

Introduction to Lift Maintenance

Monarch Mountain welcomes all lift maintenance employees to the beginning of a new season. As a business providing service to our guests, our objective is to provide a quality and friendly skiing experience. This manual is designed to refresh returning lift maintenance employees as well as acquaint new lift maintenance employees with the established policies and procedures for lift maintenance. Use this manual as a reference throughout the ski season.

The training, qualification checklist and tests used by Monarch Mountain are designed to determine and record your operational maintenance knowledge and progress. They will become part of your personal record. In order to make your employment here a satisfying experience for you and the corporation, we ask that you review all the policies and procedures that will affect your employment.

Service Strategy

1. Continue as the most professional Lift Mechanic in the industry.
2. Operate our lifts efficiently without waste of time, material, or manpower.
3. Insure each guest contributes to the profitability of Monarch Mountain.
4. Develop individual and team pride to exceed guest expectations.

Job Classifications

Area Operator: Person or entity who owns, manages or directs operations of Ski Area.

Manager of Lift Maintenance: An individual who is in charge of the lift maintenance and personnel.

Supervisor of Lift Maintenance: An individual who supports the Manager with lift maintenance operations and personnel.

Lift Mechanic Journeyman: An individual who assists the Manager in lift maintenance:

All positions in the Lift Maintenance department are skiing positions.

“YOU’RE NUMBER ONE WITH US”

This statement has two meanings:

First, the guest is always our number one job. Always start your contact with a smile and a friendly word.

Second, you are number one with us. You were chosen for lift maintenance because you have shown a combination of abilities and personality that will help make Monarch Mountain a

success. Monarch Mountain can not succeed without people like you showing interest in your job, and taking your position seriously.

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Uniform policy

1. Monarch Mountain will provide a uniform and nametag to be worn at all times while on duty.
2. Uniforms are designed for protection during bad weather. On warmer days when wind pants are not needed for your protection, you must wear black pants.
3. Uniforms are to be kept in your locker when not in use. Make sure your locker is secured. Coats and pants are not to be worn for personal use during time off.
4. The cost of tears, damage or excessive soiling to clothing may be deducted from your paycheck.
5. Employees are required to pay for lost or stolen uniforms.
6. Have functional attire to wear under your uniform. Dress in layers. Overalls or old jackets will be available when working on machinery or doing maintenance. **Put on uniform coat just prior to opening.**
7. Uniform should be taken home and washed every week. **Do not wear uniform off of ski area property.** Notify your manager before taking uniform home. Washing instructions:
 - o When washing, use a cap full of mild laundry detergent per washer load. Hang dry.
 - o **Never put uniform pieces in the dryer! Do not dry clean these uniforms!**
8. Additional attire should be color coordinated with your uniform and have a Monarch Mountain logo.

Dress for the weather.

Layers of clothing make it easy to adjust for
changing conditions throughout the day!

General Policies

1. During normal operations, work begins at 7:45 am. You must be in uniform before you punch in. If you will not be here on time, you must call the ski area at 530-5171 between 7:00 and 7:45 and speak with the Manager. Or call the Manager at home at 1-719-221-0284.
2. You will have two 15 minute breaks paid and 30 minutes off the clock for lunch.
3. All employees will be required to report to work alert, rested and sober. Be prepared for the worst weather; have plenty of warm clothing. Outdoor footwear must have adequate tread to prevent slips and falls. Good gloves, hat, goggles, sunglasses, and sunscreen are a must.

4. Dress, grooming and personal cleanliness standards contribute to the morale of all employees and affect the business image Monarch Mountain presents to guests and visitors. All personnel are expected to appear neat and orderly, clean-shaven every day, hair and beards neatly trimmed. Hair color must be a color that could be a natural color. Long hair on all must be secured in the back as a ponytail. Body piercing is not allowed except as earrings. A professional and safe appearance is required.
5. During busy periods you may be asked to help lift operations.
6. If you fail to punch in or out, make your Manager aware during your shift.
7. Weekend and holiday periods' employees are to park at the garage next to wood pile.
8. Lost and found items are to be turned in to Guest Services desk next to Season Pass, or call 5050. Provide location at which they were found.
9. Complimentary day passes can be picked up at the Season Pass window after the first of each month, beginning in December. You must present your employee ID and only pick up your own passes.
10. You are not allowed behind sales desk, back of food services area, bar or in the Children's Center.
11. All staff will help with the weekly and monthly checks on a rotation basis. Procedures are to be completed in the evenings or as time allows.
12. Answer phones with your station location and name. Hill phones are for emergency use only; do not tie them up. Use battery phone for lift communications, always receive all clear before restarting or moving the lift from all other working staff stations. The Manager will pass on personal phone messages as soon as possible.
13. Head phones or load MUSIC Shall Not be used by any employee while working or operating equipment. All employees need to hear and be aware of 2 way radio transmissions, other co-workers, Guests and other activities within their working surroundings.
14. Always work with four things in mind: Safety, Guest Service, Teamwork and Fun! If a problem or injury occurs with a guest or employees, call Dispatch at 5111 immediately.
15. Failure to follow policies, procedures, or rules will result in a written warning, suspension or termination.

Safety Rules

Monarch Mountain considers accident prevention to be of prime importance. All employees are expected to comply with safety rules, programs and procedures at all times. Employee suggestions are always encouraged and may be submitted at any time. It is our expectation that job related activities will always be performed with an attitude of concern, awareness and cooperation to maintain the highest possible safety standards. Employee disregard for safety to oneself, co-workers or guests will not be tolerated.

Following is a list of general rules that pertain to operating conditions. It is not meant to include every possible precaution, but to give an idea of the direction that your actions should take.

1. 1.Follow established safety and emergency procedures.

2. If you need to contact the Lift Maintenance Manager at any time, in case of illness, injury, and mechanical failure or just have questions about daily operations, call 5171 or call for manager on the Radio then go to channel 2. Give location, and your situation.
3. If you are injured while working, contact Dispatch 5111 and your Manager at 5171. Fill out employee accident and Worker Compensation form before you leave work that day. You must see the company's assigned doctor and receive a release from him for Worker Compensation prior to your return to work. Drug testing may be required. A release is needed if you are absent from work longer than 3 days total in a season because of illness. You could be released if absenteeism is a problem.
4. Do not wear loose clothing, jewelry or hairstyles that can get caught in machinery. Use all guards when machines are running.
5. When working or checking machinery, make sure people at other stations know what you are doing and have **A STOP SWITCH PUSHED IN**. Reset, and call, when clear. When maintenance is being performed on the lift, display the "Men Working on Lift" sign on main panel and shut off main power to prevent accidental start up. Use lockout device such as a padlock, chain, etc. to ensure worker safety. **(Lock-out/Tag-out)**
6. NEVER move lifts without communicating with all other stations, work chair or personnel.
7. Only personnel authorized by Manager may work on electrical circuits or panels.
8. When driving a snowmobile, drive defensively and be as visible as possible. You must be qualified and tested. Be alert when driving to work.
9. Be cautious of hard packed or melting conditions, which occur frequently. **DON'T RUN!** Be aware that these conditions are difficult to ski in as well.
10. Walk slowly, with a sliding motion on slippery or uneven surfaces, and wear shoes or boots with no skid soles and flat heels.
11. At all times, be aware of your position in relation to the lift when it is moving. Being struck by a chair has caused serious injury.
12. If you smoke, do not throw butts or matches in trash or on floors.
13. When riding the lift, keep your feet down and hold onto to side bail. We set the example for guests and co-workers. Be aware of problems, and contact Lift Maintenance Manager with your concerns. Never hang or jump from a chair.
14. Horseplay or snowball throwing is not tolerated at any time.
15. No more than two people are to ride a double chair. And no more than four people are to ride the quad chair.
16. Use sun block rated 30 spf or better, ultra-violet protective eyewear, a hat and gloves when it is snowing, treaded snow boots, and dress in layers.
17. Always lift properly. Bend at the knees with your back straight.
18. Working under the influence of drugs or alcohol will not be tolerated.
19. Be alert at all times and use good judgement.
20. Know Hazard Communications Programs and MSDS sheet, Qualified Climber Programs and Hazard Energy Program.
21. Never put any liquids on electrical control panels.
22. If you have any questions regarding procedures or policy bring it to the Manager's attention

Operational Duties and Responsibilities

1. Know load and unload procedures.
2. Know locations of all stop switches and proper operation.
3. Know the location and use of all communications systems used on the lifts.
4. Know how to perform daily operations and closing duties, fill out daily logs, weekly and monthly checklists and stoppage logs. Be familiar with the purpose of each log.
5. Learn all emergency procedures.
6. Only authorized personnel will be allowed in the attendant station. NO VISITORS.
7. Keep work areas and building orderly at all times
8. Appropriately respond to a variety of questions from guests.
9. Understand company, federal, state and Forest Service regulations governing operations.
10. There will be no smoking while working with our guests. If you smoke use ashtray. Do not throw butts or matches in snow or trash. Those using smokeless tobacco products must dispose of them in a proper container, not on the ground.
11. Never “feather” the fast or slow buttons, press them fully open or closed. Relay damage may occur if this is not done.
12. Observe lift condition whenever riding the lifts:
 1. Grease on chairs or pads that needs to be removed.
 2. Unusual noises from the machine or towers.
 3. Sheaves out of alignment, worn, or not turning.
 4. Problems on haul cable
 5. Broken chair or components.
 6. Signs not visible or falling off.
13. Remain alert during severe weather conditions such as wind, lightening, or extreme cold. Know when to slow or stop a lift in potentially hazardous conditions. Know how to identify frostbite and hypothermia, and inform those showing symptoms.
14. Always be polite and cooperative toward co-workers.

Carpet Lift Information

Safari

MANUFACTURE	STAR LIFTS USA
LIFT NUMBER	MOO-006
YEAR	2005
TYPE OF LIFT	CONVEYOR/WONDERCARPET
TERMINAL LOCATIONS	BOTTOM TENSION [SCREW BOLT]
TOP DRIVE [5 HORSE POWER]	
SLOPE LENGTH	60 FT.
VERTICAL RISE	7.5% OF NOMINAL [4 FT.]
LINE SPEED	60 FPM ON SLOW 160 FPM ON FAST
CAPACITY	1600 PPH
SPACING	2.3 SEC. 6FT.

Congo

MANUFACTURE	MAGIC CARPET LIFTS
LIFT NUMBER	MOO-07
YEAR	1997 RETRO-FITTED IN 2007
TYPE OF LIFT	CONVEYOR/BOARDWALK
TERMINAL LOCATIONS	BOTTOM TENSION [SCREW BOLT]
TOP DRIVE [5 HORSE]	
SLOPE LENGTH	80 FT.
VERTICAL RISE	7.5 % OF NORMINAL [4 FT.]
LINE SPEED	60 FPM SLOW/FAST SAME
CAPACITY	1000 PPH
SPACING	3 SEC. 6FT.

Caterpillar

MANUFACTURE	MAGIC CARPET LIFTS
LIFT NUMBER	MOO-008
YEAR	2011
TYPE OF LIFT	CONVEYOR/BOARDWALK WITH CANOPY
TERMINAL	BOTTOM TENSION HYDRAULIC
TOP DRIVE [30 HORSE]	
SLOPE LENGTH	450 FT.
VERTICAL RISE	13% OF NORMINAL [60 FT]
LINE SPEED	60 FPM ON SLOW 160 ON FAST
CAPACITY	1500 PPH
SPACING	2.2 SEC. 6 FT.

Lift Information

Name and # of Lift	Garfield Lift #1	Breezeway Lift #2	Panorama Lift #3	Tumbelina Lift #4	Pioneer Lift #5
Manufacturer	SkyTrac/Hall	SkyTrac/Hall	Hall	Hall	Garaventa
Year Installed	1969/2010	1968/2014	1980	1981	1999
Type of Lift	Monocable Double Chair	Monocable Double Chair	Monocable Double Chair	Monocable Double Chair	Monocable Quad Chair
Terminal Locations	Bottom Drive Bottom Tension				
Slope Length	2840	3240	3043	1417	3620
Vertical Rise	848	830	789	326	797
Line Speed	500	500	487	500	450
Capacity	1200	1000	1200	1200	1500
Carrier Spacing	51.11 inch	58.4 inch	47.11	48.8	70
Tensioning System	Hydraulic	Hydraulic	Counterweight	Counterweight	Hydraulic
Tension	27800 lbs.	27320 lbs.	30515 lbs.	24000 lbs.	52000 lbs.

Terminals And Line Equipment

Think of the lift in three sections: the Loading Terminal, the Unloading Terminal and the Lift Line.

Drive Terminal on all of Monarch Mountain lifts are located at the bottom terminal, and is where the motor and mechanical and electrical components that power the lift are found. Friction between the Bullwheel liner and the Haul rope moves the chairs up the lift line to the **Unload or Return Terminal** and around the Idler, or Top Bullwheel, and back down to the Drive Terminal.

Within the drive terminal the electric motor is the prime mover for the lift. A gas or diesel powered auxiliary engine drives the lift when there is a power failure or other problem with the electric motor.

On the #1 (Garfield lift) the electric motor sits on top of the gearbox and is connected by a rubber belt which is connected to the service brake coupler, which is connected to the high speed rollback brake then it is connected to the gear box from the gear box it is connected to the planetary by the pinion shaft which turns the bullwheel.

On the #2 (Breezeway lift) the electric motor sets on top of the gearbox and is connected by a rubber belt which is connected to the service brake coupler, which is connected to the high speed rollback back brake then it is connected to the gearbox from the gearbox it is connected to the planetary by the pinion shaft which turns the bullwheel.

On the #3 (Panorama) and #4 (Tumbelina) lifts, the sequence of machinery to the Hanson gearbox is the same as the #1 and #2 lifts. From the Hanson gearbox the output is transmitted to the Planetary drive gearbox by means of a coupling and a low-speed shaft, which drives the bullwheel and takes the place of the ring and pinion gear.

On the #5 (Pioneer) Lift, the electric motor is connected to the Santasalo gearbox by means of high-speed drive belts. From the Santasalo gearbox the output is transmitted to the Planetary drive gearbox by means of a coupling and a low-speed shaft that turns the bullwheel.

Prime Mover – electric motor used to run the lift under normal conditions.

High-Speed Shafts and Couplings – tie components together.

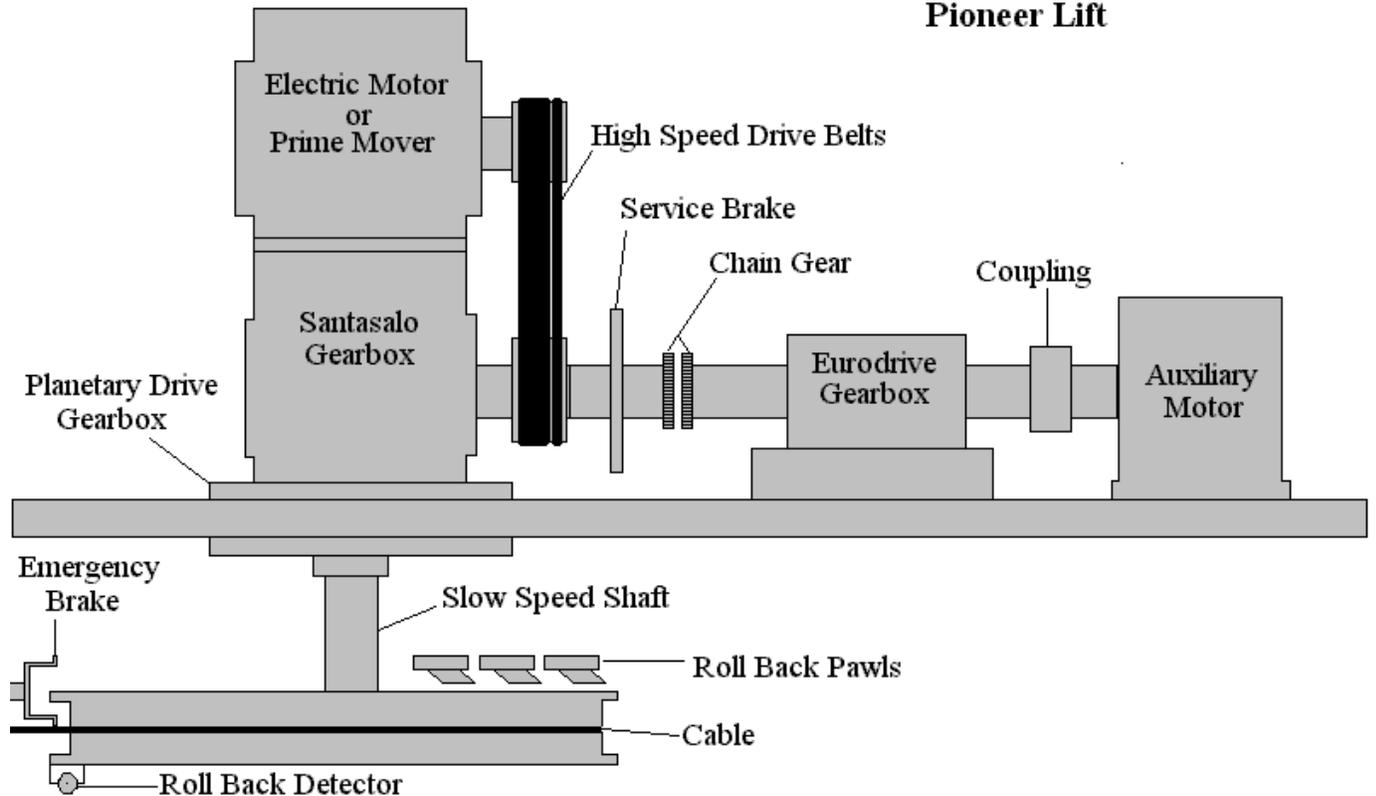
Nelson Powermate – actuated speed control for the lift, from zero to full speed.

Gearboxes – gears used to reduce motor speed and increase torque.

Drive Bullwheel – moves haul rope.

DRIVE LINE EQUIPMENT

Pioneer Lift



Braking Systems

All of Monarch Mountain lifts have three braking devices- the Service Brake, Emergency Brake and Anti-Rollback dawg and pawls except the Garfield lift has a rollback bark just like the emergency brake.

Service Brake – The main brake for the lift, used for normal stops and holding the lift in position. It is found in the drive terminal and acts on the high-speed shaft to stop and hold the lift.

Emergency Brake – an independent spring-loaded stopping device, which acts directly on the drive bullwheel flange. It is often used only in emergencies and can be activated either manually or automatically.

Rollback Brake – an independent spring-loaded stopping device, which acts directly on the drive bullwheel flange. It is used only if the lift drive bullwheel rollback.

Dawgs – steel blocks welded to the bullwheel for stopping a counter-rotation of the lift, works in conjunction with the pawls.

Pawls – spring-loaded arm and wheel, which drops, down upon counter-rotation of the lift and engages on the dawgs.

Lift Electrical Systems

Our chair lifts use three separate electrical voltages for different applications:

- 480 volts ac. to operate the electric motor
- 110 volts ac. to operate lights, heaters, service brake pumps or canisters and battery chargers
- 12 or 24 volts ac. or dc. to operate the control circuit

The Control Circuit

The 24-volt control circuit operates the start, slow, fast, stop and electrical disconnect circuits on the lift. It makes a complete loop from bottom to top and back, and connects all operator control buttons, carriage and deropement switches, and stop gates.

The 24-volt (low voltage) control circuit operates the controls, and is powered by one or two 12-volt batteries connected in series.

This fail-safe system is used because: When connected to battery chargers, they are not affected by power outages, so there is always control power, and can be charged by the alternator when operating the auxiliary engine.

Panel Switches

1. **Emergency Shut Down Switches:** Sets emergency brake and service brake and disconnects power from prime mover. Use in the event of a rollback or when no other switch works.
2. **Normal Stop Switch:** Sets service brake and disconnects power from prime mover. Use in instances such as stopping lift when a guest has fallen suddenly.
3. **Slow to Stop Switch:** Slows the lift, then stops lift by service brake. It will not disconnect power to the prime mover. Use in instances when a person has fallen at the ramp, clear of the chair but in the path of the next chair.
4. **Slow Button:** On all Hall double chairs the slow button slows the lift from full speed to degrees of decreasing speed until the service brake engages and stops the lift. On the #1 Garfield and #5 (Pioneer) lift, pushing the slow button one time will automatically slow the lift to 150 feet per minute. The slowest it can go without stopping it.

5. **Fast Button:** Speeds lift up after slowing or stopping. Use to engage the lift back to full speed.
6. **Reset Button:** Allow lift to start and move. Needed after all normal and emergency stops.

Automatic Switches

1. **Rollback Detector:** Sets emergency brake and service brake, and disconnects power from prime mover, upon counter rotation.
2. **Tower Deropement Switches:** Sets emergency brake and service brake, and disconnects power from prime mover. Automatically triggered in the event that the haul rope comes off the sheave wheel assembly.
3. **Counterweight Travel Limit Switch:** Sets service brake and disconnects power from prime mover. Used to limit counterweight movement.
4. **Carriage Travel Limit Switch:** Sets service brake and disconnects power from prime mover. Used to limit carriage movement.
5. **Idler Arm Deropement Switches:** Sets service brake and disconnects power from prime mover. Used in the event the haul rope comes off the idler sheave wheels.
6. **Stop Gate:** Sets service brake and disconnects power from prime mover. Used when a passenger fails to unload at the unloading terminal.

Tensioning System

Our ski lifts are designed to operate with the same amount of tension on the haul rope at all times. To keep the haul rope from sagging from its own weight, and the weight of the chairs and passengers, a counterweight or hydraulic tensioning system is used.

The **Counterweight System** uses a large concrete block weighing tons, suspended by a wire rope, over a series of metal sheaves. Uses the force of gravity to maintain uniform tension on the haul rope. When the carriage moves forward the counterweight goes up, and vice-versa.

The **Hydraulic System** uses hydraulic rams to maintain uniform tension on the haul rope. When the load on the chairs changes the hydraulic rams adjust the tension of the haul rope so that it will stay the same as guests load and unload.

The Lift Line

The haul rope is an endless loop of wires twisted into groups called “strands” which are wound around a fiber core that holds lubricant and provides enough flexibility so that the rope can bend around the big bullwheels at either terminal.

Carriers, or chairs, consist of gooseneck, bail, restraints (Pioneer only), chair frame and seat. The chairs are attached to the haul rope using grips that are spring-loaded clamps, which grasp the haul rope and keep the chair in position. Fixed grips may “Migrate” slightly down the rope as they go around the bullwheels so watch to see how far they have moved from the painted match

mark on the haul rope that shows where the grip started the season. If one grip migrates much more than the others, maintenance should be alerted and the grip repositioned. The chairs are spaced to allow adequate time for loading and unloading, which is usually 6 to 8 seconds between chairs.

Lift Towers and Tower Machinery

The haul rope and carriers (chairs) are supported along the lift line by sheave wheels at each tower. The sheaves are rubber lined wheels. Groups of sheaves are called sheave assemblies. The haul rope passes over, or under, the sheaves, and should ride in the grooved center of the rubber liner.

If the haul rope rides to one side, it will wear the metal body or plate of the sheave; so watch for shiny spots on the inside of the sheaves as you ride the lift. Alert lift maintenance with the sheave and tower number. Also note flat spots on the sheave liner. As the carrier passes over the flat spot it feels like a bump. This is caused when a sheave doesn't turn and the haul rope wears in one spot more than others do.

Watch for frozen sheaves that aren't turning. Again, alert the maintenance people. Tower switches should stop the lift if a deropement happens. Watching for these situations may prevent problems before they occur.

Lift towers are numbered from the bottom of the lift, so you can identify each one. Sheave positions are also numbered. The numbers begin on the haul rope's direction of travel; so the first sheave on the tower that one reaches as one sits on the chair is #1.

Sheaves that hold the haul rope up are called support sheaves. Those that hold it down (to keep the haul rope from getting too far off the ground) are called depression sheaves. Thus the first support sheave is #1 support. The first depression sheave is #1 depression sheave, and so on. The side of the lift that usually hauls passengers is the uphill, or heavy side, and the return side is called the downhill, or light side.

Opening Procedures: Garfield and Breezeway Lift

1. When at the bottom station, visually inspect lower terminal area, building, lift line, etc for any changes in condition. Start daily log and follow duties as outlined.
2. Check all normal and emergency stop buttons and switches.
3. Check bullwheel flange for ice and oil spills.
4. Turn on the drive 480 volt power and the 24 volt power on the low voltage panels.
5. Push tower test button the reset button on the low voltage panel.
6. Go up in the motor room and get a reset on the Hydraulic Tension System low voltage panel.
7. Check for any oil spills in motor room.
8. Check the oils in the gear box and planetary.

9. Turn on the fuel tank, check the oil and anti-freeze in the auxiliary. Before you start the auxiliary turn and hold the key to the left to activate the glow plugs for 10 seconds, then turn key to the right and start the auxiliary engine and let it run.
10. Go back down to the lower lift house and get a reset on the low voltage panel.
11. Push the start button and run the lift slow for 6 chairs.
12. Then push the fast button and run the lift at full speed and get a normal stopping distance.
13. Then go back up in the motor room and turn off the auxiliary engine.
14. While in the motor room get the pressures for the brake and tension systems.
15. Check to see that all evacuation equipment and fire extinguishers are properly in place.
16. Only authorized personnel will be allowed on the lift prior to opening.
17. Finish the daily log.

Opening Procedures: Panorama and Tumbelina Lifts

1. When at duty station, visually inspect lower terminal area, building, lift line, etc., for any changes in condition. Start daily log and follow duties as outlined.
2. Turn on 24-volt D.C. switch. Push safety circuit reset, pump off emergency brake until red light on panel goes off. Check it by looking at the shoes. Check pressure on emergency pump gauge. Record pressure in log. Push safety circuit reset button to obtain a green light on main panel reset. Turn normal/auxiliary switch to auxiliary. Auxiliary engine is ready to be started. Check auxiliary engine for oil, radiator fluid and gas tank level.
3. Start auxiliary engine. Check heat tape on service brake is warm. The tank heater on auxiliary engine should feel warm.
4. Shut off auxiliary engine with rollback detector and reset switch. Turn off ignition switch on auxiliary engine. In auxiliary mode, any switch will drop the emergency brake and stop the engine.
5. Drop rollback backstop pawls and check to see that pawls are free to move and function properly. See that they reset after moving. Check bullwheel flange for oil, snow, or ice build-up.
6. Make a visual inspection of all drive components from the electric motor to the planetary. Check levels in powermate, gearbox, and planetary.
7. Check service brake to make sure it is free of snow and ice. Manually pull up and release. Check the oil level weekly. The light in the window of the bottom lift building is for indicating the position of the service brake. The light should be off when the service brake is set or closed. The light should come on when the service brake is lifted or energized to the open position. If the light is not working properly, STOP THE LIFT. Call for lift maintenance to come and check to be sure that the service brake is working properly, before the brake over heats.
8. Turn power on to main panel, switch from auxiliary to normal, and turn ON the 120 VAC power on main panel. Obtain safety circuit reset and pump off emergency brake. Check pressure gauge, and record in log.
9. Obtain reset, start electric motor and allow it to warm up to operating temperature, or at least 90 degrees on powermate. Never allow machine to idle for long, or overheating will occur. Shut motor off if delays impede operations.

10. After warming, move lift slowly by lifting service brake by hand. STOP if no movement. Observe movement of counterweight. STOP if there is a great change of movement.
11. Move lift slowly for 6 chairs then increase to full speed.
12. Set service brake at full speed. Log the distance. Check all remaining normal stop switches and buttons.
13. Check all emergency stop switches and buttons. Pump off the emergency brake and obtain all resets.
14. Check to see that the auxiliary engine chain is in proper place. Auxiliary shall be run chained up for 10 minutes once weekly, and unchained for 45 minutes once per month. Never start electric motor while chained up.
15. Check to see that all evacuation equipment and fire extinguishers are in place.
16. Record inspections or procedures in daily log, if not part of log duties. (Auxiliary or manual, evacuation, accident, downtime, inspections, weekly or monthly schedules).
17. Only authorized personnel will be allowed on lift prior to opening.

Opening Procedures: Pioneer Lift

1. When at bottom station, visually inspect lower terminal area, building, lift line, etc for any changes in condition. Start daily log and follow duties as outlined.
2. Check all normal and emergency stop buttons and switches.
3. Check bullwheel flange for ice and oil spills.
4. Turn on 480 volt power and 24 volt power on the main panels.
5. Push the reset button on main panel.
6. Push tower check button then push tower test button then push the reset button on the main panel.
7. Get a reset on the Hydraulic Tension System panel.
8. Check for any oil spills in motor room.
9. Check the oils in the gear box and planetary.
10. Turn on gas tank, check oil and anti-freeze in the auxiliary and start the auxiliary and let it run. When you do a normal stopping distance it will shut off the auxiliary engine.
11. Hold the start button in until the lift starts to run slow and run at that speed for 6 chairs.
12. Then push the fast button and running the lift at full speed do a normal stopping distance.
13. Fill out daily log and record all data.
14. Check to see that the auxiliary engine chain is in proper place.
15. Check to see that all evacuation equipment and fire extinguishers are in place.
16. Record inspections or procedures in daily log, if not part of log duties. (Auxiliary or manual, evacuation, accident, downtime, inspections, weekly or monthly schedules.)
17. Only authorized personnel will be allowed on lift prior to opening.

Opening Procedures: Safari

1. Visual load and unload areas and lift belt.
2. Check all normal and emergency switch operation.
3. Check and remove all ice around load and unload drums.
4. Check alignment of belt at the load and unload areas.

5. Remove snow from belt and walk ways
6. Turn on Power to the Drive Control Panel
7. Take Key and put it in the lower switch turn switch to maintenance mode and bump lift. Then turn switch back to normal.
8. Take Key and put it in the upper start switch and turn to start lift.
9. Run lift slow for one rotation. Get a stopping distance.
10. Run lift at full speed. Get a stopping distance.
11. Run lift and check operation of the Transition stop device.
12. Check the fire extinguisher.
13. Check phones.
14. Fill out daily log.
15. Open lift when Ski School arrives at the lift.

Opening Procedures: Congo

1. Visual load and unload areas and lift belt.
2. Check all normal and emergency switch operation.
3. Check alignment of belt at the load and unload areas.
4. Remove snow from belt and walk ways.
5. Turn on Power to the Drive Control Panel.
6. Turn Key switch on control panel to reset safety circuit.
7. Push green start button make sure belt is not frozen.
8. Run lift and get a normal stopping distance.
9. Run lift and get a emergency shutdown stopping distance. Wait 5 seconds before you get a reset with the key switch.
10. Run lift check transition stop device. Wait 5 second before you get a reset with key switch.
11. Fill out daily log.
12. Open lift when Ski School arrives at the lift.

Opening Procedures: Caterpillar

1. Visual load and unload areas and the carpet belt.
2. Check all normal and emergency shutdown switch operation.
3. Check alignment of belt at the load and unload areas.
4. Open lower and upper end doors.
5. Remove snow from load and unload areas. Turn on Power to the Drive Control Panel.
6. Turn Key switch on the control panel to the left to reset the safety circuit.
7. Turn Key switch on the control panel to the right to start the lift.
8. Run lift and get a normal and emergency stopping distance.
9. Run lift and check the transition stop device.
10. Get resets
11. Fill out daily logs
12. Lift open to public at 9:00.

Monarch Mountain Snowmobile Use Policy

All Monarch Mountain staff hired for a driving position, should qualify for snowmobile use, and be familiar with daily maintenance and operation. The goal of Monarch Mountain is to establish safe operation of all over the snow equipment.

Purpose

The use of over the snow machines including snowmobiles is necessary to accomplish certain company goals. To that end, Monarch Mountain staff driving snowmobiles in the performance of their duty should qualify for snowmobile operation, use, and be familiar with their maintenance. Alert driving habits and the use of good common sense can control most hazards. Drivers must wear a helmet while operating a snowmobile.

Policy

An employee who is authorized by job description to drive snowmobiles should read Monarch Mountain Policies: the Snowmobiles Owner's Manual, Snowmobilers Safety Handbook and view the NSAA snowmobile operator's video prior to using any over the snow machine. They will be given an opportunity to pass the written proficiency test, and a onetime drivers test. Unsafe or negligent operation of equipment will not be tolerated. Disregarding this policy or misuse by any employee will be subject to disciplinary action.

Prior to starting snowmobiles, inspect the machine as follows.

1. Visually Inspect:
 1. Under the hood:
 1. Drive belt and belt guards, plug wire connections, cables, brake pads
 2. Head lights, Tail lights, and Flashing light
 3. Flag
 4. Steering skis and Steering skis chains
 5. Shock and suspension
 6. Track
 7. Shroud latches
 8. Windshield
 9. Bumpers
 10. Hitch pin, ski racks, tow rope and rear flap
2. Check the oil mix and gas levels, fill as needed
3. Check the brake and throttle handle for free movement of hand levers
4. Engage the engine stop switch and reset
5. Insure track is broken free from the snow, bounce and pull backward to rotate track
6. Attach the tether cord to start the engine. Operators should attach the tether to their wrist while operating to help avoid a runaway snowmobile situation.
7. Engine cold start and stopping:

1. Open the start jet lever to full [choke switch]
2. Slowly pull the rope until engaged and then pull briskly
3. After the engine is started move the choke to halfway and feather choke as needed
4. When the engine can idle on its own turn off the choke
5. Allow engine to idle down for 30 seconds prior to turning the ignition off
6. Pull tether cord off machine when unattended

Snowmobile Operating Procedures

1. When choosing a route consider the following:
 1. Highest hazards are on uphill travel routes
 2. Drive right of center line uphill and downhill when available
 3. Do not drive near tree lines when possible
 4. Slow down in skier congestion or traffic areas. Snow conditions for you and our guests
 5. Your visibility from above cat-walk roads, convex terrain features, or bench areas
 6. Blind corners
 7. Steepness and width of trails
2. Use snowmobiles on all Easiest trails and the following More Difficult trails and Runout Zones:
 1. Doc's Run and Little Mo on Breezeway Lift
 2. Snowburn and Great Divide and the Black Diamond Runout Zones on Panorama Lift
 3. Freeway, North Forty, Romp and Black Diamond Runout Zones on Garfield Lift
 4. Mirkwood service and egress roads
 5. Never Summer and Tilt Terrain Parks/Freeway Race Course
 1. Try to avoid driving within the Terrain Parks or Race Courses while open, unless you are responding to an incident or situation that requires immediate response. Other reasons that may call for driving in a Terrain Park includes: maintenance or installation of terrain features.
 2. Do not operate on additional More or Most Difficult runs not listed above, without the approval of the VP of Mountain Operations.
3. Do not operate machine without:
 1. One lighted headlight and lighted red taillight. One flashing light in front
 2. Fluorescent Flag of at least 40 square inches mounted 6 ft. above track.
 3. Brake system maintained in operable condition
4. Driving speed should be determined by the operator based on a combination of factors including terrain, skier traffic and current snow/weather conditions.
5. Slow and yield to skiers or foot traffic.
6. Slow down in congested areas and approach trail intersections cautiously.
7. Do not run at extremely slow speeds, this may cause the clutch to slip.
8. Drive slower when towing a skier, a toboggan or hauling equipment.
9. Do not overload the machine, designed for moderate loads only.
10. Maximum transport is:
 1. 2 riding and 2 towing on 4 stroke machines.
 2. 2 riding and 1 towing on 2 stroke machines.

11. Drive slower when corning, in moguls or on side hills.
12. Apply brakes gently to avoid locking them up.
13. Apply brakes on a downhill slope, a light pumping action of the brake slows the machine.
14. Use ski brakes chains on steeper sections of trails when needed or conditions warrant.
15. When parking on steeper slopes place machine across the fall line and engage the parking brake lock.
16. Use the bumpers to move manually never use skis to lift or slide machine.
17. When towing a toboggan downhill use the toboggan chain if needed.
18. When towing a patroler with a toboggan operate on level or uphill slopes not downhill.
19. Snowmobiles may be used to transport sick, injured or guests in need.
20. Maintenance adjustments are to be done by Vehicle Maintenance personnel only.
21. Report any damage to your supervisor and Vehicle Maintenance.
22. If the snowmobile has been rolled or turned over, DO NOT try to restart the machine.
23. Call Ski Patrol Dispatch {5111} immediately for assistance.
24. As stated in the USFS Winter Operating Plan, company snowmobile use is only allowed during the operating season.

Station Closures at The End Of The Day

Hall Lift Closing Procedures

1. Look for any oil spills.
2. Make sure fuel tank is turned off.
3. Turn off all power.
4. Sign log.
5. Lock door and turn in log .

Garfield, Breezeway, Pioneer Closing Procedures

1. Check terminal area for any oil spills.
2. Go up and check motor room for any oil spills.
3. Make sure gas or fuel tank is turned off.
4. Lock motor room door.
5. Turn off 480 volt and 24 volt panel in lift house.
6. Fill out daily log and record all data
7. Turn heater in lift house to med. and lock lift house door.

Conveyor Closing Procedures

1. Check load and unload areas for anything out of the ordinary.
2. Get a reset and run lift.
3. Turn Power off on Drive control panel.
4. Fill out closing check list on daily log.
5. Turn lift key and daily log into lift maintenance office.

Lift Evacuations

When a non-routine lift stoppage occurs, check all switches at each station one at a time. The following procedures must be followed during practice evacuations as well as actual evacuations.

1. Lift personnel will call Dispatch at 5111.
 1. Dispatch will notify Director of Ski Patrol, Manager of Lift Operations, VP of Mountain Operations, the General Manager, and record the time of the stoppage.
 2. The VP of Mountain Operations or the General Manager will approve the evacuation and what method will be used.
 3. The Director of Ski Patrol will designate an Evacuation Leader if Manual Evacuation is necessary.
2. Lift and Patrol personnel will freeze positions or return to duty stations and await instructions.
3. Lift top operator and Dispatch will record stoppage on log sheet.
 1. a. Record the time of the stoppage.
 2. Record the time Dispatch was called.
 3. Record the time the evacuation began.
 4. Record the time the auxiliary motor was started, if an auxiliary evacuation.
 5. Record the number of the last chair evacuated, and the total number of people on the lift.
 6. Record the time the evacuation was completed.
 7. Record the number, name and address of each guest on manual evacuation.
4. Within 5 minutes, Patrol personnel will be assigned to ski the lift line and inform the guests of the need for an evacuation. This may need to be repeated.

Auxiliary Evacuation Procedure

The auxiliary engine is an important part of the lift system. It is used when a power failure occurs or when the lift cannot be restarted. Within 10 minutes of the initial breakdown, the auxiliary engine shall be warmed up to normal operating temperature and made ready for unloading. Temperature and weather affect the time frame for an evacuation. To start and run the auxiliary engine, first check all fluid levels (gas tank needs to be full). Start and run the auxiliary engine under auxiliary mode and allow it to warm up. Main power to panel shall be turned off so that electric motor cannot be started. Turn off auxiliary engine until chain is placed on sprocket (**Place guard over chain**). Engage rollback backstop pawls and restart engine. One person must handle service brake and one the auxiliary clutch. The auxiliary engine has a governor, so before unloading, throttle must be opened fully. Call last chair to the top station by landline phone. It is important to make sure all communications are clear and understood by all persons involved. Patrol or Lift personnel shall be at loading and unloading area to insure that no one is allowed to load or miss unloading area to insure that no one is allowed to load or miss unloading. Continue to run lift and unload all passengers. Under auxiliary mode all switches will stop engine and drop emergency brake. When unloading is completed inform dispatch that lift evacuation is completed. Record the completion time in daily logs at top and bottom.

NOTE: Breezeway lifts have one person stand by carriage and listen for emergency brake switch to click off. Stop pumping after switch clicks off and push main reset to get auxiliary reset light to come on.

EVACUATION OF THE TRANSITION STOP DEVICE

SAFARI CARPET LIFT

ALWAYS BE ALERT AND WATCH ALL GUEST LOAD AND UNLOAD CARPET SAFELY. ALL GUESTS MUST REMAIN STANDING AT ALL TIMES. IF A GUEST FALLS STOP THE CARPET. IF A GUEST OR AN OBJECT GETS CAUGHT IN THE TRANSITION STOP DEVICE HIT AN EMERGENCY BUTTON AND CALL 5111 FOR HELP.

FIRST YOU HAVE TO PULL THE PIN ON THE LEFT SIDE OF THE TRANSITION STOP DEVICE. THEN YOU HAVE TO PUSH THE METAL BRACKET ON THE RIGHT OF THE TRANSITION STOP DEVICE OVER ABOUT 1.5 INCHES. THE TRANSITION STOP DEVICE WILL THEN OPEN UP BY LIFTING UP ON THE PLASTIC PIECE. THEN REMOVE THE GUEST OR OBJECT FROM THE TRANSITION STOP DEVICE.

ALWAYS CALL FOR HELP.

CONGO CARPET LIFT

ALWAYS BE ALERT AND WATCH ALL GUEST LOAD AND UNLOAD CARPET SAFELY. ALL GUEST MUST REMAIN STANDING AT ALL TIMES. IF A GUEST FALLS STOP THE CARPET. IF A GUEST OR AN OBJECT GETS CAUGHT IN THE TRANSITION STOP DEVICE HIT AN EMERGENCY BUTTON AND CALL 5111 FOR HELP.

FIRST YOU HAVE TO OPEN THE TRAP DOOR THAT GOES UNDER THE CONTROL BOX AREA AND CRAWL IN THE VAULT AREA. THEN LOOK ABOVE THE GEARBOX AND PULL THE PIN WITH THE ORANGE FLAGGING. THE TRANSITION STOP DEVICE WILL THEN OPEN UP. THEN REMOVE THE GUEST OR OBJECT FROM THE TRANSITION STOP DEVICE.

ALWAYS CALL FOR HELP.

Manual Evacuation Procedure

1. Insure authorization to proceed has been given by the **VP of Mountain Operations** or **the General Manager**.
2. Lift operator will insure the following:
 1. All lift power must be lockout tag-out, to prevent accidental restart.
 2. Insure all 3 brakes are engaged.
 3. Guard top and bottom stations.

3. Director of Patrol will assign Evacuation Leader and notify Administrative Office.
4. Administrative Office will notify other departments.
 1. Ski School reports to class meeting area.
 2. Vehicle Maintenance will warm up Snowcats.
5. Evacuation Leader will assign teams, equipment and location before dispatching. Evacuation leader will ensure that the lift is locked and tagged-out.
6. Equipment and locations:
 1. Equipment sets include the following:
 1. Evacuation seat
 2. Evacuation rope
 1. Length twice distance from the highest point of the lift to the ground.
 2. 11 mm goldline climbing rope
 3. Rope securely attached to evacuation seat
 3. Three sets each for Garfield, Breezeway and Panorama
 4. Two sets each for Tumbelina
 5. Two-way radio for communication
 2. Locations are at the following:
 1. Garfield Lift
 1. Upper Patrol Building [2 sets]
 2. Lower Lift Building
 2. Breezeway Lift
 1. Upper Patrol Building [2 sets]
 2. Lower Lift Building
 3. Panorama Lift
 1. Upper Patrol Building [2 sets]
 2. Lower Lift Building
 4. Tumbelina Lift
 1. Upper Lift Building
 2. Lower Lift Building
 5. Pioneer Lift
 1. Lower Lift Building [2 sets]
 2. Upper Lift Building
 3. Procedure
 1. Evacuation Leader assigns teams
 1. Evacuate teams and locations
 2. Transportation team
 3. First Aid team
 4. Ski guide team
 2. At location
 1. Team will communicate with Dispatch
 2. Explain procedure to guests
 3. Deploying equipment and procedure
 1. Rescuer climbs tower ladder and loops rope over haul cable.
 2. Explain procedure to guest again, have them do nothing until directed.

3. Have guests drop poles away from ground crew.
 4. Raise evacuation seat to lift chair.
 5. While raising evacuation seat, belay rescuer must be in secure position in case guest unexpectedly places weight on device.
 6. Clear people from under lift line.
 7. When both rescuers are in position, take slack out of rope and pull seat up to bottom lift chair.
 8. Instruct guest to place security cord around body under arms twice, and hook back to device or pull metal sleeve to closed position.
 9. After secured, both rescuers need to be on belay.
 10. Instruct guest to move out onto chair, turn and face chair
 11. With one hand hold chair until lowered down past chair level.
 12. Caution guests to guard fingers from being caught in rope.
 13. Lower to ground, second rescuer will turn guests sideways to hill.
 14. Continue on to next chair until entire lift has been evacuated, or evacuation has been called off.
 15. To continue, slip rope over grip and pull down to next chair.
 16. Assess each guest for first aid, record name, address, and phone number.
 17. A separate guide will administer first aid.
 18. A separate guide will lead guests to nearest trail
 19. Ski Patrol will sweep lift line to ensure all guests and equipment are clear of lift.
 20. After sweep, report to Evacuation Leader and General Manager evacuation is complete.
4. Principle of Friction;
1. Refer to diagram 1 and 2
 2. Principle of belay is to apply friction to evacuation rope so any weight can be controlled.
 3. Weight of rescuer and that of person being belayed determines the amount of friction needed.
 1. Diagram 1 shows belay hand brake.
 2. Degree of friction and position of rope.

Ladder Rescue Procedure

Ladder evacuation is a quick deploy which requires no special skills, but is limited to no more than 30 feet above terrain. It is useful for single evacuation at mid-way when guest becomes suspended from chair while unloading. **STOP LIFT** then notify bottom and Dispatch at 5111. Leave stop switch engaged. Disadvantage of ladder is necessity to remove skis. Two or more people are required to carry out procedure.

Procedure is as follows:

1. Pull ladder out from position, with hook pointed uphill.
2. One person will hold bottom of ladder on the ground to keep it steady.

3. One person will fireman walk ladder up from top rung down toward bottom rung.
4. Once the ladder hook is over haul cable, attach to cable, angle should be at 15 degrees.
5. One rescuer will climb ladder to assist guests, second person will steady ladder at the bottom.
6. Record time you stopped the lift, guest's name, address, phone number, and the time the ladder evacuation is completed. Inform Dispatch and Manager of Lift Operations. Evacuation must to be reported to the Colorado Tramway Board and the Forest Service within 24 hours, verbally and by written form.

Regulations and Inspections

Monarch operates under the jurisdiction of the U.S. Forest Service, the Colorado Passenger Tramway Safety Board, Liability Insurance Carrier, and all local agencies. Our intent is to comply with these agencies and their regulations. All lifts are required to have annual inspections and meet standards set by the governing body. These inspections will occur prior to the start of each season and during operation. Personnel will be questioned on their knowledge during these inspections and your personal records will be inspected. Inspection and inspectors names need to be placed on the daily log.

Daily, Weekly and Monthly Logs

The Colorado Passenger Tramway Safety Board, U.S. Forest Service, and Monarch's insurance carrier require that logs be maintained for each day of operation. These records will be kept on file for at least 3 years. Keeping complete and accurate lift records is an important part of all lift personnel's duties. Logs help keep a history of lift incidents, accidents and maintenance. For these reasons, be as precise and conscientious as possible when filling out any log or statements. These will help recreate accidents or pinpoint maintenance procedures of when, where and who was involved. All entries need to be dated and signed by personnel. Turn in to Lift Maintenance Manager each day.

Skiing Policy

The Lift Maintenance department is considered a skiing department. Certain policies apply to skiing while working; like skiing in control, following the Skier Safety Act and Skier Responsibility Code, and set a good example for our guests and other employees at all times. When you go to load a lift try to ride up with a guest. When skiing assist our guest when needed and help with speed control and when needed mountain sweeps. You are expected to check the bottom and tops house at least 2 times a day. You only can ski on blue and green runs and NO tree skiing when working. and always wear your helmet If you think there is a problem on a lift line you must get permission from your Manager to ski a black run. If your manager is off for the day you must get permission from the GM or VP of Mountain Operations.

Time Force

Lift Maintenance employees should clock in on Time Force on the computer in the Vehicle Maintenance shop lunch room. You should be in uniform and ready to work. If you miss a punch you must contact your Manager. You should punch out at the end of the day in uniform. At the end of the pay period you must verify your hours.

It is against Monarch policy to clock in/out for anyone besides yourself.

Emergency Procedures

Communication:

- Use Patrol Dispatch for all contact, keep hill phone free for emergency use.
- Contact Lift Manager through Dispatch at 5111 and give facts to those people.
- Limit comments to guests. Inform them of lift stoppage and time of possible opening.
- Refer any other questions to supervisors.
- Unless instructed, keep lifts open and stay at your station.

Accidents:

1. Guest injured at station:
 1. Stop lift, call Dispatch at 5111 and inform them the lift is stopped and possible injury.
 2. Move victim only to prevent further injury or if guest feels they can move.
 3. Comfort guest, imply no wrong doing by you or the company.
 4. Restart lift, or wait for assistance.
 5. Hold all witnesses at station for Patrol.
 6. After assistance has been given, call the Lift Manager and fill out an accident report.
 7. Mark the location of the chair when you hit the stop button, the locations of where the chair stopped, and the location of where the person fell or landed.
2. Reporting mountain skiing accidents:
 1. Often guests will report hill accidents to the lift personnel at the station. Gather their information.
 2. Location: trail name and position. (Left or right side, distance from top, skis crossed, etc.)
 3. Description of injured person: sex, age, color of clothing, etc.
 4. Nature of injury: lower leg, back, bleeding, no breathing, etc.
 5. Keep the person reporting at station until Dispatch has been called.
 6. If needed, load person on lift so they may lead Patrol to the location. Inform top operator of chair number the person is on.

Lift Roll-Back:

1. Lifts are made to travel uphill **ONLY**, if lift moves backward, **engage stop switch!**
NOTE: When a lift stops, weight shift can cause the lift line to move back and forth

slightly. This is normal. Any continuous reverse movement is considered a Roll-Back, stop switch should be engaged.

2. If normal stop switch fails to stop lift, engage emergency stop switch!
3. **No brake is to be released until Lift Maintenance Manager is informed of problem. Call Dispatch at 5111.**

Avalanche:

1. If a witness reports an avalanche to your station, hold the person there until Dispatch is called.
2. Load witness onto the lift and have Patrol wait at the top to be guided to the location.
3. Unless otherwise instructed by Dispatch, hold all Monarch Mountain personnel at top station.

Fire:

1. Under all situations, if a fire breaks out, **KEEP THE LIFT MOVING!** This would get as many people as possible off of the lift and away from fire location. Keeping the lift running also prevents the heat from the fire affecting one spot on the haul rope per tramway regulation #4.3.2.5.6
2. Call Dispatch at 5111 and explain emergency, location and need for help.
3. Stop loading and call top with last chair number. Again **never stop the lift!**
4. Move bottom guests away from the area.
5. Try to extinguish fire with extinguisher at station. Procedure for use:
 1. Remove extinguisher from bracket.
 2. Pull pin from handle.
 3. Stand back 10 feet.
 4. Point nozzle at the base of the fire.
 5. Squeeze handle in short bursts.
 6. Sweep from side to side.
6. For electrical fires, turn off main building disconnect. Never use water.
7. Never leave flammable materials in lift house. Clean up all oil spills.

Wind:

1. Operator will keep Lift Manager, Lift Maintenance Manager and Dispatch informed of noticeable increases in wind, and all winds over 40 MPH.
2. Effects of wind depend on which direction it is blowing, not always how fast. Cross winds cause more problems than direct winds up a lift line. Watch chair swing, flipped seats, drifts forming, unloading problems etc., which may require lift closing.
3. It may be necessary for qualified personnel to ride lift to assess conditions.
4. In marginal situations, slowing lift speed will help. Monitor drive equipment temperature.
5. If lift closes, leave seats down and bring top operator down by snowmobile.
6. Personnel may be released to go home or reassigned to other locations.

Lightening:

During periods when lightening is observed, or thunder is heard, operation will cease until notified. The most notable period for these types of storms is in the Spring or Summer. During these periods, try to anticipate approaching storms, and clear the lift line before the storm is upon operations. Call last chair and wait for instructions at station.

Ice:

Ice is always present in the industry. The only time it becomes a major problem is if the lift becomes frozen in place after cold and wet periods. If this appears to be the situation, chain-up auxiliary engine and move line under this power until moving parts break free of ice. Remove ice from load or unload areas by chipping out or covering with new snow. Ice in door jams or windows may prevent them from closing completely. Chip it out.

Ski Area Emergency Plan Summary

General Instructions:

1. This general plan of action is in the event of an emergency that will require the cooperation of all departments. The ERP is located in a red 3-Ring Binder. Changes may be required to implement the plan depending on the emergency.
2. Once the Incident Commander (IC) has activated the plan, there are to be no outgoing phone calls or radio communications that are not related to the emergency.
3. Staff not appointed to Emergency Plan positions, will report to personnel pool for assignment.
4. If riding a lift that malfunctions, stay in the chair.
5. Priorities are as follows:
 1. Care for injured people.
 2. Prevent further injuries.
 3. Evacuation of lifts or buildings.
 4. Care for families or friends of injured person.
 5. Address continued operation.
6. Incident Commander (IC) may decide to route incoming calls to extension indicated.
7. Incident Dispatch (ID) will announce radio designation for the emergency.
 1. a.Channel #1: Emergency Operation
 2. b.Channel #2: Open
 3. c.Channel #3: Continued Mountain operation
 1. Personnel and Resources Pool
 2. Non-emergency snow vehicles
 4. Channel #4: Lift Evacuation Team
8. Incident Commander will designate the level of emergency.
 1. Level 1 – 2 to 8 injuries
 2. Level 2 – 9 to 14 injuries
 3. Level 3 – 15 injuries or more
9. Emergency Plan Kits (green covered booklets) will be located at the top terminal and the Director's office.

Personnel and Locations by Area

Area Location	Personnel	1st Choice Location	2nd Choice Location
Base Operations	Base Commander	Building Main Office	
Command Post	Incident Dispatcher Commander Administer External Information Supervisor Internal Information Supervisor	S.A. Admin. Office Operations	Guest Services
Dispatch Post	Incident Commander	Ski Patrol Headquarters	
Med 1		Ski Patrol Headquarters	
Med 2		Rental Shop	
Media Staging Area		Snowcat's Room	
Morgue	Morgue Supervisor	Ski Patrol Headquarters	
Personnel Pool		Employee Locker Room	
Resources Post	Resources Supervisor		
Reception 1	Reception 1 Supervisor	Skier Services	
Reception 2	Reception 2 Supervisor	Lower Fireplace Room	Bar
Site Command Post	Site Commander Triage Supervisor Primary Care Team Supervisor Secondary Care Team Supervisor	Site of Emergency	

Required Signs

Top:

1. Unload Here
2. Stop Gate
3. Downhill Loading Capacity
4. Closed Sign
5. 5. Authorized Personnel Only
6. Snowcats on Hill

Tower Signs:

1. Check For Loose Clothing And Equipment
2. Remove Pole Straps From Wrist Until Unloaded
3. Keep Ski Tips Up
4. Prepare To Unload
5. Downhill Loading Capacity

Bottom Station Signs:

1. Stand Here
2. Wait Here
3. Remove Pole Straps From Wrist Until Loaded
4. Leashes And Ski Brakes Are Required
5. Monarch Trail And Information Sign
6. Lift Closed
7. High Voltage
8. Caution Men Working On Lift
9. Authorized Personnel Only
10. Ski Patrol And Ski School Only
11. Load And Unload Information
12. Colorado Safety Act
13. More And Most Difficult Slopes
14. Safety Gate Sign
15. Lift Closes At 4:00

CONVEYORS

1. Instructions and Warnings for use of the ropeway
2. No Loose Scarves, No Loose Clothing, No Long Hair Exposed
3. Load here
4. Unload here

5. Prepare to unload
6. Remain standing
7. Unauthorized personal

Qualified Climber Program

Purpose:

Monarch Mountain developed this program in accordance with the Occupational Safety and Health Administration's (OSHA) rules 29 CFR 1910.132, 1910.23, 1910.27, and 1910.32. Its purpose is to provide guidelines for insuring the safety of employees who climb ladders or structures.

Program Description:

Only Qualified Climbers may climb ladders or structures of a height of 20 feet or more at Monarch Mountain. OSHA Rule 1910.32 states that ladder safety devices, cages or wells need not be provided on applicable ladders if only Qualified Climber climb them. Harnesses, rest lanyard and other safety devices used by Qualified Climbers for fall protection must meet ANSI standards.

Qualified Climbers:

A qualified Climber is an employee who is authorized by Monarch Mountain to routinely climb ladders, step bolts or similar devices over 20 feet in height attached to structures without ladder safety devices. He or she must:

1. Be physically capable of doing so.
2. Be successfully trained in hands-on safe ladder or step bolt climbing.
3. Be retrained as necessary to insure the necessary skills are maintained.
4. Demonstrate the skill required to do so.
5. Have climbing duties as one of their routine work activities.

Responsibilities:

Qualified Climbers have the responsibility to learn the program as trained.

The program chain of command is as follows:

Qualified Program Trainer

Mark Wait

Lift Maintenance Manager

Safety Manager

Scott Pressly
VP of Mountain Operations

General Manager

Randy Stroud
GM

GLOSSARY

Automatic deropement switches – devices used on every tower and terminal to stop ski lift if the cable comes off the sheaves

Auxiliary – secondary gas engine used to evacuate lift when prime mover is inoperable

Bails – side bars of carrier

Brake Tool – consists of a brake chain wrench and torque wrench for testing the brake

Break over point – location on unloading ramps where downward angle begins

Bullwheel – large wheels at the terminals around which the haul rope and carrier travel to reverse their path

Carriage – terminal housing of the drive machinery

Carrier – chair consists of gooseneck, bail, chair frame and seat

Code 8 – Code for Accident Investigation Team

Counterweight – device used to tension the ski lift system

Cross arm – cross member on towers which supports haul rope and sheaves assemblies

Depress tower – where the rope runs under the sheaves

Dawgs – Steel blocks welded to bullwheel for stopping a counter-rotation of the lift; works in conjunction with the pawls (third braking system)

Emergency Brake – independent spring-loaded stopping device that acts directly on the bullwheel flange

Gearbox – gears used to reduce motor speed and increase torque

Grip – a device used to suspend the carrier from the haul rope

Guide sheaves – sheave which helps cable enter bullwheel

Haul rope – wire cable used to haul a carrier around the system

Lift tower – support structure between terminals, containing sheave assembly

Pawl – spring-loaded arm and wheel that drops upon counter-rotation of the lift and engages the dawgs (third braking system)

Planetary gearbox – final drive component; gear reducer

Prime mover – electric motor used to run lift under normal conditions

Powermate – actuated speed control for lift, from zero to full speed

Rollback detector – device, which sets the emergency brake upon counter rotation

Stop gate – device used to stop the lift if a guest should fail to unload

Service brake – lift's primary brake.

Sheave – wheel, which the haul rope passes over or under

Support tower – where the rope runs over the sheaves

Terminal – top or bottom of the lift

Track beams – rails upon which carriage moves to adjust for tension

Tuck – point at which a haul cable had been spliced together

Work chair – an oversized carrier used to haul maintenance personnel and cargo