Maritime Helicopters

November 2016 Quality & Safety Notes

It's STILL fall in Alaska. That means…it's winter in Alaska!

Winter still isn't here formally, but it sure looks and feels that way outside. About this time of year, I usually get to be an endless, droning soapbox preacher of winter survival and what-to-wear-in-the cold, and how to start a fire, and wool is your best friend, and how good are your tires on ice?, and, and, and… You get the picture. But the reasons I do that are

1. I like talking about the cold and what it's like to camp at -67 Fahrenheit
2. Winter means another chance to buy more gear from Sportsman's Warehouse and REI
3. Alaska is so much fun in the winter
4. I want everyone to be safe!

OSHA does publish a lot of information regarding safety in different environments. Could I please have the front office folks at each site pin a few of these cards to the bulletin boards around the respective hangars?

https://www.osha.gov/Publications/OSHA3156.pdf

(OSHA Cold Stress Cards on next page)

There is no way of guaranteeing that everyone will be safe from cold injuries this winter other than WATCHING OUT FOR EACH OTHER. Please be mindful of cold weather safety and look out for customers as well as co-workers!

Dressing for the C O L D

- Keep Clothing Clean
  Dirt and grease block up the air spaces in your clothing and reduce the insulation value.
- Avoid Overheating
  Sweat can freeze on outer layers. Stay dry, moisture will decrease the insulating ability of your clothing.
- Wear Clothing in Layers
  Loose clothing allows air spaces to help trap warm air without restricting blood circulation. Good blood circulation helps to prevent frostbite.
- Keep Clothing Dry
  You've got to keep your clothing dry, from the outside as well as from the inside.

Tips for dressing in the cold remember the acronym C.O.L.D.

OSHA® QUICK CARD™

Protecting Workers from Cold Stress

Cold temperatures and increased wind speed (wind chill) cause heat to leave the body more quickly, putting workers at risk of cold stress. Anyone working in the cold may be at risk, e.g., workers in freezers, outdoor agriculture and construction.

Common Types of Cold Stress

Hypothermia

- Normal body temperature (98.6°F) drops to 95°F or less.
- **Mild Symptoms**: alert but shivering.
- **Moderate to Severe Symptoms**: shivering stops; confusion; slurred speech; heart rate/breathing slow; loss of consciousness; death.

Frostbite

- Body tissues freeze, e.g., hands and feet. Can occur at temperatures above freezing, due to wind chill. May result in amputation.
- **Symptoms**: numbness, reddened skin develops gray/white patches, feels firm/hard, and may blister.

Trench Foot (also known as Immersion Foot)

- Non-freezing injury to the foot, caused by lengthy exposure to wet and cold environment. Can occur at air temperature as high as 60°F, if feet are constantly wet.
- **Symptoms**: redness, swelling, numbness, and blisters.

Risk Factors

- Dressing improperly, wet clothing/skin, and exhaustion.

For Prevention, Your Employer Should:

- Train you on cold stress hazards and prevention.
- Provide engineering controls, e.g., radiant heaters.
- Gradually introduce workers to the cold; monitor workers; schedule breaks in warm areas.

For more information:

OSHA® Occupational Safety and Health Administration

U.S. Department of Labor

www.osha.gov (800) 321-OSHA (6742)

OSHA 3156-02R 2014

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How to Protect Yourself and Others

- Know the symptoms; monitor yourself and co-workers.
- Drink warm, sweetened fluids (no alcohol).
- Dress properly:
  - Layers of loose-fitting, insulating clothes
  - Insulated jacket, gloves, and a hat (waterproof, if necessary)
  - Insulated and waterproof boots

What to Do When a Worker Suffers from Cold Stress

For Hypothermia:

- Call 911 immediately in an emergency.
- To prevent further heat loss:
  - Move the worker to a warm place.
  - Change to dry clothes.
  - Cover the body (including the head and neck) with blankets, and with something to block the cold (e.g., tarp, garbage bag). Do **not** cover the face.
- If medical help is more than 30 minutes away:
  - Give warm, sweetened drinks if alert (no alcohol).
  - Apply heat packs to the armpits, sides of chest, neck, and groin. Call 911 for additional rewarming instructions.

For Frostbite:

- Follow the recommendations "**For Hypothermia**".
- Do not rub the frostbitten area.
- Avoid walking on frostbitten feet.
- Do not apply snow/water. Do not break blisters.
- Loosely cover and protect the area from contact.
- Do not try to rewarm the area unless directed by medical personnel.

For Trench (Immersion) Foot

- Remove wet shoes/socks; air dry (in warm area); keep affected feet elevated and avoid walking. Get medical attention.

For more information:

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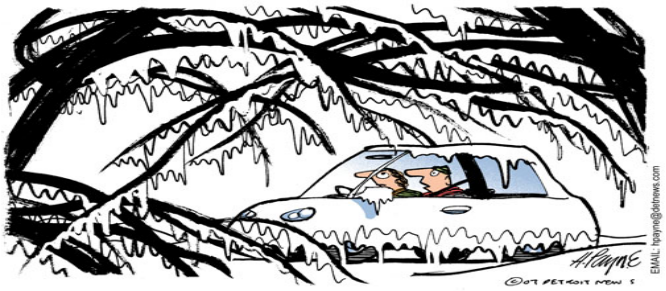


"I miss global warming."

(I want to keep the following story in the newsletter for a few more months until we get used to doing these walk-arounds. Good job so far at being mindful of our vehicle fleet!)

Vehicle Walk Arounds

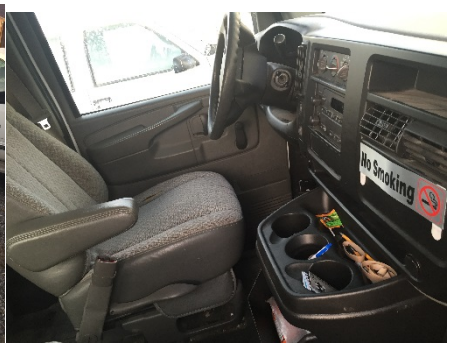
In order to NOT inundate us with paperwork we are going to change the policy for our vehicle fleet inspections.

Since the station audits are being performed which include the vehicles, the daily inspection sheet is being eliminated.

Instead, just as several of our customers do, I am going to ask that EVERY TIME you get the keys to a vehicle from Becky or Jessica, that you perform a 360 Degree walk-around inspection to note the condition of the vehicle before you hop in. There have just been too many times lately where vehicles have had low tires, road rashes, or just general trash from daily use (McDonald's wrappers, soda cans, etc.) Our trucks and vans are used by both employees and customers. We can't have unsafe or shabby looking vans and trucks.

This is not meant to be anything more than a "Condition & Security" type walk-around. Simply check for tire inflation, leaks, CLEANLINESS, or anything else out of the ordinary, and inform Becky or Jessica. TOO EASY!

I'm going to ask Becky and Jessica to ask everyone when they return keys, to ask, "Did you find anything on your walk-around?" That way, if we have maintenance problems or cleanliness issues, we can get them fixed right away!



New Station Audit Checklists (yes, I'm keeping this in here every month)

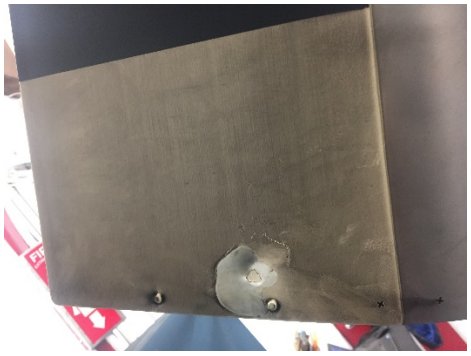
The new station audit checklists are still working great for most stations. Please remember that each time you come on shift to take the time to go through the station checklist, see if you need any assistance and then send the checklist to me.

Continue sending them to me at…

safety@maritimehelicopters.com or fax them to Fairbanks office at 907-452-4539

Incident Reporting October/November

FIR: Bell 412/328MH: The aircraft was being repositioned/ferried back to Fairbanks from 5 weeks of work in the Nikiski area. The pilot and mechanic flew from Nikiski to Talkeetna (fuel stop) and then Fairbanks. When arriving at Fairbanks, the post flight revealed a significant ding/dent in a tail rotor blade, near the outboard end on the right side. Closer inspection brought out the possibility that this could have been damage made by a bullet. The "divot" was 1/8th inch deep with a damage limit of 30 thousandths.



FIR: Bell 412/328MH (ALSO ON THE SAME FLIGHT as previous) Nikiski: Pilot was pre-flighting while the mechanic was removing ties, plugs, & heaters. The T/R tie-down was left on because of the wind. After the preflight, the pilot returned to the hangar to brief the customers for the day. Loading the aircraft in the dark and then assisting customer in shifting some baggage around, the final walkaround was not accomplished. The pilot started the aircraft with the tail rotor tie-down still attached. Later that day, the pilot and the mechanic noted that the tiedown "ring" aka "footman arm" for the tiedown was broken where the tiedown pulled through it. The tiedown and blade cuff was found on the ramp.

These two incidents, on the same day, really go to stress the importance of the final ***360 degree walkaround*** before flight. To highlight that walkaround, the GOM is being changed to include the Ramp and Landing Area Safety check which will be performed after each and every flight. That change is included below:

C. Ramp and Landing Area Safety

1. No helicopter will be operated so near another aircraft as to create a hazard.
2. Horizontal obstacle clearance shall be at least 12 feet from the main rotor disc.
3. All Company personnel shall be alert for any passengers in the ramp area and will advise them that they are not permitted in the area except to enplane and deplane.
4. After every shutdown, and prior to every start, complete a 360 degree walk around inspection of the aircraft.
5. On two bladed systems, displace the main rotor blades at least 30 degrees from the aircraft centerline prior to any start.

GOR: Tail Rotor Damage

The overhaul shop received a tail rotor assembly (Bell 206) from the field with a write-up about bearing play. The bearings were checked with nearly non-existent play from the bearings (.001", .002", .002", and .001 inch with a limit of .015").

Upon visual inspection of the Tail Rotor Hub Assembly, a circular wear mark was found on the T/R Yoke Face. Damage was found to be beyond limits (.012") but there is a reparable standard of .030" after repair if shot-peening was performed**.**

The choice was made to replace the Tail Rotor Yoke.

This incident became a Ground Occurrence so we could stress the importance of inspection of parts when they come of the aircraft for possible damage. This Tail Rotor Yoke damage could have been found on a preflight as it was quite evident. Mechanics and pilots should look at the photos below and we should have active conversations about this type of Hub/Yoke damage.

New Tool Control Policy

Recent customer audits have shown some inadequacies in how we do our tool control. The new policy, which I have attached to this letter in PDF format, will hopefully bring us close to meeting the industry best practices for tool control. There is usually a lot of pushback from the field when any company changes their tool control standards. That's normal. Many companies call this the FOD & Tool Control program, but I think that is a mistake. FOD control is making sure that we do not leave any Foreign Objects in the aircraft at the end of work or inspection. The FOD write-up in the logbook and the preflight are part and parcel of the Foreign Object Debris/Damage program. The ***Tool Control Program*** is a housekeeping measure that may enhance the FOD program, but falls in line as more of a housekeeping and security of tools policy.

Put simply, the addition of the Tool Control program isn't meant to imply that anyone is leaving tools on aircraft. It is meant to bring us in line with the industry standard.

Please, Please, Please, take some time to read through the new Tool Control Program and contact Steve, Brent, or Isaac if you have any issues. It is not meant to be painful. As we get more feedback, we will continue to discuss this in the coming months.

Dennis

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ENRA619D

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Table of Contents

1. INTRODUCTION 5
2. ABBREVIATIONS 5
3. IMPLEMENTATION AND MONITORING 5
3.1. Implementation 5
3.2. Monitoring 5
4. FIELD TOOLBOXES 5
4.1. Contents 5
4.2. Inventory 5
5. ROLLAWAY TOOLBOXES (FIELD, HANGAR AND SHOPS) 6
5.1. Contents 6
5.2. Personal Drawer 6
5.3. Inventory 6
5.4. Removal of tools from roll away for use in field box 6
6. COMPANY TOOLS 7
6.1. Contents 7
6.2. Inventory 7
6.3. Use of company tools at other locations 7
7. TOOL INVENTORY 7
7.1. General Inventories 7
7.2. Task Completion Inventories 7
8. LOST TOOLS 8
9. FORMS 9
9.1. TCP-1 9
9.2. TCP-2 10
10. TOOLBOX EXAMPLES 11
10.1. Field Box 11
10.2. Roll Away Box 12

1. INTRODUCTION

The Maritime Helicopters, Inc. Tool Control Program (TCP) establishes policy and responsibilities for implementing, maintaining, controlling, replacing and inventorying common hand tools. This includes company-furnished and employee owned.

A Tool Control Program (TCP) provides a means to rapidly account for all tools after completing a maintenance task, thus reducing the potential for FOD. The Tool Control Program must provide instant inventory capability designed to highlight a removed tool.

The primary objective of the tool control program is to ensure flight safety by eliminating aircraft accidents, incidents and associated equipment damage caused by lost or misplaced tools.

2. ABBREVIATIONS

TCP.....Tool Control Program
FOD .....Foreign Object Damage
PMI .....Preventative Maintenance Inspection
PIC.....Pilot in Command

3. IMPLEMENTATION AND MONITORING

3.1. Implementation

The Director of Maintenance will be responsible for implementing the program. The Inspection Department will be responsible for training of new hire Technicians. The Director of Maintenance will be responsible for ensuring new Technicians compliance with the tool control program within two months of their hire date. The Director of Maintenance will have the option of an extension of the due date if circumstances require.

3.2. Monitoring

Monitoring of the TCP will consist of visually inspecting Technicians photographic inventory and temporary tool forms by the Shop Forman, Director of Maintenance, Inspection Department or PIC (if in the field) at random intervals.

4. FIELD TOOLBOXES

4.1. Contents

The contents of the technician field toolbox will be of their choice, but must be designed in such a way as to quickly determine if a tool is removed in a manner approved by the company. Shadowing, tool pouches, tool racks or containers may be used to accomplish accountability (example in Sec. 9). If a tool or container contains smaller pieces this fact must be noted in a clear manner. An example would be a Screwdriver with tips in the handle or Allen wrenches in a bag. The item or location should identify “screwdriver + 5 tips” or “12 Allen wrenches”.

4.2. Inventory

A photographic tool inventory list shall be maintained in each toolbox. It will have a photo of each compartment or drawer in the toolbox. The photographic list shall be stored in a manner that prevents it from becoming FOD but available for review or inspection. This photographic list shall be maintained by the Technician and shall be updated within 30 days of a tool addition, deletion or change in location (within the field box) of the inventoried tools.

In addition to the above mentioned photographic list any temporary tools added to or removed from the toolbox shall be inventoried on a TCP-1 form. These tools will not require the shadowing but must be listed on the appropriate form and maintained in the same manner as the photographic tool inventory for the toolbox. This list is allowed as a means to inventory tools that are task specific use, tool awaiting proper addition to the toolbox, borrowed tools or tools loaned out to someone else. A tool shall not be carried on the temporary list for more than 90 days.

5. ROLLAWAY TOOLBOXES (FIELD, HANGAR AND SHOPS)

Note: All Boxes will be locked when unattended for extended periods, such as at the end of shift or end of the work schedule.

5.1. Contents

The contents of the technician's personal toolbox will be of their choice, but must be designed in such a way as to quickly determine if a tool is removed in a manner approved by the company. Shadowing, tool pouches, tool racks or containers may be used to accomplish accountability (example in Sec. 9). If a tool or container contains smaller pieces this fact must be noted in a clear manner. An example would be a Screwdriver with tips in the handle or Allen wrenches in a bag. The item or location should identify "screwdriver + 5 tips" or "12 Allen wrenches".

5.2. Personal Drawer

Any drawer(s) of the toolbox may be used for personal effects. This drawer(s) must be labeled as such and shall **NOT** contain any type of tool, consumable, part or hardware.

5.3. Inventory

A photographic tool inventory list shall be maintained in each toolbox. It will have a photo of each compartment or drawer in the toolbox. The photographic list shall be stored in a manner that prevents it from becoming FOD but available for review or inspection. This photographic list shall be maintained by the Technician and shall be updated within 30 days of a tool addition, deletion or change in location (within the roll away) of the inventoried tools.

In addition to the above mentioned inventory list any temporary tools added to or removed from the toolbox shall be inventoried on a TCP-1 form. These tools will not require the shadowing but must be listed on the provided form and maintained in the same manner as the photographic tool inventory for the toolbox. This list is allowed as a means to inventory tools that are task specific use or tool awaiting proper addition to the toolbox. A tool shall not be carried on the temporary list for more than 90 days.

5.4. Removal of tools from roll away for use in field box

Tools removed from roll away tool boxes for use in field boxes will not require any change or modification to the roll away photographic inventory or the use of form TCP-1 provided that:

1. The roll away is stored locked and will not be accessible while you are using the field box or
2. All empty tool places are marked showing the person inspecting the tool box that the missing tools are in the field box.

Field box inventory must still be maintained in accordance with this tool control standard.

6. COMPANY TOOLS

6.1. Contents

Company tools must be stored in such a way as to quickly determine if a tool is removed. Shadowing, tool pouches, tool racks or containers may be used to accomplish accountability (example in Sec. 9). If a tool or container contains smaller pieces this fact must be noted in a clear manner. An example would be a Screwdriver with tips in the handle or Allen wrenches in a bag. The item or location should identify “screwdriver + 5 tips” or “12 Allen wrenches.

6.2. Inventory

A photographic tool inventory list shall be maintained in the general area of the tool storage. It will have a photo of each compartment, drawer or area. The photographic list shall be stored in a manner that prevents it from becoming FOD but available for review or inspection. This photographic list shall be maintained by the Director of Maintenance, Shop Forman, Inspector or a designated employee and shall be updated within 5 days of a tool addition, deletion or change in location of the inventoried tools.

6.3. Use of company tools at other locations

Any time a company tool is removed from its current location for use in another location the empty tool position must be marked to show were the tool is and the person that is using the tool. This includes items removed from the overhaul shop for use in the main hanger or items sent to the field. Items sent from the field for calibration should also be marked in the same manor.

7. TOOL INVENTORY

7.1. General Inventories

Note: In all cases the Technician whom owns the toolbox shall conduct an inventory of his/her own toolbox prior to any other action.

A Tool Inventory will be performed by the Director of Maintenance, Shop Forman, Floor inspector, Technician, or pilot (if in the field) at least once daily and shall include field, personal shop, and company tools. This authorized person shall acknowledge the accountability of the contents of the toolboxes (before they affect the safety of the aircraft) on TCP-2 form which will be kept with the Technicians photographic inventory.

This inventory shall also ensure that all rags, trash, and consumables is removed from the toolbox at the end of the shift.

7.2. Task Completion Inventories

For Part 135 log books, the task completion inventory shall be done by the mechanic who performed the work. The task completion inventory shall consist of a visual inspection of the mechanics tool box and a visual inspection of the company tools used in the process for accountability.

For Part 145 work orders the task completion inventory shall be done by the inspector, shop Forman, or mechanic assigned to the task by the shop Forman. A separate entry must be made on the work order prior to returning to service the aircraft, component, or performing ground run up test’s stating that all tools are accounted for. In the event that the work order is open for multiple days a task completion inventory is required only on tools used since the last general inventory (see section 7.1) was performed.

8. LOST TOOLS

Tools that are Lost shall be reported to a Supervisor or Inspector in a timely manner but not to exceed the end of shift or the return to service of any item that person has worked on since last inventory was accomplished. A search for the missing tool will be conducted prior to the aircraft being released for service. If the tool cannot be found, the PIC will be notified. It will be the responsibility of the PIC to determine if the A/C is airworthy

9. FORMS

9.1. TCP-1

Temporary Tools List

Employee Name_____

Field box ☐ **Roll Away** ☐

DESCRIPTION	DATE IN	DATE OUT

9.2. TCP-2

Tool Inventory

Employee Name____

Field box ☐ **Roll Away** ☐

Date	Name	Date	Name

10. TOOLBOX EXAMPLES

10.1. Field Box

10.2.Roll Away Box