Naval Safety Center

LESSONS LEARNED

19-02

AIRCRAFT MOVE BRIEFS

Background

The rate of Navy and Marine Corps aviation Class C aviation ground mishaps (AGMs) has doubled from FY13 through FY17, due largely to an increase in ground maintenance mishaps. We've kept up the same high number of Class C AGMs in FY18, so we must continue to implement useful practices that mitigate hazards.

Human factors accounted for over two-thirds of the accepted causal factors in these mishaps. Too many have simply been crunching an aircraft during a routine move. In an ongoing effort to reduce the number of preventable mishaps, here are some consolidated lessons learned and best practices relating to aircraft moves. We recommend that Type Wings and squadrons use them as a guide to better tailor aircraft move programs and thereby reduce mishaps.

Community Best Practices

Squadrons with standardized move briefs and ground handling practices have reduced the risk associated with aircraft moves. Squadrons with ill-defined processes incur increased risk. Standardized briefs conducted within maintenance control along with leadership oversight and communication before, during, and after the move greatly reduces risk.

Common best practice themes among squadrons are:

- Platform experienced khaki leadership oversees the move and conducts analysis and mitigation of high risk evolutions
- Platform experienced E-6 or above oversees ALL aircraft moves and conducts analysis and mitigation of high risk evolutions
- Utilization of aircraft move sheets
- Pre-move ORM/hazard identification and briefing, time-critical ORM during aircraft moves, and post move debriefs

Recommendations

1. Type Wings develop maintenance safety standard operating procedures (SOPs) that provide a clear, uniform process to help identify high risk evolutions. Delineate responsibilities and paygrades for the moves, and provide general ORM guidance in checklist form (*see the examples contained on pages 2 and 3*).

2. Type Wings and squadrons establish move briefs. Review aircraft move procedures and ORM controls to include a brief and de-brief. Incorporating a "fixed process" maintenance risk management sheet enables move crews to better identify risk while implementing controls. Move debriefs are equally important in mitigating hazards by enabling to pass down any unforeseen hazards they encountered and any essential lessons learned from the evolution. This user-level type of high velocity outcomes (HVO) is critical in ensuring operator level knowledge is passed within the organization.

3. Squadrons should incorporate robust plane captain standard operating procedures (SOP).

Example aircraft move brief sheet

CHSCWP/CHSMWL/CHSCWL/CHSMWP 10.14 PLANE CAPTAIN PROGRAM (NAMPSOP) 4790

HH-60H/MH-60S/R/MH-53E AIRCRAFT MOVE BRIEF SHEET
(CIRCLE T/M/S AS REQUIRED)

Date _____

The **HH-60H/MH-60R/S/MH-53E** Aircraft Move Brief Sheet shall be used prior to each aircraft move evolution. **[*Refer to NA 00-80T-96, WP 005, Paragraphs 136-148 for specific precautions and procedures*]** The PC in charge of the aircraft move shall hold this brief with all move crew personnel in Maintenance Control, in the presence of the acting Maintenance Control Supervisor.

AIRCRAFT: _____

MOVE FROM: _____

MOVE TO: _____

MAINTENANCE CONTROL SUPERVISOR: _____

P/C DIRECTOR: _____

TOW TRACTOR DRIVER: _____

BRAKE RIDER: _____

PORT WING/CHOCK WALKER: _____

STARBOARD WING/CHOCK WALKER: _____

NOSE/TAIL WALKER: _____

SAFETY OBSERVER: _____

Notes:

1. All Aircraft moves shall be performed IAW NA 17-1-537 WP 007, and NA 00-80T-96 WP 004 and WP 005.
2. Brief specific Hazards/Dangers with regards to route of the Move (i.e. Hangar door, Cages, SE, Detachment Pack-ups, Turning A/C, etc.).
3. If any unusual circumstances or incidents occur during the move, a Post-move debrief will be performed in Maintenance Control.
4. Required PPE and appropriate safety equipment shall be used for all moves (i.e. whistles in mouths, wands, flashlights if necessary).
5. Ensure that all move crew personnel are qualified via ASM, know their responsibilities with regards to the safe movement of the aircraft, and are familiar with their positional responsibilities as noted in NA 00-80T-96, WP 005, and Paragraphs 136-148.
6. Maintenance Control shall maintain Aircraft Move Brief Sheets on file for a minimum of 10 days.

Enclosure (1)

Maintenance Risk Management

1. **Is there a possibility of damaging an aircraft or injuring someone?** **Yes No**

   Examples: -aircraft moves, especially in/out of hangar
   -blade fold & spread
   -tail fold and spread
   -jacking aircraft
   -hot refueling
   -opening hydraulics bay/panels outside of hangar
   -loading/downloading ordnance/performing release and control checks
   -rigging flight controls
   -conducting APU or maintenance turn
   -ladders by, heavy tools/tool boxes by or on, moving vehicles/SE in close proximity to aircraft

2. **Does this evolution require electrical or hydraulic power applied to the aircraft?** **Yes No**

3. **Is this evolution uncommon or out of my comfort zone?** **Yes No**

   Examples: -working or parking aircraft in different location than normal
   -new procedure to any personnel
   -has it been more than 30 days since we last did this?

4. **Is there something different about today?** **Yes No**

   Examples: -rainy, windy, lightning, hot
   -upcoming holiday / leave
   -fatigue / injuries / illness / personal stressors
   -perceived pressure to complete tasks

5. **Am I lacking the proper personnel (number, qualifications, experience), tools, or guidance to complete this evolution or workload?** **Yes No**

If you answered Yes to any question above, brief your supervisor on your risk mitigation plan.

Risk Mitigation Plan Examples:

"Because the aircraft is slippery, we will take our time and ensure we have at least one hand holding on to a reference point while performing the Daily."

"The last time I did an APU turn was two months ago. I have reviewed the emergency procedures and will have an APU turn qualified QAR accompany me for this evolution."

"We need to use the power cart to test the de-ice system. We have reviewed the most recent HAZREP regarding de-ice testing and will be slow and methodical understanding that this troubleshooting has a history of damaging main rotor blades."

What do I know? Who else needs to know? Have I told them?