

Company Name: _____

Company Number: _____

2024 MATE ROV COMPETITION. Observing Our Oceans: Understanding Our World And Creating Our Future

EXPLORER CLASS SAFETY INSPECTION CHECKLIST

Companies must bring this check list, the ROV, tether, surface controls, and any other item used in the deployment and operation of the ROV; they will all be inspected as part of the safety check. In addition, the SID, company safety review, technical documentation, and any additional documentation needed to verify compliance must be made available to the Safety Inspectors during the inspection process.

1.0 Initial Safety Inspection		4.0. Pneumatic / Hydraulic (if applicable)	
<input type="checkbox"/>	Fluid power approved? Fluid power used? If yes to both, see Section 4.0 Pneumatics / Hydraulics	<input type="checkbox"/>	Passed fluid power quiz.
<input type="checkbox"/>	Laser approved? Laser used? If yes to both, see attached laser safety inspection sheet.	<input type="checkbox"/>	Pneumatic or hydraulic diagram (SID) present?
2.0 ROV Physical		<input type="checkbox"/>	Hydraulic fluid MSDS provided (if water is not used).
<input type="checkbox"/>	All items attached to ROV are secure.	<input type="checkbox"/>	Hydraulic fluid (other than water) has been approved by MATE ROV Competition Technical Manager.
<input type="checkbox"/>	Hazardous items are identified and protection provided.	<input type="checkbox"/>	All pressure lines have a minimum pressure rating of 100 PSI (pneumatic) or 300 PSI (hydraulic) stamped on the line or verified with specifications.
<input type="checkbox"/>	ALL propellers are completely shrouded to IP-20 standards. Mesh size is less than 12.5 mm.	<input type="checkbox"/>	Valves meet the minimum pressure rating of 100 PSI (pneumatic) or 300 PSI (hydraulic)
<input type="checkbox"/>	No sharp edges or elements of the ROV design that could cause injury to personnel or damage the pool surface.	<input type="checkbox"/>	Attachment to the pressure source is secure.
3.0 ROV Electrical		<input type="checkbox"/>	Pressure is regulated to: 40 PSI max for pneumatics 150 PSI max for hydraulics
<input type="checkbox"/>	Tether has proper strain relief at the ROV.	<input type="checkbox"/>	Pressure vessels have a stamped pressure rating or verification by inspection.
<input type="checkbox"/>	No power conversion before the ROV.	<input type="checkbox"/>	Pressure vessels have a current inspection sticker.
<input type="checkbox"/>	No exposed motors. Brushless motors are considered exposed unless electrically sealed after purchase. Companies should provide proof of sealing procedure.	<input type="checkbox"/>	Pressure vessels can be secured on the pool deck.
<input type="checkbox"/>	No exposed copper or bare wire.	<input type="checkbox"/>	Company fabricated pressure accumulator test results are provided (if used).
<input type="checkbox"/>	All wiring securely fastened and properly sealed.*	<input type="checkbox"/>	No hydraulic fluids are leaking.
<input type="checkbox"/>	Any splices in tether are properly sealed.*	<input type="checkbox"/>	Pneumatics utilize compressed air or inert gas.
3.1 Surface Controls Electrical & Physical			
<input type="checkbox"/>	Single attachment point to the power source.	SAFETY INSPECTION #1 PASSED: 30 POINTS	
<input type="checkbox"/>	Anderson powerpole attachment to power source.	Failed: Items to correct noted on rear of this sheet.	
<input type="checkbox"/>	Properly sized (Littlefuse brand) fuse within 30 cm of power supply attachment point.	SAFETY INSPECTION #2 PASSED: 20 POINTS	
<input type="checkbox"/>	The surface control station is built in a neat and workmanship like manner. No loose components or unsecured wires. All electrical components are covered inside an enclosure.	Failed: Items to correct noted on rear of this sheet.	
<input type="checkbox"/>	No exposed copper or bare wire.	SAFETY INSPECTION #3 PASSED: 10 POINTS	
<input type="checkbox"/>	120VAC wiring is separated from the DC wiring.	Failed: Reason / details are noted on rear of this sheet.	
<input type="checkbox"/>	120VAC wiring must be clearly identified from the DC and control voltages with signage and/or wire color schemes. If the color scheme is used, a key must be provided for identification.	Total Safety Points:	
<input type="checkbox"/>	All wires entering and leaving the surface control station must have adequate strain relief and wire abrasion protection as the wires pass through the enclosure.	On Site Inspection	
<input type="checkbox"/>	All connectors utilized are properly rated for their application. AC only rated connectors cannot be used for DC.	0 to 30 points	
* Properly sealed means that the wires cannot be exposed to water. Tape only sealing will allow the conduction of electricity through water.			
At minimum, joints must be soldered, sealed with a proper waterproof sealant, and covered in tape or shrink wrap. For in water taping, silicone self-vulcanizing tape is preferred over thermoplastic tape. Cables with exposed male connections on both ends are not allowed.			

Inspection #1: Items to address

Judge: _____

Inspection #2: Items to address

Judge: _____

Inspection #3: Reason

Judge: _____
