



# Tonto Rim Search and Rescue (TRSAR) Rope Team Stand Operating Procedures Member Certification

P.O. Box 357 Pine, AZ. 85544

Approved Date: 12/09/14	5 Pages
Effective Date: 01/01/15	Revision Date:

## SECTION I. MISSION:

The mission of the Tonto Rim Search and Rescue Rope Team is to provide the Gila County Sheriff fully trained and qualified volunteers for technical-rope rescue missions.

## SECTION II. PURPOSE:

The purpose of this Standard Operating Procedure is to provide the process and requirements for TRSAR members to achieve Rope Team Certification. Upon obtaining certification, the candidate is a member of the TRSAR Rope Team.

## SECTION III. REFERANCES:

- A. The primary references used for the TRSAR Rope Team candidate training are listed below. Note: That TRSAR may not incorporate all of the practices shown in these references.
1. National Park Service Technical Rescue Handbook, Eleventh Edition.
  2. The Art of Clean Rigging, Ropes that rescue limited.

## SECTION IV. PROCESS:

- A. Rope Team candidates must complete the following to become certified.
1. Attend two (2) rope team training sessions within four (4) months prior to the certification class.
  2. Attend a thirty two (32) hours certification class consisting of classroom and cliff-side instruction.
  3. Attend three (3), or more, rope team training sessions within six (6) month following the certification class.
    - a. Candidates needing training outside scheduled training sessions should contact the rope team leader to arrange for additional training.
  4. Pass a certification exam administered by a three (3) person review panel of rope team instructors selected by the rope team leader.
    - a. Candidates must pass the exam within six (6) months of the thirty two (32) hour certification class, or repeat the above process.
    - b. Exceptions to this requirement must be approved by the TRSAR Board.

## **SECTION V. PERSONAL EQUIPMENT:**

- A. Equipment listed below is required, and may be borrowed, for the certification process. After obtaining certification, members are expected to have the listed equipment.
1. Personal edge kit and set-of-fours.
  2. Six (6) locking carabineers. (for personal and team use) (Rated at 29 kn.)
  3. Seat and chest harness. (Class 3 recommended)
  4. Personal rappel device.
  5. Appropriate clothing and footwear.
  6. Safety glasses, or appropriate eyewear.
  7. Work/rappel gloves.
  8. Climbing style helmet. (with sun hat)
  9. Head lamp.
  10. Set of Purcell Prusiks (long Purcell, short Purcell and Prusik)
  11. Water hydration system.
  12. Soft frame pack.
  13. Ascenders.

## **SECTION VI. SAFETY:**

- A. Candidates are required to learn, and must adhere to, the following TRSAR rope safety concepts.
1. Safety priority is you first, team second, and subject third.
  2. Safety is paramount.
    - a. All members have the responsibility to stop unsafe action.
  3. Independent Safety Officer (TSO) is assigned and checks rigging prior to and during use.
  4. Candidates may participate in construction of rescue systems.
    - a. However, their work must receive two (2) independent inspections prior to use; one by a rope team instructor, and one by the Safety Officer.
  5. Personal gear is checked by qualified person(s) prior to use.
  6. Edge safety practice is established at least six (6) feet from the edge.
  7. Systems are constructed with a safety factor of ten (10).
  8. All rescue and single person over-the-edge system are constructed with a redundant back-up (belay).
  9. All rescue systems must pass the "Whistle Test".
    - a. Remain in safe condition with hands off.
  10. No personal equipment may be used in rescue systems without the permission of the TSO.

## SECTION VII. TECHNICAL SKILLS:

A. Candidates are required to demonstrate the following:

1. Knots, bends, and hitches
  - a. Half hitch.
  - b. Overhand.
  - c. Double overhand.
  - d. Double overhand on a noose.
  - e. Figure 8 on a bight.
  - f. Figure 8 follow through with double overhand backup.
  - g. Bowline on object with double overhand backup.
  - h. Bowline on self with double overhand backup.
  - i. Butterfly.
  - j. Double becket bend with retrace and double overhand backup.
  - k. Water bend.
  - l. Overhead follow through in webbing.
  - m. Clove hitch on object.
  - n. Clove hitch on carabiner.
  - o. Munter hitch.
  - p. Girth hitch.
  - q. Prusik (three (3) wrap).
  - r. Double overhand bend (Fisherman's bend).
2. Anchors: Construct and describe where the following are used.
  - a. Wrap three (3) pull two (2).
  - b. Wrap two (2) pull two (2).
  - c. Two (2) point load distributing anchor.
  - d. Two (2) point focused anchor.
  - e. Three (3) point focused anchor.
  - f. Focused floating anchor.
  - g. High strength tie-off.
  - h. Blitz anchor.
  - i. Pre-tensioned back-tie.
  - j. Camming device, chock, and hex.
3. Stresses and Loads:
  - a. Know definition of a "rescue Load" (440 lbs.)
  - b. Know mountain rescue system safety factor (10:1).
  - c. Know minimum braking strengths of the following:
    - (1) 7/16 rope (6000 lbs.)
    - (2) One (1) inch tubular webbing (4000 lbs.)
    - (3) 8 mm Prusik (5000 lbs.)
    - (4) 8 mm canyoneering rope (5400 lbs.)
    - (5) Carabiners on harness and installed in the system.
  - d. Know relationship of load on the anchor at different angles on two (2) point anchor systems.

4. Belays:
  - a. Build and use a Tandem Prusik belay system.
  - b. Pass a knot (up and down) on a tandem Prusik belay system.
  - c. Build and use a MPD belay system.
  - d. Pass a knot (up and down) on a MPD belay system.
  - e. Connect and use a self belay on an independent rope.
5. Mainlines:
  - a. Build and operate a mainline lowering system using a brake rack, or scarab.
  - b. Pass a knot with brake rack, or scarab, in the system.
  - c. Demonstrate how to switch from lower to raise with a brake rack, or scarab, in the system.
  - d. Build and operate a mainline lowering system using a MPD.
  - e. Pass a knot with MPD in the system.
6. Haul System:
  - a. Build a 3:1 system.
  - b. Build a 2:1 ganged onto a 3:1 system.
  - c. Build a 5:1 system.
  - d. Build a 5:1 system using a MPD.
  - e. Demonstrate passing a knot through a 5:1 MPD pulley system.
  - f. Build a 3:1 system piggybacked to a 3:1 system (9:1)
7. Edge Travel restrict:
  - a. Demonstrate edge travel restrict skills.
8. Alternate Harnesses:
  - a. Improvise a chest harness.
  - b. Improvise a seat harness.
9. Rappelling and Ascending:
  - a. Rappel with self belay and lock off mid-rappel (20+ feet).
  - b. Ascend with self belay (20+ feet)

## **SECTION VIII. TEAMWORK SKILLS:**

- A. Participate in three (3) rope team training ( or mission) exercises that involve command and control for a high angle (60\* - 90\*) simulated (or real) rescue.

## **SECTION IX. TREVIEW PANEL:**

- A. Pass an examination by a three (3) person review panel.
- B. The panel will consist of rope team instructors selected by the rope team leader prior to the certification class.
- C. The panel will use the above certification requirements of this Standard Operating Procedure to conduct the exam.
- D. The examination may be a combination of demonstrations, explanations, panel observations (including teamwork skills), and/or written test(s).

- E. An individual can pass all but a few items and get re-trained and retested on these items only. (All within six (6) months of the certification class).
- F. The panel may also pass an individual noting any weaknesses that the individual should concentrate on. (Example: dressing knots)