

---

# Technical Operations - Rope Rescue



Company Training

---

## Operations Level – Anchor Systems Skills Sheet

Shift \_\_\_\_\_ Circle Companies E45 E46 E47 B45 A45 A46 Date \_\_\_\_\_

Review terminology, equipment and knots used for anchor systems.

Review Roles/Responsibilities of IMS Positions.

Demonstrate and set up different anchor systems.

### Terminology

Natural Anchors  
Man-made Anchors  
'Bomb-Proof'  
Critical Angle  
Side Loading  
Single Anchor Point System  
Backup Anchor System  
Tieback  
Load Distributing System  
Picket System

### Equipment

Webbing  
Carabiner  
Tri-Link  
Anchor Strap  
Rope  
Prusik  
Padding  
Triple Wrap Prusik

### Knots

Water Knot  
Wrap 3, Pull 2  
3 Bight  
Figure 8 Follow Thru  
Figure 8 on a Bight  
Double Loop Fig 8 on a Bight  
Full Strength Anchor Tie-Off

### IMS Position Roles/Responsibilities

Rescue Group Supervisor (RGS)  
Technical Safety Officer (TSO)  
Rigging Team Leader (Rigger)

## Build Anchor Systems

### Single Point Anchor System

Full Strength Tie-Off (Tensionless)

Wrap 3 Pull 2 (Multiloop)

Anchor Strap

3-Bight

### Primary with a Backup Anchor System

### Load Distributing Anchor System (2 and 3 points)

Webbing

Life Safety Rope

### Picket System

## General Information

- All anchors must hold anticipated and unanticipated loads. Significant safety factors shall be built into anchor systems.
- The anchor and the load shall be in a direct line (in-line) to eliminate a pendulum of the load.
- Backups must be in-line with the primary anchor and counter the type of force being applied to the primary.
- Ensure that the 'critical angle' in any component is 90 degrees or less.
- Prevent side loading by providing adequate extension of anchor straps or webbing 3 bight.
- The water knot on a Wrap 3 Pull 2 must be against the anchor on the load side.
- Pad any sharp or abrasive edges.
- 'Pre-load' all anchor systems.
- Redundant System Safety check must be done prior to application of the intended load. This is accomplished by multiple people and includes the Critical Point Test, Whistle Test and a Touch Test.

## Resources

Evaluator Print: \_\_\_\_\_

Evaluator Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Zone 3 Rope Manual

**Evaluator Print:** \_\_\_\_\_

**Evaluator Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_