

Job Tasks/ Tool Usage	Potential Risks	Safety Measures	Responsible Person(s)
Drilling	Any incorrectly positioned drill bits can spin out of control.	Drill bits is properly and tightly secured in the drill. The position of drill bits are verified by the JSO before use.	Mechanical Engineers/ Electrical Engineers
	Improperly trained personnel using a drill will create a hazard for themselves as well as the people around them.	Only properly trained employees are permitted to use the drill.	
		The JSO is to supervise the process and/or assist with drilling if necessary.	
Cutting PVC	The improper use of PVC cutters may lead to tools and/or PVC being damaged.	Mechanical engineers are trained on the proper use of PVC cutters.	Mechanical Engineers
	If the tools are not properly closed after use, team members may injure themselves.	After use, tools are put into the closed and locked position and stored in the appropriate location.	
	Cutting PVC can result in the formation of fragments which can become projectiles that could potentially injure unprotected employees.	Goggles are worn during the process of cutting PVC.	
		While cutting pieces of PVC pipe longer than one foot, one employee is to hold the pipe for stabilization while another employee is utilizing the PVC cutter.	
Soldering	Flecks of stray solder can injure the eyes of employees close by.	Safety goggles are worn when soldering.	Electrical Engineers
		A JSO is to be present while any employee is soldering.	
	Heat from the soldering iron can burn employees.	Only trained employees may solder.	
		The soldering iron is returned to the stand after use.	
		Soldering space is to be kept clutter-free.	
Dangerous fumes resulting from soldering can be inhaled by employees.	Air filters are used when soldering.	All employees	
	Employees are informed about the dangers of the solder fumes and are to avoid inhaling solder fumes.		



# HMS SeaBots: JSA (Job Safety Analysis)

Harrington Middle School  
Mt. Laurel, NJ USA

Job Task/ Tool Usage	Potential Risks	Safety Measures	Responsible Person(s)
Heat Gun Hot Glue Gun	Heat and hot glue guns can cause burns to exposed skin.	Gloves are worn when handling these tools.	All employees
		Employees are trained on the proper use of the heat/hot glue gun in order to remain safe.	
Wire Cutters Wire Strippers	While trimming wire ties, fragments of wire ties can possibly project into the employee's eyes.	Wire ties are properly secured when being cut to avoid any flying debris.	All employees
		Safety goggles are worn during the process.	
	Open cutting blades can inflict injuries upon employees when not in use.	Wire cutters/strippers are kept in a closed position and in the appropriate location when they are not in use.	
Testing ROV in Workplace	Employees can touch the spinning blades and injure themselves and parts while testing motors.	Custom made motor shrouds are labeled with caution tape to warn people of potential danger.	Mechanical Engineers/ Pilot
		Employees are to avoid contact with spinning blades when testing motors.	
Workplace Management/ Organization	Objects left unattended on the floor of the workplace can pose a tripping hazard.	The floor of the workplace is to remain clutter-free.	All employees
	Tools left unattended can be misplaced.	Tools and equipment are returned to their original location immediately after use.	
	Corrosion can occur if tools and equipment are stored when wet.	Employees are reminded to always dry off the ROV and other equipment and tools after use.	
Testing ROV in Pool	Employees may slip and injure themselves and/or equipment when on pool deck.	Shoes with rubber soles are worn on the pool deck.	Pool Floor Employees
		Employees adhere to the posted pool rules.	
		Batteries, tools and other equipment are kept away from the pool edge.	

