



**2025 MATE ROV Competition**  
**UN Decade of the Ocean, MATE Year of the Great Lakes**  
**Onsite Safety Inspection Score Sheet**  
**RANGER**

**Company Number:**

**Class: RANGER**

**Company Name:**

**Judge Name:**

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**

<input type="checkbox"/>	Fluid power approved? Fluid power used? If yes to both, see Section 4.0 Pneumatics / Hydraulics
<input type="checkbox"/>	Laser approved? Laser used? If yes to both, see attached laser safety inspection sheet.
<input type="checkbox"/>	JSEA and SID present at safety inspection

**2.0 ROV Physical**

<input type="checkbox"/>	All items attached to ROV are secure.
<input type="checkbox"/>	Hazardous items are identified and protection provided.
<input type="checkbox"/>	ALL propellers are completely shrouded to IP-20 standards. Mesh size is less than 12.5 mm.
<input type="checkbox"/>	No sharp edges or elements of the ROV design that could cause injury to personnel or damage the pool surface.

**3.0 ROV Electrical**

<input type="checkbox"/>	Tether has proper strain relief at the ROV.
<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"/>	No exposed copper or bare wire.
<input type="checkbox"/>	All wiring securely fastened and properly sealed.*
<input type="checkbox"/>	Any splices in tether are properly sealed.*

**3.1 Surface Controls Electrical & Physical**

<input type="checkbox"/>	Single attachment point to the power source.
<input type="checkbox"/>	Anderson powerpole attachment to power source.
<input type="checkbox"/>	Properly sized ATO or Mini Blade fuse within 30 cm of power supply attachment point. Fuse size based on full load amps measurement.
<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.
<input type="checkbox"/>	No exposed copper or bare wire.
<input type="checkbox"/>	120VAC wiring is separated from the DC wiring.
<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.
<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.
<input type="checkbox"/>	All connectors utilized are properly rated for their application. AC only rated connectors cannot be used for DC.

\* 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.

**4.0. Pneumatic / Hydraulic (if applicable)**

<input type="checkbox"/>	Passed fluid power quiz.
<input type="checkbox"/>	Pneumatic or hydraulic diagram (SID) present?
<input type="checkbox"/>	Hydraulics utilize water. Pneumatics utilize compressed air or inert gas. 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"/>	Valves meet the minimum pressure rating of 100 PSI (pneumatic) or 300 PSI (hydraulic)
<input type="checkbox"/>	Attachment to the pressure source is secure.
<input type="checkbox"/>	Pressure is regulated to: 40 PSI max for pneumatics 150 PSI max for hydraulics
<input type="checkbox"/>	Company fabricated pressure accumulator test results are provided (if used).
<input type="checkbox"/>	No hydraulic fluids are leaking.

**SAFETY INSPECTION #1**

**PASSED: 30 POINTS**

Failed: Items to correct noted on rear of this sheet.

**SAFETY INSPECTION #2**

**PASSED: 20 POINTS**

Failed: Items to correct noted on rear of this sheet.

**SAFETY INSPECTION #3**

**PASSED: 10 POINTS**

Failed: Reason / details are noted on rear of this sheet.

**Total Safety Points:**

**On Site Inspection**

0 to 30 points

**Inspection #1: Items to address**

**Judge:**

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**Inspection #2: Items to address**

**Judge:**

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**Inspection #3: Reason**

**Judge:**

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