



**Tonto Rim Search and Rescue (TRSAR)
Rapid Response E-Team
Standard Operating Procedures
P.O. Box 357, Pine, AZ 85544**

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SECTION I. MISSION

The mission of the TRSAR Rapid Response E-Team is to deploy ahead of the main squad during search and rescue operations to quickly locate subjects, perform initial patient assessment and stabilization, and relay critical information to incident command to support timely, informed response decisions.

SECTION II. PURPOSE

The purpose of the Rapid Response E-Team is to reduce response times and improve operational efficiency in terrain inaccessible to vehicles by leveraging e-motos to carry medical and technical equipment, minimize environmental impact in sensitive backcountry areas, and ensure the appropriate resources (personnel, litter teams, or aerial extraction) are deployed as quickly and effectively as possible.

SECTION III. REFERENCES

A. External Certifications / Training and Evaluation References

- Arizona Dirt Bike Training (ADBT) or similar accredited off-road rider courses
- International Police Mountain Bike Association (IPMBA) certification
- Local land-management-approved off-road riding courses / OHV course

B. Terminology

- **Point Last Seen (PLS):** The verifiable location where the subject was last seen. The primary target for rapid e-moto deployment.
- **Travel Aid:** Any path offering less resistance, including established trails, dry washes, or critter paths, which lost persons might follow.
- **Cold Zone (Logistics/Staging):** Area where Prep Helpers operate. Low risk; personnel do not enter the operational environment.
- **Warm Zone (Operations/Trail):** Area where Medical and Regular Riders operate. Medium risk; requires Level 2 or higher qualification and specific PPE.
- **Hot Zone (Point of Patient Contact):** High-risk area requiring Technician Level (Level 3) capabilities for in-depth assessment and extraction preparation.

SECTION IV. CERTIFICATION LEVELS

The TRSAR Rapid Response E-Team has three levels of team roles and responsibilities. These are based on core skills needed in a hasty, quick response mission.

A. Medical Rider (Advanced Operator): Level III

Role: Primary first contact and triage. Focuses on patient stabilization while utilizing the X3's speed to reach the PLS ahead of ground teams.

Authorized Activities:

- Lead medical assessment on-scene
- Provide the initial **CAN report**
- Manage patient care until extraction

Requirements:

- Must hold a valid Motorcycle Endorsement
- Minimum of EMT-B or higher certification
- Completed the SAR E-Moto Academy (see section VI)

Specific Loadout:

- High-capacity medical pack (ALS/BLS)
- AED
- Advanced communication equipment

B. Search & Scout Rider (Advanced Rider): Level II

Role: The "Workhorse" of the team. Focused on hasty search, navigation, and physical support for the Medical Rider.

Authorized Activities:

- Conduct rapid hasty search operations ahead of or alongside the main SAR team
- Maintain primary responsibility for route planning and navigation to and from the subject
- Scout routes, identify obstacles, hazards, and access points, and relay findings to the Medical Rider and Incident Command
- Assist in subject location, confirmation, and marking of coordinates
- Assist the Medical Rider with patient movement, stabilization setup, and packaging
- Maintain communication with Incident Command as assigned
- Relay navigation updates, hazards, patient access conditions, and logistical needs
- Assist in coordinating incoming resources to the scene

Requirements:

- Must hold a valid Motorcycle Endorsement
- Completed the SAR E-Moto Academy (see section VI)

Specific Loadout:

- Rescue hardware (ropes/carabiners)
- Extra hydration/electrolytes for subjects
- Spare 72V 40AH battery.

C. Prep Tender (Mission Support): Level I

Role: Ensures fleet readiness and logistical integrity. Does not typically deploy into the "Hot Zone" on the bike but manages the staging area.

Authorized Activities:

- Perform T-CLOCS inspections on all bikes prior to loading

- Manage the Wi-Fi-enabled charging timers and battery rotation
- Maintain the vehicle-affixed bike carriers and staging area toolkits.
- Monitor team battery levels via radio to prepare swap-out packs for returning riders.

Requirements:

- Completion of the Day 1: Control & Safety module of SAR E-Moto Academy
- Motorcycle Endorsement is preferred but not required for ground support

SECTION V. OPERATIONAL DEPLOYMENT WORKFLOW

A. Transport & Staging

- Home/Building Storage: Bicycles are stored at riders' residences for immediate response.
- Loading: Prep Helpers assist Riders in securing the 161 pound bikes to vehicle carriers.
- Charging: Prep Helpers manage the charging cycle at the facility to ensure 100% readiness.

B. Pre-Mission (The T-CLOCS SOP)

- Inspection: Prep Helpers and Riders systematically verify Tires, Controls, Lights, Oil/Fluids, Chassis, and Stand.
- The 55% Rule: Operations terminate and return-to-base begin immediately when any bike hits 55% charge.

C. Insertion (Hasty Search)

- Formation: Advanced Riders and Medical Riders deploy in pairs riding at a safe distance apart. In certain circumstances, with Commander approval, a single rider may be deployed.
- ECO Mode: Mandatory for battery conservation during the approach.
- Identification: Constant use of SAR identification and verbal warnings when passing public users.

D. On Scene

- Search: Grid search via Cal Topo Tracking.
- Medical Contact: Medical Rider assesses patient; Advanced Rider secures the scene and provides the CAN report.
- Extrication: Medical Rider remains with non-ambulatory patients while the Advanced Rider coordinates with Command.

E. Maintenance & Logistical Support

- Prep Helper Duties: Conduct mandatory gear oil changes every 1,500 km (GL-4 85W90) and monitor for "chain stretch" and spoke loosening.
- Field Repair: Riders must be proficient in rapid flat repair and chain fixes in off-road conditions.

SECTION VI. CERTIFICATION PROCESS

SAR E-Moto Academy Training Model

- Day 1: Control & Safety (All Roles): Classroom policy, in-depth mechanical principles and comprehensive maintenance and repair procedures for e-motos, battery safety, and 'ABC Quick Check'.
- Day 2: Trail & Load (Riders Only): Technical terrain, Trail safety and etiquette, 13kW power

management, and riding with 25lb+ loaded medical/rescue packs, small course drills.

- Day 3: SAR Tactics (Riders Only): Hasty search spacing, whistle/radio ops, and a 10-mile Mock Mission with simulated patient packaging.

Specialized Skill Drills (Riders)

- The Electric Wheelbarrow: Using "Walk Mode" on unrideable slopes.
- Turbo Boost Hill Starts: Managing high-torque launches on 15% grades.
- The 12-Foot Box: Master slow-speed motor feathering for tight technical trails.

SECTION VI. SAFETY STANDARDS

Safety is the highest priority of all Rapid Response E-Team operations.

1. Approved helmet worn at all times while operating an e-moto during missions, training, or deployment
2. Eye protection required while riding
3. Gloves required while riding and during patient contact
4. Appropriate footwear with closed toes and ankle support
5. Additional PPE as dictated by mission environment (weather, terrain, night operations, technical hazards)
6. E-motos shall be operated in accordance with manufacturer specifications and load limits
7. Riders must complete team-approved e-moto training prior to operational deployment
8. Speed and riding style shall be adjusted based on terrain, visibility, weather, and proximity to other responders or the public
9. Riding is prohibited when conditions exceed the rider's training, experience, or safety limits

SECTION VII. MAINTAINING CERTIFICATION

A. Skills Refresher and Re-Evaluation

1. Members who miss annual requirements may be placed on inactive status
2. Reactivation may require refresher training and skills evaluation as determined by the team leader
3. Annual requirements:
 - Attend 8 Rapid Response E-Team Trainings
 - Attend SAR E-Moto Academy Annually
 - Log at least 10 riding hours per month

B. Documentation

All training, evaluations, and mission participation will be documented and maintained by TRSAR.

Approved by: TRSAR Board of Directors

Effective Date: _____

Review Cycle: Every two (2) years