific written report requested by the GM or PMI must be completed by the CM or his/her designee.

ELEMENT 12 – Forms

Vendor Audit Report
TransNorthern LLC

Vendor Agency Name	Date of Audit

Drug Program Current: 0 Yes 0 No

Certified Repair Station Cert Current: 0 Yes 0 No

Vendor Utilized past 12 months: 0 Yes 0 No

Any Problems Noted with Vendor? 0 Yes 0 No

Additional Comment.

Audit completed by:

File this form with the Approved Vendor List until superseded.

EXAMPLE OF APPROVED VENDOR REPORT

Accessory and Component Inspection Teardown Report

ATA	Part No.	Part Name / Description	Serial Number

A/C	Type	Pos	Date Removed	TSO:	CSO:
				TSN:	CSN:

Reason Removed:

Work Required: 0 Overhaul 0 Repair 0 Warranty

Other:

Vendor Agency Name	Date Received	Vendor W/O#	Shipped Via

Receiving Inspection:

Functional/Bench Check:

Teardown Inspection:

Remarks and/or Recommendations (if failure, include opinion of cause):

Failure Confirmed: 0 Yes 0 No	Warranty 0 Yes 0 No	
Technician:	CRS#	Date:

Please return this form to: TransNorthern LLC
335 Old International Airport Road
Anchorage, Alaska 99502

EXAMPLE OF TEARDOWN REPORT

Maintenance

Surveillance Work Sheet

TransNorthern LLC

Date: _____ **N _____** **Mechanic: _____**

Inspection Sheets: _____

Correct Tools _____

Correct Tool Cal _____

Correct Data Ref _____

Parts Traceability _____

Discrepancies Noted _____

Discrepancies ARL _____

Inspection Sheet _____

Task Sheet ARL _____

Maintenance Log _____

Completion of 337 if applicable _____

Completion of Log Entry if applicable _____

REPORT BY: _____

EXAMPLE of SURVEILLANCE WORKSHEET

Quarterly CASP Report
TransNorthern LLC

ITEM	YES	NO
Date:		
Flight Logs		
Discreapncy Correction Forms		
Reviewed Mechanical Interruption Summary Reports		
Reviewed installed Form 337s		
Reviewed EngineTrend Monitoring records		
Reviewed MEL'd items status		
Reviewed Special Tool Calibration Dates		
Checked Adequacy of Equipment, Facilities and Staffing		
Check for compliance with RII items.		
Check Aircraft Flight Logs for accuracy of Time in Service		
Review Hazards and Safety Forms & corrective actions		
Check Requirements for Records Retention have been met		
Check Training Records for Maintenance & Inspector personnel		
Review any auditing in past quarter – determine topic and schedule for next auditing		
Evaluate Program Effectivity		
Suggestions for Program Improvements		
Evaluate previous Improvements effect		

Section H - Definitions

Rev	Maintenance Term	Definition
Two	**AAIP**	Approved Aircraft Inspection Program. An AAIP must be APPROVED by the FAA for a specific operator and specific aircraft that are inspected by the operator. AAIP programs are the inspection program to be utilized by 9 or less passenger aircraft.
Two	Aircraft Technician	For all maintenance actions except signing of an Airworthiness Release or Required Inspection Items (unless authorized); a person holding either an aviation maintenance certificate issued under FAR Part 65 or a Canadian Aircraft Maintenance Engineer License.
Two	Airworthiness	A condition in which the aircraft, airframe, engine, propeller accessories and appliances meet their type design and are in a condition for safe operation.
Two	Airworthiness Release	The time before next scheduled maintenance is due is shown on each new page of the Airplane Flight Logs found in the Aircraft Metal Box. When scheduled maintenance is accomplished, an authorized person from the company should make an "Airworthiness Release" on the Discrepancy line indicating the Maintenance that was due and confirmation that the Maintenance was properly completed. An authorized certificated mechanic or repairman's signature can be utilized without of restating each of the conditions of the certification required 14CFR Part 135 or 14CFR Part 91K
Two	Alternate	a) A non-original item that fully meets required functional and structural specifications of the original. Or b) A procedure that fully meets the required maintenance specifications, but may require additional training, special tooling and/or test equipment.
Two	ARL	the term “ARL” to mean Airworthiness Release, Return to Service OR Log Book Entry when signed by an authorized individual
Two	Assembly	A number of parts or subassemblies or any combination thereof joined together to perform a specific function. Note: The distinction between an assembly and a subassembly is not always exact—an assembly in one instance may be a subassembly in another where it forms a portion of an assembly.
Two	Authorized Signature	The signature of an individual authorized by the company to certify completion of a task. This includes Maintenance tasks, Training Tasks and Flight operations Tasks. An authorized certificated mechanic or repairman's signature can be utilized without of restating each of the conditions of the certification required 14CFR Part 135 or 14CFR Part 91K

Two	Bench Check	The removal of the unit/system from an aircraft or stock and making a verification of its performance and tolerance as specified in the approved maintenance or operator's manuals for any one or all of its functions. This check may include minor adjustments, markings and/or lubrications.
Two	Calendar Day	A calendar day ends at midnight, regardless of when, during that day, an inspection or other maintenance was signed off.
Two	Calendar Month	A calendar month ends at midnight of the last day of the month.
Two	Calendar Year	A calendar year ends at midnight on the last day of the month of the following year
Two	Calibrated Tool	Tool calibration is one of the primary processes used to maintain the ability of the tool to provide a result for a sample within an acceptable range. Tools used in Aircraft Maintenance should be calibrated by an authorized vendor to manufacturer's standards as indicated by the manufacturer - typically annually. Calibrated tools are stored separately from other equipment and if a Calibrated tool is suspected to be damaged or inaccurate it must be TAGED as such and moved to a designated UNSERVICABLE PARTS area.
Two	CAMP	Continuous Airworthiness Maintenance Program - This is the inspection program written specifically for a 10 or more passenger aircraft in compliance with § 135.425. It is APPROVED by the FAA specifically for our company and must list each aircraft eligible to be inspected under this program.
Two	**CAP**	Continuous Airworthiness Program - Defined in FR 6522 May, 1964 - Program for overhaul maintenance of aircraft operated in commercial service with a passenger seating configuration of 10 or more. Some people refer to this as the colloquial term CAMP - TNA utilizes the term CAMP as an approved Inspection Program for a specific aircraft.
Two	Certificate Holder	An entity that has been issued a Certificate by the FAA for Specific Flight Operations. Also known as the Company.
Two	Certificate Number	A number issued by the FAA (or regulatory authorities of full bilateral countries such as Canada and Germany) to the holder for purposes of identifying the authorizations held by that certificate. Examples of FAA issued certificate numbers are aircraft technician (mechanic) certificate, repairman certificate, air agency certificate such as air carrier certificate (used only by those directly employed by the carrier) and repair station certificate.
Two	Check	Examination in the form of comparisons with stated standards for the purpose of certifying condition, accuracy, and tolerance.
Two	Check, Function	A function check is a check of an individual system or element.
Two	Check, Leak	Pressurize a system and observe that no leaks exist.

Two	Check, Operational	An operational check is a test of multiple systems functioning together.. As in a Flight Check after maintenance.
Two	Check, Pressure	Pressurize a system and observe that it remains normal constant pressure
Two	Check, Visual	Visually examine a system for airworthiness IAW a maintenance procedure
Two	Component	An assembly or any combination of parts, subassemblies and assemblies mounted together normally capable of independent operation in a variety of situations. They are economically repairable and in the normal course of operations are continually rehabilitated to a fully serviceable condition over a period of approximately, if not equal, to the life of the flight equipment to which they are related. They are considered to possess full economic value irrespective of day-today change in status of serviceability or repair in the operational cycle, until they are no longer of value.
Two	Cycle	An Engine start and run through takeoff, landing, and shutdown is considered one (1) cycle. The term “cycle” is used in conjunction with powerplant and/or airframe items.
Two	Deferred Item	A maintenance discrepancy or inoperative component which, under conditions set forth in this manual, is allowed to remain inoperative or in a state of disrepair for a specified amount of time pending available parts, personnel and facilities.
Two	Directly In Charge	A person who is "directly in charge" need not physically observe and direct each worker constantly but must be available for consultation and decision on matters requiring instruction or decision from higher authority than that of the person performing the work
Two	Emergency	A situation that requires immediate action to prevent injury or property damage.
Two	Failure	The inability of an item to perform its intended function within previously specified limits.
Two	Fleet	Aircraft owned or operated by the Certificate Holder.
Two	Hard Time	A "hard time" is an inspection or overhaul item that must be accomplished on or before a specific time. Conversely, a "soft time" item can be conducted any time during a range of time as specified on the inspection or overhaul document.
Two	Inflight Emergency	During time an aircraft is airborne under its own power, a situation that requires immediate action to prevent injury or property damage. For example, an electrical failure may have an emergency checklist but is not considered an inflight emergency. An electrical fire, on the other hand, would be in inflight emergency since delayed action will, at a minimum, cause additional property damage.

Two	Landing	A landing is considered the time after a flight when the full weight of the aircraft is back on the wheels.
Two	Log Book Entry	Log Book Entry is any documentation that Maintenance was accomplished on an aircraft. It must be signed by an authorized individual and filed as per company procedures. Technically there is no difference between a "Log Book Entry", A "Return to Service" entry and a "Airworthiness Release".
Two	Manufacturer's Program	9 or less passenger Aircraft operated by the company that are not eligible to be inspected by a AAIP may be inspected in accordance with the manufacturer's Inspection program.
Two	MSpecs	Part 91K operators are issued Management Specifications - they are the equivalent of OpsSpec
Two	OpSpecs	Operations Specifications - These are the specific authorizations, terms, conditions and limitations issued by the FAA for the Company. OpSpecs must be carried on each aircraft and can be found on the company web site.
Two	Person	Person means an individual, firm, partnership, corporation, company, association, joint-stock association, or governmental entity. It includes a trustee, receiver, assignee, or similar representative of any of them. (IAW 14CFR 1.1). I.e. A Repair Station is a "Person"
Two	Program Performance	Means that all personnel, including air carrier maintenance providers, are following the air carrier's program as it has documented in its manual.
Two	Return to Service	When a discrepancy (Canadian = snag) is discovered it must be corrected by an authorized individual before the aircraft it 'returned to service'. The work and the 'return to service' statement must be accomplished by an authorized certificated mechanic or repairman and must be Signed by the person preforming the work.
Two	Soft Time	A "soft time" item is not required to be performed as a specific time but can be done any time within a range of time as specified on the inspection or overhaul document. Some Soft Time items may be entered in the FSII program at the discretion of the DM as reminders and not necessarily required items.
Two	TAG or TAGED	Parts or Components of an Aircraft MUST be identified with a TAG whenever they are not installed on an Aircraft. The TAG format is NOT important but must contain as much information as possible to determine the status of the part. Information such as where it was obtained, Time in service or time since Overhaul, date of overhaul, date of "tag", mechanical status, should be included. Person completing the tag should note their name on the tag.
Two		