

# RISK MANAGEMENT WORKSHEET Quarter-Scale Piper Cub UAV

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MSN/TASK: <b>Conduct UAV Flight and Recovery</b>				Date: 2 July 2009		
HAZARDS	INITIAL RISK LEVEL	CONTROLS	RESIDUAL RISK LEVEL	HOW TO IMPLEMENT	WHO WILL SUPERVISE	CONTROL EFFECTIVE YES NO
Crash on takeoff into personnel or structures	M (II-D)	Orient take off away from personnel, vehicles, and structures	L (II-E)	<ul style="list-style-type: none"> <li>• Inform AVOs &amp; staff to pay attention to detail</li> <li>• Ensure by-the-book procedures are followed</li> <li>• Ensure launcher is placed correctly.</li> <li>• Practice emergency procedures on simulator</li> <li>• Ensure only mission crews are located on the runway as required</li> </ul>	<ul style="list-style-type: none"> <li>• PIC</li> <li>• RSO</li> <li>• Observers</li> </ul>	
Crash during recovery or landing operations into personnel or structures.	M	<p>Orient landing away from personnel, vehicles, and structures</p> <p>Ensure both sides of the runway are free from obstacles, vehicles &amp; personnel in the touchdown area. Comply with checklist procedures.</p> <p>Review emergency procedures.</p> <p>Practice emergency procedures on simulator</p>	L (II-E)	<ul style="list-style-type: none"> <li>• Inform AVOs &amp; staff to pay attention to detail.</li> <li>• Use by-the-book operations</li> </ul>	<ul style="list-style-type: none"> <li>• PIC</li> <li>• RSO</li> <li>• Observers</li> </ul>	
Crash onto the runway or recovery area	M (II-D)	Ensure non-essential personnel are clear of the intended landing area. Maintain at least 50 meters away from the designated landing area.	L (II-E)	<ul style="list-style-type: none"> <li>• Survey area and clear non-essential personnel prior to bringing the vehicle into the landing pattern.</li> <li>• Ensure runway or landing area is set up IAW TM.</li> <li>• Practice emergency procedures on simulator.</li> <li>• Ensure an area is designated for non-essential personnel.</li> </ul>	<ul style="list-style-type: none"> <li>• PIC</li> <li>• RSO</li> <li>• Observers</li> </ul>	

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Aircraft entering UAV flight area	M (III-B)	Trained Observers Flight planning SOP	L (III-C)	<ul style="list-style-type: none"> <li>Utilize Observers and COM.</li> <li>NOTAMs posted and communication with local airport(s).</li> </ul>	<ul style="list-style-type: none"> <li>PIC</li> <li>RSO</li> <li>Observers</li> </ul>	
Loss of GPS signal/vehicle	H (II-B)	Operate within vehicle specifications	M (III-C)	<ul style="list-style-type: none"> <li>Utilize contractor oversight</li> <li>Positive communication among crew members</li> </ul>	<ul style="list-style-type: none"> <li>PIC</li> <li>RSO</li> <li>Observers</li> </ul>	
Lithium Battery Safety	H (II-C)	Monitor battery for thermal stress between flights.	M (III-D)	<ul style="list-style-type: none"> <li>Visually inspect between flights.</li> <li>Provide cooling time if required.</li> <li>Interchange batteries.</li> </ul>	<ul style="list-style-type: none"> <li>PIC</li> <li>RSO</li> <li>Observers</li> </ul>	
Fueling Operations	H (II-C)	Trained personnel  Fuel aircraft in designated safe areas  Handle, store fuel in approved containers and in safe areas	M (III-D)	<ul style="list-style-type: none"> <li>Utilize task-assigned fueling personnel</li> <li>Follow training procedures and SOP</li> <li>All personnel trained in use of fire extinguishers</li> <li>Fire extinguishers maintained in ready condition</li> <li>Fire extinguisher ready fueling site</li> </ul>	<ul style="list-style-type: none"> <li>PIC</li> <li>RSO</li> <li>Observers</li> </ul>	
General Range Safety: Dangerous wildlife	M (III-D)	Remain in designated range areas.	L (III-E)	<ul style="list-style-type: none"> <li>Review range boundaries.</li> <li>Avoid brushy areas and known habitat</li> </ul>	<ul style="list-style-type: none"> <li>PIC</li> <li>RSO</li> <li>Observers</li> </ul>	
Adverse Weather Conditions	H (II-B)	Bring appropriate clothing and gear.	L (III-C)	<ul style="list-style-type: none"> <li>Pre-mission equipment inspection</li> </ul>	<ul style="list-style-type: none"> <li>PIC</li> <li>RSO</li> </ul>	

MISSION/TASK RISK AFTER CONTROLS ARE IMPLEMENTED	SAFETY REVIEW	COMMAND APPROVING AUTHORITY
LOW <input type="checkbox"/> MEDIUM <input type="checkbox"/> HIGH <input type="checkbox"/> EXTREMELY HIGH <input type="checkbox"/>	(b) (6) Safety Officer	(b) (6) UAV Flight Test Director