

Maryland State Police  
District Heights, MD  
September 27, 2008  
MIA08MA203

**NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.**

ATTACHMENT 7

MSP MISHAP PLAN

29 Pages

## APPENDIX E

### Mishap Information and Mishap investigation Team

1. The MSP SYSCOM duty officer will attempt to obtain the following information upon receiving notification that an aviation related incident/accident has occurred involving Department personnel, equipment or aircraft.

- a. date and time
- b. Name of person reporting mishap
- c. Phone number and address
- d. Time and location of the mishap
- e. Can aircraft be identified?
- f. Did caller see mishap?
- g. Condition of the scene, is there a fire?
- h. Are there any survivors or casualties?
- I. If survivors, where are they?
- j. Have you notified anyone else, who?
- k. Is there a medic unit on the scene?
- l. Have you notified anyone else, who?
- m. Can you give an account of property damage?
- n. What kind of weather is at the mishap?
- o. Will you be able to direct emergency vehicles to the scene?

### Mishap notifications

1. If it is determined the crash/fire/rescue personnel are not at the scene, the MSP SYSCOM duty officer will notify the appropriate fire board and have units dispatched. The duty officer will also dispatch the nearest Medevac equipped Department Helicopter to the scene, weather permitting.

2. Upon notification by the MSP SYSCOM Duty officer, the Command officer of the day will make the decision as to whether circumstances warrant the implementation of the mishap investigation plan. Once implemented the following notifications will be made:

- a. Aviation Command Commander
- b. Mishap Investigation Team (MIT)

- c. Notify Duty Section Crews
- d. Department Duty Officer through Headquarters Telecomm
- e. Agency Public Information Unit

f. MSP Barrack Duty Officer in the area of the mishap and request, if necessary, additional personnel to provide scene security. Also Mobile Crime Lab, CRASH Team and/or Criminal Investigation Unit personnel if needed.

g. MIEMSS, SYSCOM Staff and Area Trauma Centers

h. Affected County Fire / Rescue Communications

i. CISD Team Members

3. Mishap Investigation Team (MIT), See copy of Special Order, with specific assigned duties and responsibilities.

# AIRCRAFT MISHAP INVESTIGATION EVENT SEQUENCE WORKSHEET

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
1. NOTIFICATIONS	IMMEDIATELY AFTER MISHAP	SYSCOM/OFFICER OF THE DAY	<ol style="list-style-type: none"> <li>1. Internal notification commenced. Per above guidance.</li> <li>2. Immediate reporting complete as follows:               <ol style="list-style-type: none"> <li>a. Telephone notification logged</li> <li>b. Mishap Information completed</li> <li>c. Verify embarked crewmember’s identities, and notify MIT Senior Member and Commanding Officer ASAP.</li> </ol> </li> <li>3. Investigation level and MIT composition determined and members notified of assignment. (obtain cell phone numbers and alternate means of communications)</li> <li>3.5 Transportation arrangements (air vs. ground) and response locations (e.g. hospital, scene, MTN, etc.)</li> <li>3.75 Activate Aviation Command Critical Incident Stress Management Team and send to section of Mishap Aircraft.</li> </ol>
NOTIFICATIONS NEXT OF KIN	AFTER CONFIRMATION	COMMAND STAFF	<ol style="list-style-type: none"> <li>4. As soon as positive confirmation &amp; ID of fatalities proper notification will be made to Next of Kin (crewmembers and patient’s family members) by the Commander or Assistant Commander to prevent an improper notification by another source. Personnel may notify their family members that they were not involved, but must caution them not to contact other members of the Command to prevent inadvertently</li> </ol>

notifying a family member of the death of a Command member and not having current facts involved. This would create extra stress on next of kin.

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p><b>2.</b> INVESTIGATION STARTED</p>	<p>IMMEDIATELY AFTER NOTIFICATION</p>	<p>MIT SENIOR MEMBER</p>	<ol style="list-style-type: none"> <li>1. Determine extent of FAA and NTSB involvement and comply with notification procedures. NTSB Comm Center# 202 314 6290 FAA Regional Comm Center# 718 553 3100</li> <li>2. Convene Mishap Investigation Team.</li> <li>3. Ensure Mishap Kit is dispatched from break room at Martins to mishap site.</li> </ol>
<p><b>3a.</b> SITE MADE SECURE</p>	<p>IMMEDIATELY AFTER MISHAP</p>	<p>MIT SENIOR MEMBER</p>	<ol style="list-style-type: none"> <li>1. Define geographical limits of crash site.</li> <li>2. Notify local Barrack/Law Enforcement agencies. Brief on aircraft hazards.               <ul style="list-style-type: none"> <li>- CRASH Team</li> <li>- Crime Lab (Photos and evidence collection)</li> <li>- Criminal Investigation Unit</li> </ul> </li> <li>3. Define permanent security requirements. Designate, notify and brief site security personnel.</li> <li>4. Ensure wreckage declared safe by Fire Chief and Fire Department personnel.</li> <li>5. Brief all site personnel on remaining crash site hazards.</li> <li>6. Prepare mishap site access roster.</li> </ol>

7. Follow up with relief team for site security and required supplies.
8. Secure a temporary flight restriction for affected area.

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p><b>3b.</b> HUMAN REMAINS ID &amp; RECOVERY</p>	<p>IMMEDIATELY AFTER MISHAP</p>	<p>MIT PARAMEDIC</p>	<ol style="list-style-type: none"> <li>1. Ensure all survivors have been treated and evacuated. Determine location of patients / survivors</li> <li>2. Request required material and assistance from nearest Capable medical facility.</li> <li>3. Determine if identification technician required/necessary.</li> <li>4. Make report to MIT Senior Member &amp; Command Staff when identification is as complete as possible.</li> <li>5. Determine best method of securing/recovering remains. NOTE: Ensure appropriate security of photo records.</li> <li>6. Record and photograph positions of remains/all evidence before they are moved. (utilize flags or flagging tape).</li> <li>7. Make preliminary evaluation of egress system condition, and record findings.</li> <li>8. Provide interim report to MIT Senior Member.</li> <li>9. Determine disposition of medications/medical equipment.</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p><b>3c.</b> WRECKAGE EXAMINED</p>	<p>ASAP AFTER MISHAP</p>	<p>FIRST WALK-THRU SHOULD INCLUDE ENTIRE MIT</p>	<ol style="list-style-type: none"> <li>1. Anticipate wreckage distribution via preliminary examination of impact angle, speed and pre-impact aircraft integrity indications.</li> <li>2. Determine the area to be searched for wreckage.</li> <li>3. Determine the best method of conducting the search.</li> <li>4. Determine personnel and equipment resources required for search, and initiate acquisition action.</li> <li>5. Determine the technique to be used for fixing, marking, and graphing wreckage. See EVENT on Wreckage Plotted.</li> <li>6. Commence search for wreckage.</li> <li>7. Determine and record cockpit switch positions, control positions, etc.</li> </ol>
		<p>MIT PILOT</p>	

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p><b>3d.</b> SITE PHOTOGRAPHY</p>	<p>IMMEDIATELY AFTER MISHAP</p>	<p>UNDER DIRECTION OF MIT SENIOR MEMBER (CRIME LAB UNIT)</p>	<ol style="list-style-type: none"> <li>1. Obtain general photos of crash site from ground level. <ol style="list-style-type: none"> <li>a. Include positions of bodies where possible.</li> </ol> </li> <li>2. Obtain aerial photos of crash site and pre-impact swath/scars.</li> <li>3. Establish positive control of all photo requests through Maintenance member of MIT.</li> <li>4. Obtain wreckage photos with position reference markers in place.</li> <li>5. Photograph detached items of wreckage in position discovered.</li> <li>6. Obtain photos of significant recovery and salvage operations.</li> <li>7. Photograph wreckage layout/ reconstruction.</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p><b>3e.</b> EYEWITNESSES INTERVIEWED</p>	<p>FIRST (12) HOURS</p>	<p>MIT PILOT</p>	<ol style="list-style-type: none"> <li>1. Review data on aircraft flight path prior to impact.</li> <li>2. Conduct search for eyewitnesses. <ol style="list-style-type: none"> <li>a. Consider use of news media to solicit witnesses.</li> </ol> </li> <li>3. Interview all available eyewitnesses. <ol style="list-style-type: none"> <li>a. Determine each witnesses position relative to flight path.</li> <li>b. Establish each wittiness's aviation knowledge/background.</li> </ol> </li> <li>4. Summarize evidence under following headings: <ol style="list-style-type: none"> <li>a. Aircraft attitude prior to and at impact.</li> <li>b. Aircraft altitude history</li> <li>c. Abnormalities noted, e.g. fire, explosion, disintegration.</li> <li>d. Weather conditions.</li> <li>e. Engine noise</li> </ol> </li> </ol>

f. Other traffic in vicinity.

**EVENT NO.**

**SEQUENCE**

**RESPONSIBILITY**

**ACTION**

5. Plot or display the results of witness interview and analysis.
6. Review photographic evidence and annotate copies of significant interest.

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p style="text-align: center;"><b>3f.</b></p> MAINTENANCE RECORDS	ASAP AFTER NOTIFICATION	MIT MAINTENANCE REPRESENTATIVE	<ol style="list-style-type: none"> <li>1. Locate and secure all airframe and engine documents and logbooks at the Maintenance Facility.</li> <li>2. Compile a list of technical directives and service changes not installed in mishap aircraft.</li> <li>3. Advise MIT Senior Member of location and status of documentation.</li> <li>4. Review all available maintenance documents.</li> <li>5. Record all outstanding discrepancies.</li> <li>6. Annotate all repeat discrepancies.</li> <li>7. Annotate all discrepancies that may be related to the mishap.</li> <li>8. Submit interim report to the MIT Senior Member.</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p><b>4a.</b> SURVIVORS MEDICALLY EXAMINED</p>	<p>FIRST (12) HOURS</p>	<p>MIT PARAMEDIC</p>	<ol style="list-style-type: none"> <li>1. Coordinate with medical personnel concerning injuries, mechanics of injuries, etc.</li> <li>2. Obtain blood and urine samples for laboratory analysis. (utilize hospital / medical examiner / crime lab as necessary)</li> <li>3. Interview survivors concerning: <ol style="list-style-type: none"> <li>a. Evidence of physical, physiological, psychological, pathological, pharmacological or sociological problems.</li> <li>b. Marital and family status.</li> <li>c. Personal habits.</li> <li>d. Personal background</li> <li>e. Secondary Employment</li> <li>f. Current medication</li> <li>g. Obtain 72 hour history</li> </ol> </li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p><b>4b.</b> AIRCREW TRAINING RECORDS SECURED</p>	<p>FIRST (12) HOURS</p>	<p>MIT PILOT / MIT SENIOR MEMBER</p>	<ol style="list-style-type: none"> <li>1. Obtain weather observation data.</li> <li>2. Locate and secure pre-flight weather briefing documents.</li> <li>3. Locate and secure aircrew qualification/training jacket/ log book/and unfilled records.</li> <li>4. Initiate efforts to obtain photographic, voice tape, video tape, ATC radar plot coverage of mishap sequence. <ol style="list-style-type: none"> <li>a. Provide for transcription of all voice recordings.</li> </ol> </li> <li>5. Obtain any available flight planning documents, e.g., performance planning charts etc.</li> <li>6. Check all available fuel logs, sample jars and servicing documents.</li> <li>7. Check and obtain copies of crew scheduling, rest periods provided for 72 hours prior to mishap.</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p><b>4c.</b> AIRCRAFT SYSTEMS</p>	<p>ASAP AFTER NOTIFICATION</p>	<p>MIT MAINTENANCE REPRESENTATIVE</p>	<ol style="list-style-type: none"> <li>1. Obtain fluid and fuel samples:               <ol style="list-style-type: none"> <li>a. Aircraft fuel, oil, hydraulic fluid (all hydraulic systems).</li> <li>b. Refueling units (truck or fuel pit). Previous fuel stops for the day.</li> <li>c. Oxygen, hydraulic, and oil servicing units.</li> </ol> </li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p style="text-align: center;"><b>5a.</b></p> <p>AUTOPSIES COMPLETE</p>	FIRST WEEK	MIT PARAMEDIC	<ol style="list-style-type: none"> <li>1. Coordinate with Medical Examiner's office for findings of autopsies. Review applicable medical references.</li> <li>2. Submit preliminary report to MIT Senior Member on crewmembers, using following headings: <ol style="list-style-type: none"> <li>a. Status of each crewmember prior to impact.</li> <li>b. Status of each crewmember at impact. (PPE)</li> <li>c. Crewmember/egress system interface prior to and at impact.</li> </ol> </li> <li>3. When laboratory findings are available, submit final report on crew autopsies to MIT Senior Member: <ol style="list-style-type: none"> <li>a. Evidence of pre-impact physical or emotional stress.</li> <li>b. Evidence of pre-impact impairment from disease, injury.</li> <li>c. Evidence of pre-impact impairment from alcohol, drugs, or other toxic substances.</li> <li>d. Evidence of pre-impact exposure to explosion.</li> </ol> </li> </ol>

- e. Adequacy of restraint system and egress systems relative to injuries.

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p style="text-align: center;"><b>5b.</b></p> AIRCREW INTERVIEWED	FIRST (12 – 24) HOURS	MIT PILOT	<ol style="list-style-type: none"> <li>1. Obtain, record, transcribe crew statements.</li> <li>2. Question crew using list of prepared questions covering:               <ol style="list-style-type: none"> <li>a. General details of the mission.</li> <li>b. Phase of flight at time of mishap.</li> <li>c. Weather conditions at time of mishap, and its effect on operational considerations.</li> <li>d. Similarity between actual weather and forecast weather.</li> <li>e. Radio and navigational aids available, utilized, and their performance.</li> </ol> </li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p><b>5c.</b>  WRECKAGE  PLOTTED &amp;  REMOVED</p>	<p>FIRST FEW  HOURS</p>	<p>MIT MAINTENANCE  REPRESENTATIVE</p>	<ol style="list-style-type: none"> <li>1. Find all wreckage (as much as practicable).</li> <li>2. Place markers at wreckage locations (wherever feasible).</li> <li>3. Identify, tag and record the position of significant pieces of wreckage.</li> <li>4. Plot aircraft path and wreckage distribution from the first impact with an obstruction through ground impact to final positions.</li> </ol>
	<p>FIRST (12)  HOURS</p>		<ol style="list-style-type: none"> <li>5. THIS IS THE FIRST POINT TO CONSIDER REMOVING THE WRECKAGE</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<b>6a.</b> LABORATORY TESTS	FIRST WEEK	MIT PARAMEDIC	<ol style="list-style-type: none"> <li>1. Submit specimens from surviving crew and list required tests.</li> <li>2. Laboratory tests complete.</li> <li>3. All reports received from laboratory.</li> <li>4. All laboratory reports correlated and analyzed.</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<b>6b.</b> HISTORY OF FLIGHT REVIEWED	FIRST WEEK	MIT PILOT	<ol style="list-style-type: none"> <li>1. Reconstruct history of the mishap flight, using data collected.</li> <li>2. Calculate pre-impact flight plan.</li> </ol>

<b>EVENT NO.</b>	<b>SEQUENCE</b>	<b>RESPONSIBILITY</b>	<b>ACTION</b>
<b>6c.</b> AIRFRAME TESTS & ASSEMBLY	FIRST WEEK	MIT MAINTENANCE REPRESENTATIVE	<ol style="list-style-type: none"> <li>1. Determine aircraft configuration during the mishap.</li> <li>2. Determine aircraft structural integrity at ground impact.</li> <li>3. Note in-flight versus post-impact fire patterns.</li> <li>4. Perform flight control analysis.</li> <li>5. Evaluate egress system in coordination with MIT Paramedic.</li> <li>6. Analyze integrity and performance of major systems.</li> <li>7. Establish requirement for wreckage reassembly, and make required arrangements.</li> <li>8. Provide interim report to MIT Senior Member.</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p style="text-align: center;"><b>7a.</b></p> PRE-MISHAP CONDITIONS	FIRST WEEK	MIT PARAMEDIC	<ol style="list-style-type: none"> <li>1. Checklists on deceased persons complete.</li> <li>2. Interviews of survivors complete.</li> <li>3. Reports on specimens received.</li> <li>4. Additional lines of investigation determined.</li> <li>5. Human factors investigation complete.</li> <li>6. Physiological investigation complete.</li> <li>7. Psychological investigation complete.</li> <li>8. Summary of evidence separated for each involved individual under the headings of:               <ol style="list-style-type: none"> <li>a. Physiological</li> <li>b. Psychological</li> <li>c. Toxicological</li> </ol> </li> </ol>

<b>EVENT NO.</b>	<b>SEQUENCE</b>	<b>RESPONSIBILITY</b>	<b>ACTION</b>
<b>7b.</b> ENGINE EXAMINATION	FIRST FEW HOURS	MIT MAINTENANCE REPRESENTATIVE	<ol style="list-style-type: none"> <li>1. Locate engine.</li> <li>2. Locate and identify auxiliary components (fuel system, oil system, engine controls).</li> <li>3. Determine the position, condition, or reading of systems components prior to and at impact.</li> </ol>
ENGINE	FIRST WEEK	MIT MAINTENANCE	<ol style="list-style-type: none"> <li>4. Determine engine power being developed at impact.</li> <li>5. Determine engine pre-impact integrity.</li> <li>6. Determine pre-impact serviceability of engine support and control systems.</li> <li>7. Components that failed before impact, those for which a point of failure cannot be determined, and those from which useful information might be extracted should be submitted for engineering investigation.</li> <li>8. Analyze interim report to MIT Senior</li> </ol>

Member.

<b>EVENT NO.</b>	<b>SEQUENCE</b>	<b>RESPONSIBILITY</b>	<b>ACTION</b>
<b>8.</b> ENGINEERING INVESTIGATIONS COMPLETE	FIRST (24) HOURS	MIT MAINTENANCE REPRESENTATIVE	<ol style="list-style-type: none"><li>1. Determine components slated for examination and analysis.</li><li>2. Request tests to determine pre-impact conditions relative to:<ol style="list-style-type: none"><li>a. Material failures</li><li>b. Material malfunctions.</li><li>c. Positions or readings at impact.</li><li>d. Contamination</li></ol></li><li>3. Submit engineering investigation requests and forward items for examination to appropriate facilities.</li><li>4. Report results to MIT Senior Member.</li></ol>
	FIRST WEEK		

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p style="text-align: center;"><b>9.</b></p> MAINTENANCE HISTORY COMPILED	FIRST WEEK	MIT MAINTENANCE REPRESENTATIVE	<ol style="list-style-type: none"> <li>1. Complete AIRCRAFT DATA form.</li> <li>2. Determine power plant modification history.</li> <li>3. Determine airframe modification history.</li> <li>4. List all outstanding technical directives.</li> <li>5. List any irregularities in maintenance history, A/C restrictions, prior damage history/repair.</li> </ol>

<b>EVENT NO.</b>	<b>SEQUENCE</b>	<b>RESPONSIBILITY</b>	<b>ACTION</b>
<b>10.</b> TECHNICAL WITNESSES INTERVIEWED	FIRST WEEK	FULL MISHAP TEAM	<ol style="list-style-type: none"> <li>1. Determine areas wherein technical assistance is required.</li> <li>2. Using witness interview results and maintenance history, question technical witnesses as required to resolve areas of conflict, errors, or irregularities.</li> <li>3. Determine persons to be re-interviewed in order to resolve conflicting evidence.</li> <li>4. Prepare questions and complete re-interviews.</li> <li>5. Append statements to original evidence.</li> </ol>
<b>11.</b> WITNESSES INTERVIEWED BY FULL BOARD	FIRST (24) HOURS	FULL MISHAP TEAM	<ol style="list-style-type: none"> <li>1. Identify witnesses to be interviewed in areas of operations, maintenance, supervisory personnel, medical, facilities, and eye witnesses.</li> <li>2. Prepare a list of questions for each witness.</li> <li>3. Pre-brief MIT members on the proceedings and the format.</li> </ol>

4. Notify all witnesses of interview time and location.
5. Transcribe recordings of witness statements.

<b>EVENT NO.</b>	<b>SEQUENCE</b>	<b>RESPONSIBILITY</b>	<b>ACTION</b>
<b>12a.</b> MEDICAL ANALYSIS COMPLETE	FIRST WEEK	MIT PARAMEDIC	<ol style="list-style-type: none"> <li>1. Prepare and assemble all medical findings.</li> <li>2. Compile human engineering findings, include Discussion of suitability of: instrumentation, Controls, Life support systems, and operating procedures.</li> <li>3. Include thorough evaluation of escape and survival devices/equipment.</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
12b. OPERATIONS ANALYSIS COMPLETE	FIRST WEEK	MIT PILOT	<ol style="list-style-type: none"> <li>1. Compile all airframe, engine, weather, technical interview, and FAA-related evidence, and, together with the MIT Paramedic's Report, Relate them to the evidence developed by the MIT pilot.</li> <li>2. Determine areas requiring clarification, and develop appropriate procedures.</li> <li>3. Compile a complete history of the mishap flight.</li> <li>4. Analyze aircrew qualifications and actions.</li> <li>5. Analyze operational supervision.</li> <li>6. Submit all evidence to MIT Senior Member.</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p><b>12c.</b> MATERIAL ANALYSIS COMPLETE</p>	FIRST WEEK	MIT MAINTENANCE REPRESENTATIVE	<ol style="list-style-type: none"> <li>1. Compile evidence from analysis (including engineering investigation reports) of airframe, engine, and aircraft systems.</li> <li>2. Compile list of recommended deficiency reports, etc.</li> <li>3. Submit all evidence to MIT Senior Member.</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<p style="text-align: center;"><b>13.</b></p> ITEM PHOTOGRAPHY COMPLETE	FIRST FEW HOURS	INDIVIDUAL MIT MEMBERS	<ol style="list-style-type: none"> <li>1. Each MIT member determine his photographic requirements.</li> <li>2. Arrange for photo coverage via single point of contact designated by Senior Member.</li> <li>3. Review photo coverage for completeness.</li> <li>4. Select photos for inclusion in MIR and reproduce sufficient copies.</li> </ol>

EVENT NO.	SEQUENCE	RESPONSIBILITY	ACTION
<b>14.</b> ALL EVIDENCE ASSEMBLED AND ANALYZED	FIRST WEEK	FULL MISHAP TEAM	<ol style="list-style-type: none"> <li>1. Compile and organize all evidence developed by members.</li> <li>2. Deliberate as necessary to determine contributing factors of the mishap itself, additional damage occurring in the course of the mishap, cause of death and/or injuries.</li> <li>3. Note any additional hazards identified that were <u>not</u> related to the mishap.</li> </ol>