



Lift Evacuation Rescue Plan (LERP)

**Revision Date
September 23, 2016**



—Lift Evacuation Rescue Plan—

To be completed by Dispatcher

Failure of Lift(s):	
Weather Conditions:	

Lift Stoppage Notification

Time	Actions	Names
	Lift Stoppage Notification (>3 min)	
	▪ Slope Leader (notifies dispatch and starts assembling teams)	
	▪ Dispatcher (confirms lift status with lift maintenance)	
	▪ Patrol Manager (relocates to west office or bottom of lift)	
	▪ Lift Maintenance (confirms inoperable lift status)	
	▪ Deploy Recon Patroller within 10 minutes (ski lift line, reassure passengers and/or observe line conditions and report at each tower)	

Lift Evacuation Notification

Time	Actions	Names
	Lift Evacuation Notification	
	▪ Confirmation by Patrol Manager	
	▪ Confirmation by Lift Maintenance	
	▪ Deploy Rescue Teams	
	Lift Power Lock Out / Tag Out	
	▪ Confirmation by Lift Maintenance	
	▪ Completion of Lift Evacuation	
	▪ Rescue Teams Secure	
	▪ Completion of Follow-up Actions	

—Lift Evacuation Rescue Plan—

To be completed by Dispatcher

Rescue Team Identification

Lift Failure	Recon Patroller	Special Considerations or Requests	
Sherwood			
Bluebird			
Rabbit Pk			
Ground Teams	Team Leader/Belay	Communicator	Rope Handler
Team 1			
Team 2			
Team 3			
Team 4			
Team 5			
Team 6			
Team 7			
Team 8			
Team 9			
Team 10			

—Lift Evacuation Rescue Plan—

Recon Patroller Results

To be completed by Dispatcher

Recon Patroller Results for Lift : _____

Time	Towers	Loaded Chairs ¹	Special Circumstances ²
	20-19		
	19-18		
	18-17		
	17-16		
	16-15		
	15-14		
	14-13		
	13-12		
	12-11		
	11-10		
	10-09		
	09-08		
	08-07		
	07-06		
	06-05		
	05-04		
	04-03		
	03-02		
	02-01		

Notes: ¹ Enter number of occupied chairs and approximate number of total passengers.
² Record special circumstances including disadvantaged skiers, children, and other notable items.

—Lift Evacuation Rescue Plan—

Key Rescue Roles and Concepts		
Rescue Role	Communicators	Description & Responsibilities
Lift Stoppage Notification	<p style="text-align: center;">Patrol to Dispatcher</p> <p style="text-align: center;">Dispatcher to Management & Slope Leader</p> <p style="text-align: center;">Slope Leader to Recon Patroller</p>	<p>Lift Stoppage Notification is communicated to the dispatcher after a lift has not operated for more than three minutes. Dispatcher communicates lift stoppage to management (Patrol Manager and Lift Maintenance) and slope leader.</p> <p>Lift Stoppage Notification initiates the Lift Evacuation Rescue Plan (LERP). Lift Maintenance and the Mountain Operation Director need to evaluate the lift failure and potential need for Lift Evacuation.</p> <p>Slope Leader appoints and dispatches recon patroller upon request or after 10 minutes</p> <p>If lift is restarted Slope Leader is responsible for gathering start time, names of all passengers, and time of last unload</p>
Lift Evacuation Notification	<p style="text-align: center;">Management to Patrol Manager</p> <p style="text-align: center;">Patrol Director to Dispatcher</p>	<p>Lift Evacuation notice, confirming lock out / tag out is communicated to the Ski Patrol Manager by management (Lift Maintenance, Mountain Ops Director, or General Manager)</p> <p>Lift Evacuation Notice is then communicated from Ski Patrol Manager to Dispatch.</p> <p>Ski Patrol and trained resort personnel initiate their lift evacuation rescue plan roles.</p>
Rescue Branch Director	Ski Patrol Manager	The Ski Patrol Manager is the Rescue Director and is familiar with the Lift Evacuation Rescue Plan (LERP) and its implementation. The Rescue Director is in continuous radio contact with dispatch and resort management.
Rescue Branch Deputy	Dispatcher	The Rescue Branch Deputy (Dispatcher) is the central hub of the rescue and coordinates and records rescue activities.
Rescue Group Supervisor	Slope Leader	<p>The Rescue Group Supervisor leads the emergency evacuation of all lifts of assigned slopes. Rescue Group Leader is typically the most experienced patroller in lift evacuation rescue.</p> <p>Due to the complexities of some rescues, the Rescue Group Supervisor may need to participate in technical portions of the rescue including special circumstances.</p> <p>The Rescue Group Supervisor assesses liabilities and resources and then assembles and deploys teams and personnel including:</p> <ul style="list-style-type: none"> • Recon Patroller

		<ul style="list-style-type: none">• Rope launcher or tower ascenders• Belay teams
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Rescue Personnel Roles and Concepts		
Rescue Role	Communicators	Description & Responsibilities
Recon Patroller	Patroller	<p>The Recon Patroller skis the lift line and notifies and reassures passengers while observing line conditions and special evacuation considerations. A radio report is made to dispatch at each lift tower.</p> <p>Special considerations can include:</p> <ul style="list-style-type: none"> • Haul rope position • Children on lift • Disadvantaged skiers • Light side passengers
Rope Launcher	Patroller	Using the dummy launcher, this specially trained patroller or resort employee sets a lead line over the haul rope below the towers. This position / technique is not currently used.
Tower Ascender	Lift Maintenance	The Tower Ascender is a designated full-time resort employee who ascends lift towers and places the evacuation rope over the haul rope to begin the evacuation of chairs located below the tower or at the tower sheaves
Belay Team Leader	Patroller	<p>Belay Team Leaders have diverse training skills and are directly responsible for their belay teams. As Belay Team Leader, they rapidly assess their equipment prior to use.</p> <p>Belay Team Leaders handle the belay position and have the additional support of a rope handler and/or communicator.</p>

Chair Evacuation Bag inventory
2 Pair Leather Gloves 1 Headlight 1 Cascade (type) evacuation seat with tether line 2 45kn Auto -lock Carabineers 1 CMI Rescue pulley 1 Large 2:1 line saver 150' 11mm static rope 1 Communication Card 1 Backpack 1 14' webbing tied for a swiss seat 1 Super Eight belay device 1 Screw lock carabineer

Equipment Storage Locations	
Patrol Shack, Top of Sherwood #1	(two lift evacuation bags)
Patrol Shack, Top of Bluebird #2	(two lift evacuation bags)
Base Medical	(two lift evacuation bags)

Lift Evacuation Timing

- >3 minutes Patrol notifies Dispatch of lift stoppage, patrollers at top of lift remain at top area unless on a call
 - 10 – 15 minutes – Patrol Manager contacts Lift Operation Manager to determine the probability of a chair evacuation. Recon Patroller released to scout lift for chairs occupied, numbers of people in the air, and special needs situations
 - 20 minutes – Patrol Manager assembles teams and positions equipment for possible chair evacuation
 - 30 minutes – Depending on weather, special needs and the nature of the problem with the lift, expect to begin evacuation. Evacuation is initiated by Management. Patrols waits for confirmation of lock out / tag out and orders from management before placing ropes.
- In the event that management orders a chair evacuation in less than 30 minutes from initial stoppage, patrol shall expedite the above process.

Chair #	# of uphill chairs	Max # of people	Maximum evacuation time
Sherwood	46	138	1.90 hours
Bluebird	55	220	1.40 hours
Rabbit	14	56	1.05 hours

- ***Rabbit Peak Chair** - Minimum of 2 lift evacuation bags working simultaneously with 6 personnel.
- ****Bluebird Chair** - Minimum of 3 lift evacuation bags working simultaneously with 9 personnel.
- *****Sherwood Chair** – Minimum of 3 lift evacuation bags working simultaneously with 9 personnel.

Lift Evacuation Rescue Training

Participant Preparedness

- Review required knots
- Bring warm clothing including gloves
- Bring lunch

Training Objectives

- Lift Evacuation Rescue Plan (awareness level)
- Demonstration of evacuation equipment (performance level)
- Belay team duties (performance level)
- Sequence of evacuation events (performance level)
- Duties of Lift Maintenance vs. Patrol (performance level)
- Belay operation (performance level)
- Paperwork required (awareness level)
- Storage/location of evacuation gear (awareness level)

Training Levels

- Awareness
- Performance
- Planning and Management

Lift Evacuation Rescue Plan (LERP)

- Lift Stoppage Notification
 - Radio call to dispatch by patroller or lift maintenance
- Lift Evacuation Notification
 - Radio Call to Lift Maintenance to Patrol Manager
 - Confirm Lock-down / Tag -out
 - Notification of Lift Evacuation to Dispatch
- Key Rescue Roles
 - Rescue Director—Patrol Manager
 - Rescue Coordinator—Dispatch
 - Rescue Leader—Slope Leader
 - Recon Patroller—Patroller
 - Tower Ascender—Lift Maintenance
 - Belay Team Leader—Patroller or Lift Maintenance
- Recon Patroller Results
- Evacuation of Customers
 - Tower Ascender
 - Safety considerations
 - Placement of evacuation rope
 - Robes may be set using line launcher
 - Normal Belay Teams
 - Belayer (Leader)
 - Communicator

- Backup Belayer
 - Placement of evacuation rope
 - Tower climbing by full-time resort employees only
 - Positioning of line saver and 2:1 pulley
 - Use of line saver and 2:1 pulley
 - Evacuation of customers
 - Special circumstances
- List of Rescued Customers

Knots, Bends & Hitches

- **Knots**
 - ◆ Figure 8 (stopper knot used when retrieving the line saver)
 - ◆ Figure 8 On a Bight (used to attach rope to a carabineer—always tied with a double overhand “backup” knot)
 - ◆ Figure 8 Follow-Through (used to attach lift evacuation seat to rope—always tied with double overhand “backup” knot)
 - ◆ Bowline (not used during lift evacuation)
 - ◆ Butterfly Knot (inline knot used to “tie into” for disadvantaged skiers)
 - ◆ Double Overhand Knot (used as a backup knot)
- **Bends**
 - ◆ Water Knot, aka: Ring Bend, Overhand Bend (used to create slings)
 - ◆ Double Overhand Bend aka, Fisherman’s Knot (used to create loops)
 - ◆ Flat Overhand Bend (used to pull a larger rope over the cable with a smaller rope)
- **Hitches**
 - ◆ Clove Hitch (used to attach rope to bamboo for rope flipping)
- **Completing Knot, Bends, and Hitches**
 - ◆ Properly dressed and set (tightened)
 - ◆ Proper length of tails
 - Generally 2” tails
 - Water Knot 3” tails
 - Offset Overhand Bend 12” tails

Belays, Harnesses & Hardware

- **Belays**
 - ◆ Body belay
 - ◆ Hand position
- **Harnesses**
 - ◆ Harness
 - Check buckles
 - Properly size
 - ◆ Webbing
 - Sizing
 - Water Knot
- **Carabineers**
 - ◆ Self Locking
 - ◆ Screw lock
 - ◆ Directional orientation

Ground-Based Chair Lift Rescue

- **Equipment**
 - **Ropes**
 - **Rope**
 - Kern
 - Mantle
 - Static
 - **Knots**
 - Dressing knots
 - **Webbing**
 - **Line Saver**
 - Long leg of line saver points down to lift evacuation seat (although it will work pointed in either direction)
 - **Lift Evacuation Seat**
- **Ground-Based Belay Team Roles**
 - ◆ **Team Leader/ Belayer**
 - **Belay Position** (downhill and to the outside—load should be almost vertical)
 - **“On Belay”** as soon as lift evacuation seat reaches chair
 - **Belay Technique** (do not ever release the brake hand from the evacuation rope)
 - ◆ **Communicator**
 - **Communicate from an uphill position**
 - **Always be uphill and visible to customers**
 - **Read Communicator Sheet**
 - **Demonstrate procedure** (prior to lift evacuation seat arrival)
 - **Keep skis on, throw poles off to side when requested**
 - **Weaker person comes out of chair first**
 - **Assists customer as they reach the ground**
 - **Records or directs customer to central recording of names**
 - ◆ **Rope Handler**
 - **Proper position**
 - **Keep track of and feed rope to belayer, act as back-up belayer when necessary**
- **Ground-Based Tower Ascent Roles**
 - ◆ **Lift maintenance personnel only**
- **Ground-Based Lift Evacuation Rescue Procedures (6 phases)**
 - ◆ **Setting up the evacuation rope**
 - **Uncoil and ready rope for placement**
 - **Line launcher sets pull rope of lift maintenance climbs tower and places rope in correct position**
 - **Safety apparatus used, end of rope attached to harness with Figure 8 on a bight**

- Secure position at top of tower
 - Butterfly coil rope and toss over haul rope
 - Evacuate chair located at sheaves if required
- Position “pull” Line Saver into place on top of haul rope
- Check rope for twists and kinks
- ◆ **Securing the evacuation device**
 - Secure lift evacuation seat to rope with Figure 8 follow through and safety overhand knot
 - Belayer and rope handler assume their positions (do not raise lift evacuation seat)
 - Communicator instructs and demonstrates lift evacuation seat use to the customer
 - Communicator confirms that the customer understands the instructions
 - Belayer raises lift evacuation seat to chair and immediately assumes and announces “belay on” position
 - Rope handler assumes position on opposite side of belayer’s belay arm and manages rope
- ◆ **Transferring the passenger onto the evacuation seat**
 - Belayer secures position and removes any slack from the rope
 - Communicator instructs first customer (middle customer, child or hypothermic first) to place seat between and under legs and to place sling over head and arms
 - When customer is secured to lift evacuation seat and belay is ready, customer is instructed to place weight on seat
 - Belayer tensions rope to minimize initial drop due to rope stretch
- ◆ **Lowering the passenger to the ground**
 - Communicator instructs customer to push off chair keeping one hand on the seat of the chair. Customer should turn toward chair holding it away from them during lowering
 - Belayer slowly lowers customer to the ground
 - Communicator assist customer as they near the ground and places their skis/snowboard perpendicular to the slope
 - Communicator assists the customer out of lift evacuation seat
 - Communicator records and/or directs customer to central recording location of names and pertinent information
- ◆ **Moving to next chair**
 - After all customers are evacuated from a chair, the evacuation rope is flipped over the chair grip and slid down to the next chair, or if a tower is in the way, the rope must be removed and reinstalled on the downhill side
 - To “flip” the rope over a fixed grip, the line saver should be pulled off the haul rope a couple feet, some slack put in the line, and then flipped over the chair grip (see rope flipping procedure)
 - After sliding the evacuation rope to the next chair, repeat the passenger evacuation procedures
- ◆ **Special evacuation situations**
 - Chairs located at sheaves

- Loaded chairs that have stopped under a sheave train require special procedures performed by lift maintenance personnel
- Lift maintenance personnel positions the line saver between sheaves (so the evacuation rope does not rub on sheave wheels) and in front of and close to the chair hanger
- **Small Children**
 - Small children who are lap passengers need to be removed from the lift in an evacuation chair
 - The evacuation team may need to adjust (shorten) the chest loop before raising the evacuation chair
 - Very small children may need to be lowered with an adult
- **Disadvantaged Skiers**
 - Evacuate disadvantaged skiers from the chair before their guide or coach, using normal methods whenever possible
 - Disadvantaged skiers may have skis and/or feet strapped together so they cannot mount the evacuation chair. The coach or disadvantaged skier should know an alternate method. If not, a patroller knowledgeable in special rescue should ascend to the lift chair and devise a special chest and seat sling, or assist the passenger into the mountain evacuation chair for lowering.
 - Evacuation of disadvantaged skier sleds presents a variety of unique challenges to the rescuers. If the disadvantaged skiers sled's design is not conducive to a chairlift evacuation, lower the disadvantaged skier first. Make sure the guide holds onto the sled so it does not fall on the evacuation team.
 - If the sled has evacuation tie points, evacuate the sled with the disadvantaged skier sitting in it. The coach must bring the tie points together in the center of the sled and attach them with a locking carabineer. The carabineer is attached to a butterfly knot (loop) in the evacuation rope (end of evacuation rope may need to be improvised into a sling).
- **Empty Patrol Sleds**
 - The evacuation team will unattached the lift evacuation seat from the evacuation rope and place a carabineer at the end of the rope (using a Figure 8 on a bight). The patroller then attaches the evacuation rope to the front of the sled through two anchor points. When the sled is free of the chair, the belayer lowers sled.
- **Ascent to Chair**
 - It may become necessary to ascend to a loaded chair to help a child, injured (hypothermia), frightened or non-communicative guests, handicapped skier, or injured guests. A patroller will be hoisted up to the lift chair by

three or four patrollers using the evacuation rope and a pulley system

- Evacuation from light side
 - Proceed in the usual manner of evacuation. If the downward angle of the haul rope allows the line saver to slide downhill, it may be necessary to wrap the evacuation rope around the chair hanger to keep the line saver in place
- Rope Flipping Procedure
 - ◆ Important! Move line saver away from carrier (chair) to avoid getting rope tangled or jammed under the grip
 - ◆ Flip line saver off haul rope prior to repositioning or removing (a knot can be tied in the rope and moved next to line saver while removing it using both ends of rope)
 - ◆ Hand Flip
 - Stand 2 ft in the direction you wish to flip (just below the chair); no more than 5 ft out from the chair with the line saver at the beginning of the duckbill
 - With hands at your side and looking up hill or opposite the direction of your flip, give in or take out enough Evacuation Rope so that it creates a loop just touching the ground.
 - Use your arm as a lever, bringing it up quickly over your head in the down hill direction of the haul rope
 - Plan to end up with your arm (lever) in the same direction you want the rope to move.
 - ◆ Bamboo Flip
 - Stand 5 ft below the chair and no more than 5 ft outside of the chair
 - Secure evacuation rope using the clove hitch or a carabineer
 - The rope should have enough slack in the loop of the rope to touch the ground while the bamboo is parallel to the slope
 - Use the fishing pole casting method to clear the grip
 - Plan to end up with the bamboo (lever) in the same direction you want the rope to move
 - ◆ Line saver is repositioned to previous position on top of haul rope

Special Considerations

- **Special Considerations**
 - ◆ **Chairs located at sheaves**
 - ◆ **Small Children**
 - ◆ **Disadvantaged Skiers**
 - ◆ **Empty Patrol Sleds**
 - ◆ **Ascent to Chair**
 - ◆ **Evacuation from light side**

References

- **Certified Manual, Association of Professional Patrollers, April 2005**
- **NSAA/NSP Lift evacuation Manual, 1998**
- **Petzl Work Solutions 2005**
- **The Outdoor Knot Book, Clyde Soles, 2004**

Communicator Card Example



Communicator Card

Belay Team
Belayer
Rope Handle
Communicator

- 1) Greet customer with name and position at Lee Canyon Ski Area.
- 2) Record names of customers on chair—obtain special circumstance (contact dispatch as appropriate)
- 3) Ask customers to pass poles to inside of chair & drop (when appropriate)
- 4) Demonstrate use of safety loop
 - a. Put the loop over your head and under both arms
 - b. Move the metal slide snug to your chest
 - c. Ask: Do you understand?
- 5) Demonstrate use of lift evacuation seat
 - a. Put the seat between your legs & under legs
 - b. When directed, scoot off chair to be lowered
 - c. Use one hand to push away from chair
 - d. Ask: Do you understand?
- 6) Communicate to belayer that lift evacuation seat is ready to be raised. Say to customers:
 - a. Do not touch the rope until I tell you!
 - b. The seat is being raised to your chair
 - c. Ask: do you understand?
- 7) When the lift evacuation seat is almost to the chair Say to the customers:
 - a. Do not touch the rope until I tell you!
- 8) After you hear the belayer say "On Belay" Say to the customer:
 - a. Attach the Safety Loop
 - b. Put the seat between your legs & under legs
 - c. Scoot out onto evacuation seat
 - d. Keep one hand on chair and rotate away from chair
- 9) Assist customer as they reach the ground. After last customer is evacuated, move to next chair.

