



Santa Barbara City Fire Department - Standard Operating Procedures Training Operations	Code: T-X-7
Raising/Lowering Systems (MPD/RPM w/ Tandem Belay)	
Chpt: X Technical rescue	Revised: 4/14/17 Pages: 10

<ol style="list-style-type: none"> 1. The system for Raising and Lowering will be the MPD with the Tandem Prussic Belay. The RPM system can be used in place of the MPD if needed. 2. When possible use ropes of different color for the main and belay lines. 	
<ol style="list-style-type: none"> 3. Establish anchors and set up the MPD Lowering/Raising system 	 <p>See Rescue systems 1 student manual, Third edition, December 2000 pg. 105-109</p>
<ol style="list-style-type: none"> 4. Attach lines to the rescuer 	<p>(See T-X-6 Pick off system)</p>

Raising/Lowering Systems (MPD/RPM w/ Tandem Belay)

5. Weave the main line through the MPD. If done correctly, the working end should remain static when load checked.



6. Anchor the Belay Line and attach pulley, short prussic, and long prussic.
 7. Attach to the Belay Line in this order: pulley, short prussic and long prussic.



8. Attach to the carabineer in this order: long prussic, short prussic, and pulley.
 9. Lock carabineer.
 10. Prepare to lower rescuer.



Raising/Lowering Systems (MPD/RPM w/ Tandem Belay)

Lowering with the MPD

1. To lower, firmly grip the running end of the rope and tightly hold it against the Fixed Brake V-Groove, bringing it back toward the anchor and parallel to the load end, creating an “S-shaped” bend in the rope as it passes through the MPD.



2. Pass the rope over the Secondary Friction Post for heavier loads if needed.



3. Unlock the Parking Brake and then firmly grip the Release Handle. Let go of the parking brake to “stop.”
 4. DO NOT touch Parking Brake until you are holding the rope and tension/ friction is on the line.



5. Add maximum amount of friction by threading the rope over the Secondary Friction Post.



Raising/Lowering Systems (MPD/RPM w/ Tandem Belay)

Raising with the MPD

1. If the load is being raised, then the line can simply be pulled hand over hand through the MPD.



2. For mechanical advantage, attach a prussic and traveling pulley to the Main Line and make a 3:1 system.







3. The MPD has a built in Becket that can be used to attach a change of direction pulley to allow higher mechanical advantage systems to be built (e.g. simple 5:1 or compound 9:1). A 5:1 is preferred and pictured.



4. If you need to release your grip on the running end of the rope for more than a short time, lock the Parking Brake first and then secure the MPD by tying off the running end of the rope around the load end with an overhand knot.
5. See Manual below for more information.
<http://www.cmcrescue.com/wp-content/uploads/2013/12/MPDManual.pdf>

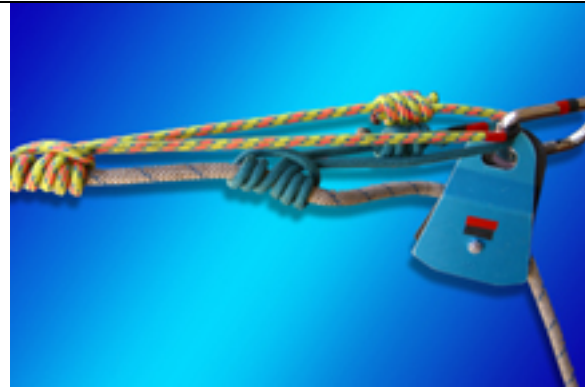


Raising/Lowering Systems (MPD/RPM w/ Tandem Belay)

<ol style="list-style-type: none"> 1. The alternate system for Raising and lowering will be the RPM system and the tandem prussic belay. 2. When possible use ropes of different color for the main and belay lines. 	
<ol style="list-style-type: none"> 3. Establish anchors and set up the Lowering/Raising system 	<div style="display: flex; align-items: center; gap: 10px;">  <p>See Rescue systems 1 student manual, Third edition, December 2000 pg. 105-109</p> </div>
<ol style="list-style-type: none"> 4. Attach lines to the rescuer 	<p>(See T-X-6 Pick off system)</p>
<ol style="list-style-type: none"> 5. Weave main line through break bar rack. Assure the line goes over the top of the first bar. The more bars you weave, the more friction. Tie off the rack until your ready to lower. 	
<ol style="list-style-type: none"> 6. Anchor the Belay Line and attach pulley, short prussic, and long prussic. 7. Attach to the Belay Line in this order: pulley, short prussic and long prussic. 	

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8. Attach to the carabineer this order:
long, short, pulley.
9. Lock carabineers.
10. Check all carabineers on Main and Belay! Make sure they are locked before loading the system.
11. Lower rescuer using a minimum of 3 Bars plus 1 Guide bar.



To Change over to a raising system

1. Lock off the Main Line on the Break Bar Rack and tie it off (two times around Ears or length of break bar and overhand around Rack).



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2. Connect Prussic and Radium to the Main Line ahead of the Rack. Lock Radium carabineer. Visually inspect the Radium to make sure it is tied off and correctly assembled.

[*See Radium PPT \(Training>Truck Company Ops\)](#)

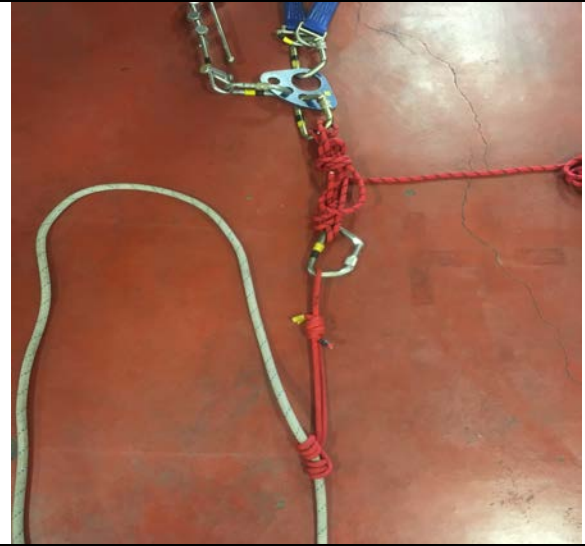


3. Slide the prussic up the Main Line to take up slack. Unlock Break Bar Rack, maintain friction, and slowly lower system onto Prussic and the Radium.



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4. Pull Main Line out of Rack.



5. Attach prussic and insert into large pulley.



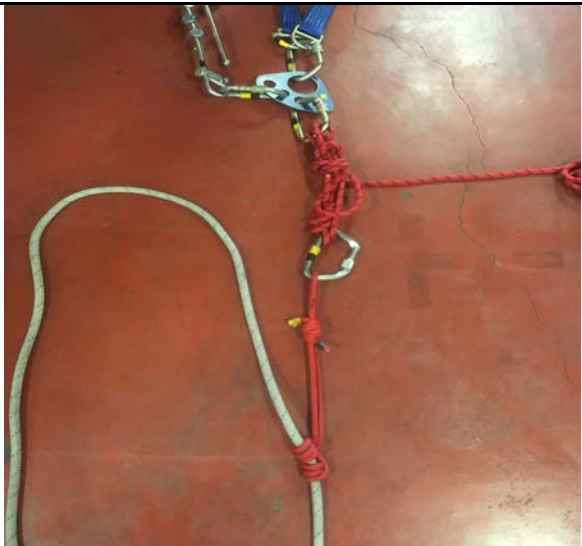
Raising/Lowering Systems (MPD/RPM w/ Tandem Belay)

6. Attach small pulley to Main Line with small prussic and weave the Main Line through the pulley, creating a 3:1. Pull tension on Main Line to detach Radium and put the load on the prussic (brake) next to the large pulley.



To change back to a lowering system

1. Lock off system with prussic and Radium.
2. Remove pulleys from system.



3. Pull slack on Main Line, weave Break Bar Rack and tie Rack off.



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4. Undo the Radium and slowly lower system back onto the tied off Break Bar Rack.



5. When load is completely on Rack, remove prussic and tie off the Radium so it can be used again if needed during the operation.