

2019-20 Lift Operations Manual

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Welcome to Lift Operations!

Monarch Mountain welcomes you to the beginning of a new season. The Monarch Mountain Lift Operations department continues with a proud and traditional history, and we are excited to have you participate in a truly classic Colorado experience.

This manual is designed to refresh returning lift employees as well as acquaint new employees with the established policies and procedures for operations. Use this manual as a reference throughout the ski season. The training, qualification checklist and tests used by Monarch are designed to determine and record your operational 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.

The Mission

1. Continue as the most professional, friendly, and fun lift operators in the industry.
2. Operate our lifts efficiently and safely with concern and compassion for our guests.
3. Ensure each guest receives a high-quality experience while visiting Monarch Mountain.
4. Develop individual and team pride to exceed all expectations.

Let's do our part to make each guests' experience outstanding!

Performance Expectations

WHAT'S Expected

- Report to work each day as scheduled. Be punctual.
- Keep your uniform clean. Wear your name tag. Be neatly groomed.
- Help all guest cheerfully, especially children and beginners.
- Be enthusiastic in performing opening, operating, and closing procedures with your team.
- Know Lift Operations Manual procedures front to back.

- Be polite, outgoing, friendly, and helpful.
- Provide instruction for loading and unloading whenever it is requested or as you think it is needed.
- Always keep your lift and the surrounding areas neat and clean.
- Pleasantly greet each guest and answer questions. Take the first step in dealing with guests and co-workers alike.
- Recycle.

Above Expectations

- Always go the extra mile.
- Anticipate guest and co-worker needs.
- Greet season pass holders by name. [back to top](#)
- Smile, all the time.
- Make eye contact.
- Demonstrate interest in Lift Operations and Monarch Mountain beyond job requirements.

Guest Service Guidelines

The importance of servicing our guest to high standards should be first and foremost on your mind. We are in the business of providing visitors with a unique and enjoyable experience; that is what we do here at Monarch and that is what you have been hired to do.

As Lift Operations personnel YOU are in the front-line representing Monarch Mountain directly on the hill. The image you project individually will reflect our entire department; that image should be a shining example of making sure each guest has a great day.

To demonstrate how important, you are to Monarch and our guests, remember this: Any guest coming to Monarch to ride a chair lift will ALWAYS encounter Lift Operations personnel, EVERY SINGLE TIME they ride the lift.

Every department at Monarch is equally important at providing great service, but for the most part they will see Lift Ops the most. They might not go into the rental shop, cafeteria, sports shop, or take lessons (although we hope they do!) They may not be injured so they won't see ski patrol. They may not ever see another employee besides those in Ticket Sales and Lift Ops. Season pass holders may only see Lift Ops; so much they will know you by name. It is up to us in Lift Ops to maintain the great service folks expect from Monarch Mountain.

“YOU ARE NUMBER ONE WITH US”

This statement has two meanings:

First, the guest is always our number one job. Treat all your guests, as you would want to be treated. Act toward guests as though they are in your home. Greet each person with a smile and be polite and helpful. Ask them if there's any way you can help them, if you cannot help them find the

person who can. You may need to call Patrol Dispatch @ #5111 for assistance deal with problems quickly and professionally.

Second, you are number one with us. You were chosen for lift operations because you have shown a combination of abilities and personality that will help make Monarch a success. Monarch cannot succeed without people like you showing interest in your job and taking your position seriously.

Important!

You are an important part of our lift operations team! We want your work to be enjoyable for both you & our guest. You represent us to our guests, so you are our most important ambassador. Our guests are here to have fun, you should too. Be enthusiastic, it's contagious!

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Guest Service Defined

What is a guest?

- The guest is the most important person in our business.
- The guest is not dependent on us; we depend on them.
- The guest is not an interruption of our work, but the very purpose of it.
- The guest does us a favor when they visit; we are not doing a favor to serve them.
- The guest is not a cold statistic, but a real flesh and blood human being, just like you and me.
- The guest is a vital part of our business, not an outsider.
- **The guest is not a person to argue with or match wits with.**
- The guest is a person who challenges us with his needs and desires – our job is to fulfill them.
- The guest is the very lifeblood of our community.
- The guest is the one who buys our services and pays our salaries.
- The guest deserves the most courteous and attentive treatment we can provide.

These guidelines will get you started. Apply what you already know and learn as much about Monarch as you can. Watch others as they relate to guests in order to improve your own approach. You will need to be polite but firm in dealing with a guest who does not follow Monarch's policies. Involve a supervisor if necessary.

Important!

You Are the Key To Our Success!

The knowledge of our equipment that you gain will be useful to you and our guests, try to take good care of both!

General Guidelines & Information

Monarch Mountain Lift Operations jobs are divided into seven classifications; detailed job descriptions are available.

Job Classifications

Ticket Checker

Ticket Checkers verify the validity of tickets and passes presented for admission to the lift using an electronic scanning device. The Ticket Checker also helps configure the maze. Controls guest flow through the lanes fairly, stopping and calling front row on busy days. Helps to keep the snow properly groomed, remains vigilant for hazards and safety concerns, and practices superior guest relations.

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Lift Attendant

Lift Attendants are trained and qualified to load guests onto chairs, use the various controls to regulate movement of the lift, and operate an upper lift house without supervision. They are required to do snow removal and ramp work throughout the day. They are also be required to perform all the duties of the Ticket Checker as necessary.

Lift Operator / Lead Operator

The leader of the lift. They are responsible for all aspects and functions of running the lift. The Lift Operator does every job, assigns duties and rotations, establishes break schedules, makes decisions within his or her purview, and coordinates with Lift Ops supervisors on exceptional questions or problems exceeding the span of his or her knowledge/authority. The Operator is also the one giving out ride breaks to deserving crew members.

Lift Operations Assistant Supervisor

Oversee daily operations, training and evaluating of personnel. Maintain quality of lift areas and employee work ethic. Lead special duty crews. Is qualified to fill in for ANY position in Lift Ops and does so as necessary.

Lift Operations Supervisor

Supervise daily operations, implement training and operating procedures, maintain quality of the department. Is qualified to fill in for ANY position in Lift Ops and does so as necessary.

Lift Operations Manager

Head of all aspects of Lift Operations.

General Guidelines

During normal operations, work begins at 0800 and ends no later than 1630. All personnel may punch in NO EARIER than 0750. You must be in uniform before you punch in. If you will not be here on time, call Lift Ops at 530-5180 between 0800 and 0815 and inform the supervisor on duty. Reliable attendance as scheduled is crucial to operations. An employee who does not report to work or does not call in for two (2) consecutive scheduled shifts will be considered to have voluntarily resigned. If you are injured outside of work, or sick for more than three (3) days you may be required to have a Doctors release stating you are able to perform the duties you were hired for. Excessive absenteeism may result in termination. Each employee is given a 30-minute lunch break. It is up to the Lift Operator to designate which lunch break they are given. The employee must sign out when they leave and back in when they return. The Operator is responsible for making sure the proper times are entered in. If you take longer than the allotted 30 minutes you must enter the correct times you were gone. Be on time! If you are late returning it makes everyone else late in getting their lunch.

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1. If you are sick on your last day of your workweek your pass will be hot until the next day you return to work. This is to ensure you get plenty of time to recover.
2. If you fail to punch in, out, or verify your time, notify a supervisor or your pay for that day could be delayed by as much as two weeks.
3. In periods of especially heavy snowfall, lift personnel may be requested to report earlier to assist with snow removal at the lifts or in other areas. You will be notified if early reporting is required.
4. Monarch provides an employee shuttle to make your daily drive to work easier and reduce congestion in our parking lot. You may ride the shuttle on your workdays only. Do not ride the shuttle if you are not scheduled to work. Current shuttle information will be posted and given at time of hire, as well as in the Employee Handbook. At day's end, the shuttle leaves Monarch at 1645 and makes all stops in reverse order.
5. Be prepared for the worst weather. Bring plenty of warm clothing. Outdoor footwear must be insulated and have adequate tread to prevent slips and falls. **SNOWBOARD BOOTS ARE NOT ALLOWED, NO EXCEPTIONS!** Good gloves, hat, goggles, sunglasses, and sunscreen are a must. Bring a lunch that can be eaten on the hill (top lift houses do not have microwaves and you may not have the opportunity to go to the Lodge for food) and carry all items in a backpack to your lift station. Make especially sure to bring plenty of fluids to drink. Stay hydrated!
6. High dress, grooming and personal cleanliness standards contribute to the morale of all Monarch employees and directly affect the business image Monarch presents to our visitors and guests. All lift personnel are expected to appear neat and orderly, hair neatly trimmed, clean-shaven or beards properly groomed. Long hair must be secured in the back as a ponytail or safely tucked up in a hat. You may be asked to remove a piercing found to be extreme in appearance, at Monarch's discretion.
7. There is a first aid kit in the locker room if you need basic first aid supplies. If you need an aspirin or similar pain reliever you may purchase those in the Sports Shop. DO NOT go to Ski Patrol for minor aches and pains.
8. Always work with four things in mind: Safety, Guest Service, Teamwork and Fun! We expect all employees to do their part by reporting to work alert, rested and sober. The

success of everything we do depends on it. Employees found unfit for work will be removed from site and may face disciplinary action.

9. During slow periods you may be given extra days off to reduce staff and expenses. At other times, if you need extra days off, notify your supervisor in writing at least two weeks in advance. With proper notice we will TRY to give days off, but if we are unable you may have to find someone to trade a day with or you will be expected to be here. To preclude inadvertent overtime, all day switches must occur within the same workweek, and be approved by management.
10. Smoking is not permitted in any Monarch building, including lift houses, as required by Colorado state law. If you smoke, do so in designated break areas. Dispose of butts and matches properly. Do not throw them in the snow. Do not throw smoldering butts in the trashcan.
11. Chewing tobacco is only permitted during breaks. If you chew **DO NOT** spit in the snow, use a cup and dispose of it in an outside trash can. [back to top](#)
12. Leave your skis in the ski storage building, not in the lift houses. Personal items must be kept in your locker or taken to your assigned lift in a daypack. NO friends or relatives are allowed in the locker room or lift shacks. Please help keep the locker room clean and the doors closed and locked. You will be given the combination to the lock on the inner door. Do not give the combination to unauthorized personnel.
13. Employee parking starts on the right of the main staircase in the first row or follow the directions of the parking attendant. During weekends and holiday periods employees will be given direction as to where to park, such as the Crest parking lot at the top of the pass and shuttled to the ski area. These dates will be posted on PowderPlace.com
14. You may not play loud music outside lift house or read while on duty.
15. Personal music devices with earphones are prohibited at all duty stations. You may use earphones during breaks.
16. Cell phones, iPads, laptops, and all other electronic devices may not be a distraction while on duty, so we are requiring them to be turned off. You may turn them back on during your breaks. If a phone call needs to be made while on duty, contact your supervisor.
17. Failure to follow policies, procedures, or rules WILL result in a written warning, suspension, or termination.

Uniform Policy

1. Monarch will provide a uniform. An outer Parka, an inner vest, a pair of black ski pants, and nametag to be worn always while on duty. If you want to wear your pants home at the end of the day, you must supply your own black ski pants.
2. The outermost layer above the waist must always be the issued vest with blue or black sleeves under it or the parka with nametags. Please wear the outer coat as often as possible to ensure recognition to guests and to have a uniformed departmental appearance. Solid Blue **OR** Black sleeves **ONLY** under the vest. Wearing different colored sleeves will result in loss of vest privileges and you will be given a long sleeve jacket to wear under the Parka.
3. If wearing a ball cap, it must be a Monarch hat, a ski industry related hat, or other appropriate hat. No unsuitable topics or other ski area hats are to be worn.
4. Keep your uniform in your locker when not in use. **Do not leave your uniform laying around in the locker room, even during ride breaks**, someone may take it. **Do not take**

your uniform home. Make sure your locker is secured. Do not wear uniform garments for any purpose other than duty at Monarch. Uniforms may not be worn while taking an authorized ski break during a workday.

5. The cost to repair tears burns, excessive soiling, or other damage to garments may be deducted from your paycheck.
6. Notify a Lift Operations supervisor immediately if a uniform garment is lost or stolen. Employees may be required to pay for lost or stolen garments.
7. Provide your own warm, functional attire for wear under your uniform. Only solid blue or black sleeves can show. Dress in layers to make adjusting to changing weather conditions easier.
8. Overalls or old jackets will be available when you are required to work on machinery or perform other maintenance chores that may present a hazard to your uniform.
9. Uniforms are required be taken home and washed AT LEAST once a month. If you are unable to do so notify a supervisor and we will get it washed for you. [back to top](#)
Notify a Lift Ops supervisor before taking your uniform home. **Do not wear your uniform off ski area property.** A plastic bag will be provided to transport your uniform home. Uniforms may be laundered in a regular washing machine with a capful of any mild, bleach-free laundry detergent. Hang dry. **Never put uniform garments in the dryer. Never dry-clean your uniform.**
10. Failure to follow policies, procedures, or rules WILL result in a written warning, suspension, loss of some or all of your bonus, and or termination.

Important!

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

Lift Operations Safety Commandments

Monarch considers accident prevention to be of extreme importance. As part of the Lift Operations department you are expected to perform and maintain the highest possible standards. All employees are expected to comply with rules, programs and procedures always. Employee suggestions are always encouraged and may be submitted at any time. Employee disregard for safety to oneself, co-workers or guests will not be tolerated. **In the event of a workmen's compensation claim, YOU MAY BE DRUG TESTED!**

The following list of seven key points needs to be memorized and you may be tested on them at any time.

1. **Welfare of our guests, fellow employees and yourself is the #1 concern.**
Without a safe mountain, we cannot provide our guest with an enjoyable and memorable experience, nor a safe and fun place for you to work.
2. **Ignoring Procedures will not be tolerated, and you will be written up.**
3. **Know your equipment and tools and how to use them.**
We work with heavy, moving machinery, which can cause serious injury. You have been trained in operating it and we expect you to maintain a serious and professional attitude. We

work with shovels, ice picks, rakes, drills, ladders, etc. Use the right tool for the job and proper techniques. Shoveling and lifting heavy items are common causes for injury; know how to do these correctly. If you can't remember or don't know how, never be afraid to ask.

4. **Perform maximum awareness on station.**

Knowing the situation all around you helps your readiness to react quickly to any situation, and only makes your job easier.

5. **Horseplay hurts.**

Riding shovels, riding cafeteria trays, hanging onto or swinging the chair, throwing snowballs, 'super bumping', spinning & dancing, etc. may be fun, but all have led to injuries, in addition to breaking Monarch policy. Laughing and joking is fine and encouraged but be aware of what you are doing.

6. **Keep it clean.**

Cleanliness in and around lift houses, ramps, mazes, and proper snow removal goes a long way in keeping your area safe, besides being a more pleasant place to be. [back to top](#)

7. **Accidents cost everyone.**

Injuries rarely feel good to anyone. Guests become very unhappy, possibly bringing lawsuits with you involved. You lose on work time, pay, and playtime. Monarch loses good, trained employees, and must allocate funds which could be used on our dept. for things like pay raises, bonuses, new equipment, uniforms, etc. If you are involved in any type of accident, it will not be very fun to deal with.

More Safety Guidelines

Following is another list of general rules that pertain to operating conditions. It is not meant to include every possible precaution, but to give an idea of what to do. Some of the information will be easier understood once your training is complete. Use this list for reference.

Strictly adhere to established safety and emergency procedures. When you work on or around your lift you must protect yourself from the possibility that the lift may be started by others.

1. If you are injured while working, you or a team member must contact Patrol Dispatch (5111) and Lift Operations (5180). A Lift Ops supervisor will meet you at the clinic and help complete employee accident and Worker Compensation forms. You must see the company's assigned doctor and receive a release from him for Worker Compensation prior to returning to work. Drug testing may be required.
2. Do not wear loose clothing, jewelry or hairstyles that can get caught in machinery. Ensure all physical guards are in place when machines are running.
3. Do not place yourself in harm's way. If you are required to check machinery, exercise extreme caution. If necessary, stop the lift momentarily, leave the stop button in and perform the task. Make certain everyone on your lift is aware of where you are and what you are doing. You should personally engage two stop switches; leave the button in until your task is over.
4. **NEVER** move a lift without communicating with the upper lift house(s), work chair, or other personnel who may be working on the lift. If you're not certain, find out.
5. Only authorized personnel may work on electrical circuits or open electrical panels. **DO NOT OPEN OR ATTEMPT TO OPEN ANYTHING THAT IS LOCKED BY LIFT MAINTENANCE.**

6. Winter travel on Monarch Pass can be extremely challenging. The combination of snow, ice, poor visibility, and motorists from warm weather states makes driving defensively a must. Should you find yourself on foot, be as visible as possible. In any event, stay alert and, even better, use the shuttle service
7. Early and late season conditions can be especially treacherous for guests and employees alike. Keep your ramps and maze smooth and flat. Keep ALL walkways and loading areas free of snow and ice. Be cautious of hard packed or melting conditions. If ice forms, chop it out and fill in with fresh snow. If it cannot be chopped out, keep it covered with snow.
8. Icy chairs are also hazardous, so sweeping chairs clean of snow before people sit down can reduce ice formation. Please SWEEP the chairs, do not HIT them.
9. **DON'T RUN!** Walk slowly with a sliding motion on slippery or uneven surfaces. Wear boots with knobby, non-skid soles and flat heels, snowboard boots are NOT ALLOWED. Always remain alert and use good judgment. Be aware of your position in relation to the lift when it is in motion. A lift chair is very heavy and can inflict a serious injury if you allow it to strike you. When performing snow grooming in the vicinity of moving chairs, exercise extra caution. Remove hood on coat so you are better able to see and use long handled shovels and rakes. [back to top](#)
10. Watch out for guests' ski poles, especially at the load board. Wear glasses or goggles to protect your eyes from pole tips and other missiles that might come flying your way.
11. When riding the lift, keep your feet down and hold onto the side bail. Do not rock or swing the chair, and do not hang from or jump from a chair. We set the example for guests and co-workers. Look and listen for problems on the lift line and notify Lift Operations or Lift Maintenance if you spot something suspicious.
12. Horseplay or snowball throwing are dangerous and have both resulted in injury. Don't do either.
13. No more than two people may ride a double chair. No more than four people may ride the quad chair. A child, regardless of size or age, counts as a person.
14. Use sun block rated at 30 SPF or higher and ultra-violet protective eyewear.
15. Lift properly, bend at the knees and keep your back straight.
16. Working under the influence of drugs or alcohol is extremely dangerous to everyone and will elicit a severe disciplinary response or termination.
17. Be familiar with the Hazard Communications Program, MSDS Data Sheets, and Hazard Energy Program.
18. Do not hang anything on overhead heaters.
19. Do not put any liquids on electrical control panels.
20. Regardless of where you are working or where you happen to be, know the location of the nearest fire extinguisher. Get in the habit of noting extinguisher locations whenever you enter a Monarch building.
21. No matter if you are loading or running an upper lift house, do not stray more than a few feet from the operating controls.
22. Stay healthy! Drink plenty of water, eat a good breakfast, lunch and plenty of healthy snacks. If you need help in this way, please let your Supervisors know.

Video surveillance

Monarch has several places that are under video surveillance. All top and bottom of all our double chairs and quad lift has cameras for surveillance. These cameras are placed strategically to show our guests loading or unloading. While these cameras see what we are doing they are there to make sure our guests are using our lifts properly. These videos are only available to management to watch.

How Monarch's Ski Lifts Work

All lifts today are designed, maintained and operated to the current edition of the American National Standard for Aerial Lifts, Ski Lifts and Tows, which is often called the ANSI B77 Standard.

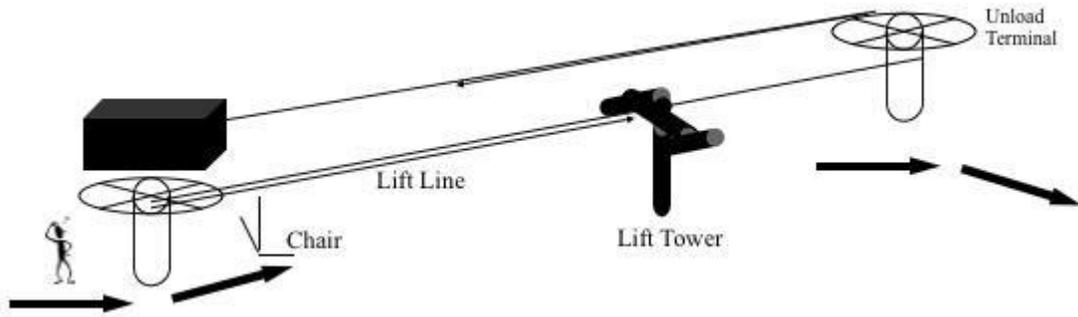
Monarch has eight lifts at this time; we have four double chairs built by Hall Ski lift manufacturers, the Garfield, Breezeway and Panorama lifts have new drive terminals built by Sky Trac lift manufacturers. The Pioneer Quad lift is manufactured by Garaventa/CTEC. All of our chair lifts are mono cable, fixed grips, bottom drives and bottom tensioned. We also have two surface lifts one built by magic carpet, and one is built by Star lift/sunkid.

Name and # of Lift	Manufacturer	Year Installed	Type of Lift	Slope Length (ft)	Vertical Rise (ft)	Max Line Speed (ft/min)	Carrier Spacing (ft)	Tension System	Tension (lbs)
Garfield #1	SkyTrac/Hall	2010	Monocable double chair	2840	848	500	49	Hydraulic	27500
Breezeway #2	SkyTrac/Hall	1968	Monocable double chair	3240	830	500	60	Counter-weight	26600
Panorama #3	SkyTrac/Hall	1980	Monocable double chair	3043	789	487	47	Counter-weight	30515
Tumbelina #4	Hall	1981	Monocable double chair	1417	326	500	49	Counter-weight	24000
Pioneer #5	Garaventa/CTEC	1999	Monocable quad chair	3620	797	450	70	Hydraulic	52000
Safari #6	Star Lift	2005	Conveyor	60	15	160	n/a	Spring	
Caterpillar #8	RMCE	2011	Conveyor	450	60	160	n/a	Hydraulic	2000

Terminals and Line Equipment

Think of the lift in three sections:

1. Loading Terminal,
2. Unloading Terminal
3. Lift Line.



The Drive Terminal on all of Monarch’s lifts is located at the bottom terminal and is where the motor and mechanical and electrical components that power the lift are found.

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

Sheave – wheel that the haul rope passes over or under

Drive Bull wheel – moves haul rope from the drive terminal

Friction between the drive bull wheel liner and the haul rope moves the chairs up the lift line, over and under sheave wheels, to the unload or return terminal and around the idler, or top bull wheel, and back down to the drive terminal. [back to top](#)

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

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

Nelson Power mate – actuated speed control for the lift, from zero to full speed

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

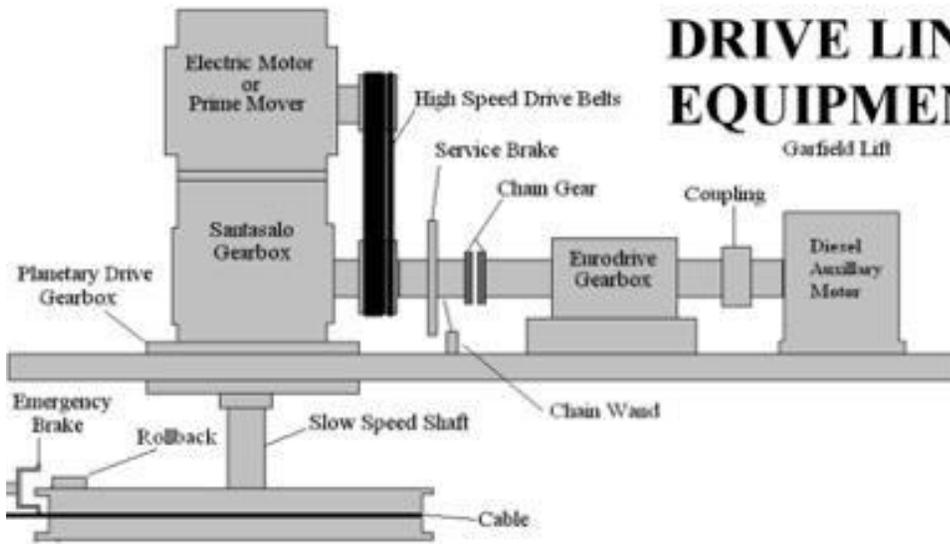
High-Speed Shafts and Couplings – tie components together.

On the #4 Tumbelina lift the electric motor is connected to the **Nelson Power mate** by means of a **coupling** and a **high-speed shaft**. The **service brake** and auxiliary drive sprocket are located on the high-speed shaft between the Power mate and the Hanson gearbox. From the Hanson gearbox the output is transmitted to the planetary drive by a means of coupling and a low-speed shaft, which drives the bull wheel.

On the #1 Garfield lift, the #2 Breezeway lift, the #3 Panorama lift and 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 box by a means of a coupling and a low speed shaft that turns the bull wheel.

DRIVE LINE EQUIPMENT

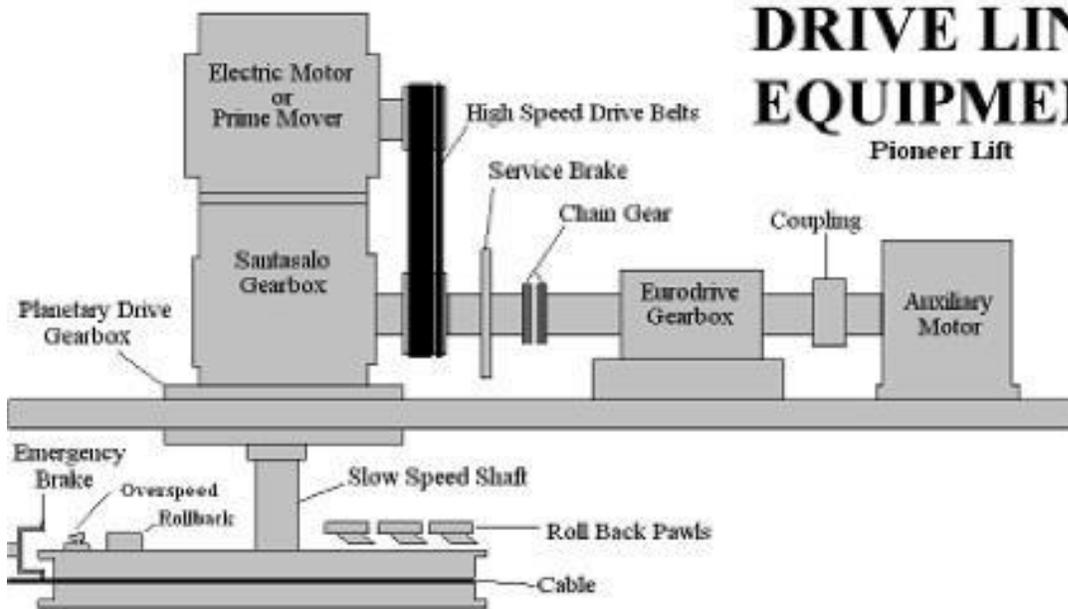
Garfield Lift



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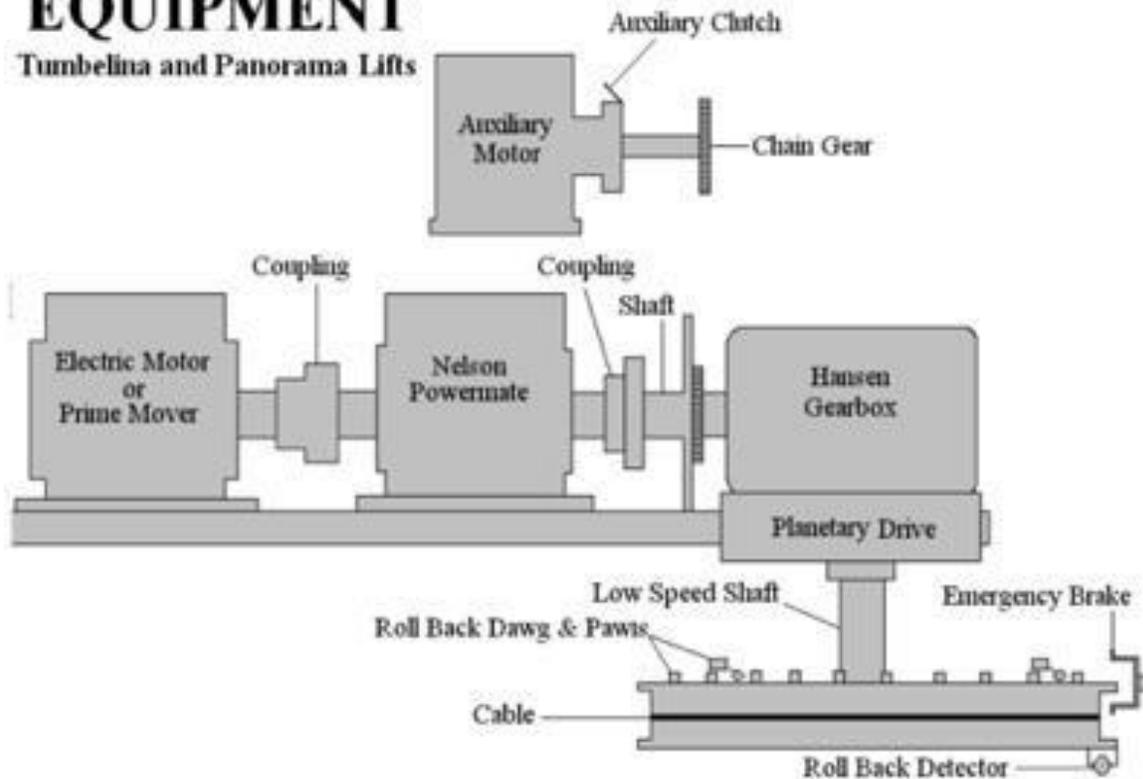
DRIVE LINE EQUIPMENT

Pioneer Lift



DRIVE LINE EQUIPMENT

Tumbelina and Panorama Lifts



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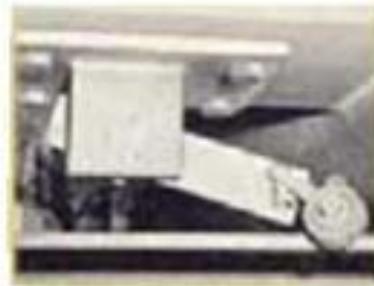
Braking Systems

All of Monarch's lifts have three braking devices- the **Service Brake**, **Emergency Brake** and Anti-Rollback **dawgs** and **pawls**. You are **required** to know these by memory as well as their location and switches that will trigger the braking device. Breezeway and Garfield do not have dawgs and pawls.

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 bull wheel flange. It is usually used in emergencies and can be activated either manually or automatically.

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



Some examples of dawgs and pawls assembly, atop the Drive Bull wheel.

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Service brake; on high speed shaft



Emergency brake; on bull wheel flange

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

Service brake; on high speed shaft Emergency brake; on bull wheel flange

Service Brake Light Indicator – On the Tumbelina lift, the light bulb in the window of the bottom lift building is for indicating the position of the service brake. [back to top](#)

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 you start the lift and the light does not go on, the brake may possibly be dragging. STOP the lift, and then restart at speed. Especially when running the lift slow you always needs to maintain awareness of the light. 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 overheats.

Lift Electrical Systems

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

- 480 volts to operate the electric motor
- 120 volts to operate lights, heaters, service brake pumps or canisters and battery chargers □
- 24 volts 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 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

These switches will be located on the various lift control panels in the lift houses, load stations, onload stations and carriage houses. The panel configurations may differ from lift to lift.

1. **Emergency Shutdown Switches:** Sets emergency brake and service brake and disconnects power from prime mover. Use in the event of a rollback, hanger, deropement, 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:** On the Tumbelina lift Slows the lift, and then stops lift by service brake. This is the preferred method for routine situations because it does not disconnect power to the prime mover, which makes restarting easier on the machinery and uses less electricity. 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 the #1 (Garfield), #2 Breezeway, #3 Panorama and, the #5 (Pioneer) lift, pushing the slow button one time will automatically slow the lift to [back to top](#) the slowest it can go without stopping it. On the Tumbelina lift you must push and hold the slow button one second for every hundred feet the lift slows, holding it in will the lift will stop.
5. **Fast Button:** Returns lift to full speed after slowing or stopping. On the Tumbelina lift pushing and holding the fast button in will speed the lift to its fullest speed. On all other lifts pushing the fast button one time speeds the lift to its fullest speed.
6. **Reset Button:** Allow lift to be started. Needed after all normal and emergency stops.
7. **Start Button:** Will start electric motor after a reset.



Emergency Shutdown switch

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Normal stop, slow-to-stop, slow, and fast switches on the Tumbelina lift



Example of a starting panel, includes start switch and reset button

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Automatic Switches

These switches will be set off automatically according to design; interrupting the 12- or 24-volt control circuit. All these switches must be reset by hand. You are required to know their location, function, and the associated braking system.

1. **Rollback Detector** — located on carriage as a mechanism sliding on top of the bull wheel flange. Sets emergency brake and service brake, and disconnects power from prime mover, upon counter rotation. All lifts have a “hockey puck” that slides out under a switch.
2. **Tower Deropement Switches** — Sets emergency brake and service brake and disconnects power from prime mover. Automatically triggered if the haul rope comes off the sheave wheel assembly. Located on the sheave wheel assembly.
3. **Carriage Travel Limit Switch** — Located at each end of the carriage. If the carriage moves too far forward or backward, this switch will be triggered. This switch sets the service brake and disconnects power from prime mover.
4. **Counterweight Travel Limit Switch, Tumbelina lift only** — this limit switch is found above the counterweight which monitors and limits its movement. This sets the service brake and disconnects power from prime mover.
5. **Stop Gate** — Sets service brake and disconnects power from prime mover. Used when a passenger fails to unload at the unloading terminal and goes through the gate under the bull wheel.
6. **Tension Fault** — The Garfield, Breezeway, Panorama, and Pioneer lifts are hydraulically tensioned, if the computer recognizes issues with the tension, the lift will shut down. The

reset for these faults is in the motor room. If this fault is tripped, get the tension reset, then restart the lift, and notify Lift Maintenance. Lift Maintenance will want to know if it was a high or a low-pressure tension fault.

7. **Over speed** –The Pioneer lift has an automatic over speed switch on the drive bull wheel and a computerized switch. If the automatic switch is tripped, you must depress the “plunger” in the gray box and reset the switch. The computerized fault is reset with a main panel reset.
8. **Brittle Bar Deropement Switches**- Sets service brake and disconnects power from the prime mover. Used in the event the haul rope comes off the idler sheave wheel

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Tower Deropement Switch



Counterweight Travel Limit Switch

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Over speed “Plunger” and Switch on Pioneer Bull wheel.



Pioneer Rollback Detector (Hockey Puck)

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Rollback Detector (Hockey Puck)



Pioneer Tension Reset Panel in Motor Room



Tension Reset Panel in Motor Room



Carriage travel limit switch on the left

Tensioning System

Our ski lifts are always designed to operate with the same amount of tension on the haul rope. 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** on the Tumbelina lift uses a large concrete block weighing 14 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.

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Counterweight Tumbelina lift only



Top of counterweight; note travel limit switch

The **Hydraulic System** is found on Garfield, Breezeway, Pioneer, and Panorama lifts, and uses hydraulic rams to maintain uniform tension on the haul rope. When the load on the chairs changes the hydraulic rams (seen at right) adjusts the tension of the haul rope so that it will stay the same as guests load and unload. [back to top](#)



Hydraulic Ram

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 bull wheels at either terminal. The ends of the haul rope are spliced together in six places called “**tucks**” which are marked with **red** paint.

Carriers, or chairs, consist of gooseneck, bail, restraints (Pioneer only), chair frame and seat. The chairs are attached to the haul rope using **fixed grips**; a spring-loaded clamp that grasp the haul rope and keep the chair in position. Fixed grips may “migrate” slightly down the rope as they go around the bull wheels, so watch to see how far they have moved from the **yellow 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.

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Fixed Grip

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Chair Components

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 or sheave trains. The haul rope passes over or under the sheaves and should ride in the grooved center of the rubber liner.



Sheave Wheels

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Sheave Wheel Assembly

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 the liner down in one spot.

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.



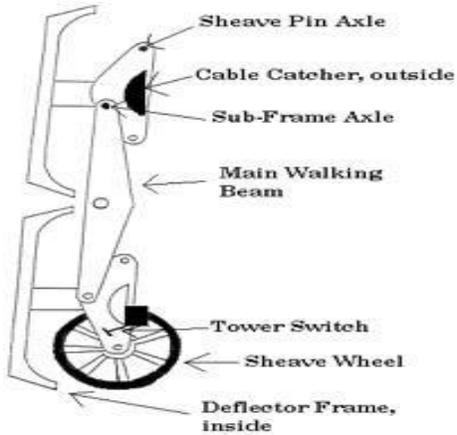
Support Sheaves

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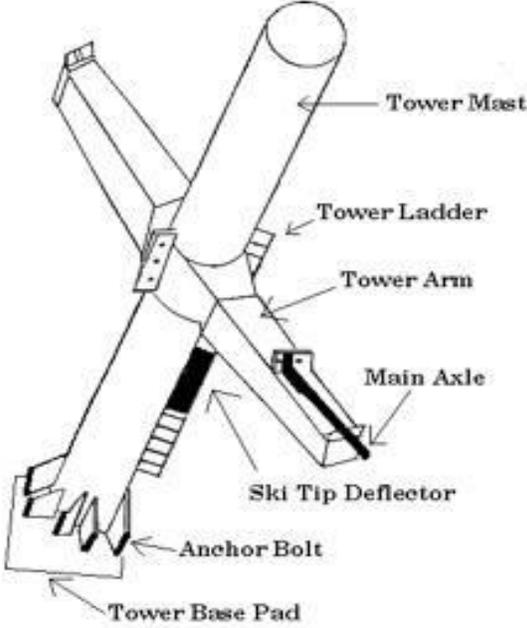


Depression Sheaves

Sheave Wheel Assembly and Tower Components



Garfield and Brezeway sheave assembly



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.

Basic Operational Duties and Responsibilities

1. Know the location and use of both telephone systems installed on all lifts. There is a standard dial phone and a battery phone. The dial phone is for communication throughout the ski area. The battery phone is used to communicate between the 2 lift houses at that lift and should be used during a power outage. Use the beeper on the battery phone to call either lift house.
2. Answer the phone in this manner every time: Location, then name; "Bottom of Tumbelina, this is (your name)". Only authorized personnel are allowed in the lift houses. NO VISITORS.
3. Always keep exterior lift areas and lift houses orderly. Fire mitigation is important as well, so keep extension cords rolled up and unplugged if not in use, hang all bags and uniforms on hooks, and keep the walkway clear of obstructions. [back to top](#)
Do general clean up continuously. Wash windows and vacuum weekly. Remove trash as needed. Do not write on walls or windows. Do not put your feet on anything but the floor.
4. Assist ticket checkers with set up and take down of the maze and perimeter poles and ropes, scan tickets and season passes and control the flow. Know all ticket types and exchange policies. Watch for ticket/pass fraud.
5. Keep areas free of ice and snow. Begin removing ice and snow when you arrive at your station so that the lift can open on time. Use a steel shovel or bars to chip ice, not aluminum or plastic. Keep walkways and loading area free of snow and ice at all times. Move bamboo, ropes, signs, etc., when we plan to plow out lifts, bottom and top. Inform manager when snow cat work is needed not later than 1300. Use the steel bar or drill to punch holes into the snow for maze poles, signs, and bamboo.
6. Appropriately respond to a variety of questions from guests. If unable to answer the guest's questions call Patrol Dispatch or take them to someone who can answer their questions, don't leave them hanging.
7. There will be no smoking, chewing, dipping or spitting while loading, checking tickets, or working with our guests. Do not throw butts or matches in snow or trash, and do not spit in the snow. Those using smokeless tobacco products must dispose of them in a proper container, not on the ground. Smoking is only allowed in designated smoking areas as noted in the employee handbook.
8. 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 rope.
5. Broken chair or components.
6. Signs not visible or falling off.
9. When you are assigned to a station, you must remain at the station until a qualified replacement has arrived. If you are ill call a supervisor or Patrol at 5111. Only lift employees, or qualified personnel (trained Ski Patrol and Lift Mechanics) can staff a terminal. Ski School, Guest Services, and Admin may not operate a ski lift.
10. 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.
11. Always be polite and cooperative toward co-workers.
12. Know load and unload procedures at all assigned stations.
13. Know locations of all stop switches and proper operation.
14. Know how to perform daily operations and closing duties and fill out daily and stoppage logs. Be familiar with the purpose of each log.
15. Learn all emergency procedures.
16. Never “feather” the fast or slow buttons. Press them firmly. Relay damage may occur if this is not done.
17. Be especially patient with beginners and kids. Expect to provide them with plenty of help.
18. Stop the lift to replace a dropped ski. A dropped pole may be sent up with the next available adult skier. [back to top](#)
19. Be familiar with lost and found procedures. Turn in items to the Guest Service desk.
20. State law and insurance prohibits toboggans, sleds, tubes, snow bikes, or snow skateboards. If an individual attempts to board a lift with any of these items, politely refuse them. They may do these activities once operations have ceased for the day. Call Dispatch at 5111 if assistance is needed.
21. Hula Hoops are not permitted on any lift except the conveyor lifts
22. Ski breaks are offered to employees doing a good job and are offered at the discretion of the Lift Operator. Attendants and Ticket Checkers permitted to take a ski break during the day may not remain in uniform. They must first come to the locker room to punch out and then back in before returning to work, so include this in the time your Operator has given you. Remember that when skiing/riding off the clock you are not covered by Workers Compensation, so you and your insurance company will bear the cost of any injury you incur. Ski conservatively.

Preparation for Daily Lift Operations

After you have dressed in uniform and clocked in, the Lift Operations staff will gather for the mandatory morning meeting. This is where lift assignments are confirmed, and issues for the day are discussed. Do not expect to always be at your scheduled lift, according to the needs of the day. This is also pop quiz time, so be ready. The meeting may be shortened or canceled on snow days and you will report to your assigned lift. You are required to attend if you are here working that day.

After the meeting you report immediately to your assigned Lift. This is not the time to get coffee, breakfast, or socialize at other lifts. You are expected at your lift immediately after the morning meeting. If you do not report to your lift immediately you will be written up.

The **Lift Operator** will assign duties and prepare for opening precisely at 9:00 am. The Operators will begin morning breaks after the lift is set up and ready. The top attendant will be given a quick break before they are sent up. Top Attendants will be sent to their station at the top no later than **8:30 am**, except in special circumstances. If you have top duty you must be ready to go when your operator is ready to send you up.

Bottom Station Preparation

Your lift operator will assign these duties; here are some guidelines and expectations.

1. On snow days, start by removing snow off carriage and tracks, under chair path, pits, and load ramps. **Do not shovel in chair path when lift is moving**. Use a snow blower if you have been instructed in operation of the unit.
2. Make sure you check the counterweight for the following:
 - Proper clearance and freedom of travel. A minimum of 24” at top, bottom and around.
 - Snow and ice removed from block
 - Clamp condition
 - Switches Operating
 - Counterweight boundary rope in place [back to top](#)
 - Check Sheaves
3. Load ramp should be completely covered, free of ruts or humps, free of ice, and smooth enough to allow for easy access. Proper clearance from top chair seat to ramp surface is 20” +/- 2”. Scrape off new snow when ramp height is reached. Pit area, counterweight, and carriage should be cleared at opening.
4. Check maze panels and pit ropes are set up and secure and signs are properly placed.
5. Our guests and co-workers will greatly appreciate any efforts made to keep the chairs clean and dry. Clear all chair seats of snow or ice before opening and as the day progresses during storms. Use an old broom to do this. SWEEP the chairs; DO NOT hit them to get the snow off.
6. Remove any dirt or grease from the chairs.
7. If the lift closes or cannot open on time, pleasantly inform guests that there will be a delay, and, if other lifts are open, direct skiers to those lifts.
8. Check the loading area and lift house:
 - Loading ramp condition
 - Proper chair height. 20” +/- 2” from the white plastic to the bottom of the chair.
 - Maze condition and fencing
 - Lift house condition
 - Signs posted and condition
 - Log sheet filled out
 - Safety switches and slow/fast button checked
 - Both phones checked

- Heater operating
 - Fire extinguishers
 - Pit clearance, so ski tips don't get caught
 - Evacuation equipment
9. Check the haul rope and chairs:
- General cable condition
 - Condition of tucks
 - Chair slippage
 - Grip migration from the yellow "match marks".

Top Station Preparation

1. Top attendant will ride up the lift no later than 0830. You will be assigned a radio to communicate with the bottom operator. When riding up the lift, visually inspect towers, sheave wheels, wiring, signs and upper terminal area. If you see a problem on the lift line let the bottom operator know so he can stop the lift or call lift maintenance for assistance. Bottom operator will note the chair number you are on and slow the lift to its slowest speed three chairs before arriving at top. When the top attendant is two chairs out, they will say on the radio approaching top get ready stop. Get ready, stop should be said about 10 to 15 feet out before your feet hit the top ramp the lift should stop on the flat part of the ramp if it stops short of the ramp ask the bottom operator to slowly move the lift forward and stop. Top attendant will stand up out of chair on flat part of ramp and step out of the way of the chair.
2. On your ride up check the towers and lift line for:
 - A. Tower Pads, secure and in place
 - B. Ski tip deflectors, secure and in place
 - C. Sheave alignment, liner and bearing condition
 - D. All sheave wheels turning [back to top](#)
 - E. Signs
 - F. Lift line clear of ice buildup and obstructions
 - G. Odd noises
 - H. Loose wiring
3. Once in the lift house, call the bottom, check the battery phone, and follow the operator's instructions as follow:

Garfield, Panorama and Breezeway: 1. Inside slow 2. Outside slow 3. Inside Normal Stop 4. Outside Normal stop 5. Stop gate 6. Call first, Inside Emergency shutdown switch 7. Outside emergency shutdown Switch.

Pioneer: 1. inside slow 2. Outside slow 3. Inside normal stop 4. Outside normal stop 5. Stop gate 6. Call first, inside emergency shutdown switch.

Tumbelina: 1. inside slow 2. Inside slow to stop (restart lift) 3. Inside normal stop 4. Outside normal stop 5. Stop gate 6. Call first, inside emergency shutdown switch.
4. Fill out log.
5. Unload ramp areas should consistently be groomed at least every 30 minutes to allow skiers and boarders to stand up easily and ski off. If there is too much snow the skier will be forced to sit back in chair and unload late. Ramp should be smooth, free of ruts, 20" +/- 2". Watch skier's knees; they should not be forced upward at all but should maintain a

90-degree angle. Keep the break over point marked with an “Unload Here” sign. When doing ramp work, be aware of location of stop switches. Call the bottom operator if you need assistance with your ramp work due to heavy snowfall or busy days when you can’t get away from your buttons. They will either send someone up or call dispatch to get ahold of your supervisors for additional help. Keep downloading ramp also at approximately 20” in height for skiers who fail to unload.

6. Also check the unloading ramp and upper lift house for:
 - A. Signs posted and condition
 - B. Proper clearance of ramp 20”
 - C. Ramp condition
 - D. Area clear of obstructions
5. All tools and house condition.
6. Log sheet filled out properly
7. Operation of all safety switches and slow button
8. Operation of both phones
9. Wind system operations
10. Heaters working
11. Fire extinguisher
7. Inform the bottom of **anyone** downloading and refer to the number on the chair.
8. After your shift is up, stop the chair on the flat part of the ramp for your replacement to safely unload. Attendant finishing shift is responsible for ramp work and logging before leaving. On slow days the ramp work can be done while their replacement is on the way up. On busy days wait for the replacement then do ramp work quickly while they watch the buttons. **DO NOT LINGER AT THE TOP SHACK**, your Operator needs you at the bottom.

Loading and unloading Procedures

Our goal is to get guests to the top of the mountain as efficiently and safely as possible. Their comfort and concern are our priority. Be polite and courteous when giving instructions. Speak loud enough to be heard. **NEVER BECOME IRRITATED OR RUDE**. Remember how intimidating getting on and off a chair may seem to a beginner.

Loading procedure

We will greet guests as they board the lift. A simple “Good Morning”, “Afternoon”, “Hello” or “Here comes the chair”. As they depart you might say, “Have a nice day”, or “Enjoy yourself”. Comments help our guests feel welcome, at home and at ease. Be alert as to how skiers are advancing to the load ramp, even the most skilled skier can get into difficulty by not paying attention. Slow the lift for novice skiers, children, and all that ask giving instruction as needed. Do not stop the lift for loading except in unusual circumstances, disabled skiers or accidents.

1. Ask parent’s, instructors or guests riding with small children that are not tall enough to get up in the seat to have the child on the right side (the operator’s side) so the operator can give the child a gentle boost at the waist to help them in to the chair. If the parent or guest said they will boost the child into the chair from either side watch as they load to see they both get in the chair properly. This also applies to beginner skiers and boarders,

to have them on the right the operator can talk to and help them out to the load board as needed. In all situations slow or stop the lift as needed. The ticket checker can help with this situation, when checking there pass or ticket ask parent or guest if they need help with their child or beginner to have them on the right side and tell the operator of their needs before they get to the wait here board.

2. Some parent's and instructors use a harness and leash to help teach their child to ski, have them unclip their leach before loading so the child will be free when unloading. The ticket checker can help by asking to unleash the child when checking their ticket. Hula-hoops may be used to teach children to ski but can only be used on the Caterpillar or Safari conveyer lifts not on the aerial lifts.
3. At times you may have employees ride the lift as a foot passenger, lift employees changing out top attendants, patrol, base services working on the mountain and may be carrying equipment for they work they may ride when needed. Slow the lift to load and call the top attendant with chair number so they can stop the lift on the flat part of the ramp to unload. We do not allow our guests to ride the lifts as a foot passenger or have snowshoes on, they must have skies or snowboard with metal edges on to ride and unload properly without having to stop the lift.
4. Do not permit more than two passengers to ride on the double chairs and four on the quad chair. Do not allow a skier to ride a chair that has a seat flipped up. Get ahold of Dispatch to notify Lift Maintenance about the seat, noting the chair number.
5. Watch guests with loose clothing, hanging belts, and draw strings, etc., which might get caught on a chair. Ask guests with backpacks to remove them and place them on the front of their body. **NO guest can carry a child or animal in a backpack.**
6. Help guests to be alert upon loading by letting them know when to come out, and as the chair comes around the bull wheel, facing the guests let them know the chair is approaching. With one hand reach out and steady the chair slowing it for a split second as the guest bends their knees and sits down. **DO NOT** spin or slide down the ramp while loading the guest, this can cause a slip and fall accident. You will be written up for this.
7. Give instruction when needed. Guests may be shy and hesitate to ask for help. Identify beginners and guide them through the loading process. This allows for smoother operations with fewer stops and accidents. Make sure the 'Wait Here' and 'Load Here' signs are in the proper place.
8. Stand next to the people loading and slightly downhill of the loading board. Inform skiers of the proper loading and unloading procedures. The proper loading procedure is:

Skiers

- Remove pole straps from wrists
- Wait at the proper location for the next chair. "Wait here" sign.
- Follow the next chair out by using both poles to push out, place your boots on the "Load here" sign.
- Hold poles with inside hand and look over outside shoulder.
- Bend knees.
- Grasp the outside bail as it approaches and let the chair pick you up.
- Keep your ski tips up as the chair departs from the ramp.
- Give instructions as needed.

Snowboarders

- Remove back foot from binding. No hopping.
 - Move to “Wait Here” sign in a “skating” motion similar to riding a skateboard- pushing with your back foot while riding on your front foot.
 - When it is your turn, follow the next chair out in the same “skating” motion. Stop for your chair with the center of your board over the “Load Here” sign.
 - Look for chair over your back shoulder.
 - Bend knees
 - When chair arrives, transfer your weight into the seat.
 - As the chair lifts you up, hold on to outside bail and keep board straight and flat so that you don’t catch an edge!
9. Stop or slow the lift anytime you are unsure whether the guest can get onto or off the lift properly. Slow the lift every time a rider asks or signals.
 10. Momentarily decelerate (bump) the forward momentum of the chair and STEADY it as the skier loads. This will dampen the chair and prevent it from hitting them. Our policy is to load every skier whether they need help or not. Be on the watch for swaying chairs, skiers with their skis pointed the wrong way, more than the allowed number of skiers trying to load on a chair, flipped seats, etc.
 11. If someone misloads, stop the lift as quickly as possible and help them out of the way by taking off their skis and letting them stand up on their own. DO NOT lift a person up, for it may injure the person or yourself.
 12. When stop button is pushed, the electric motor will stop, the service brake will set, and the fluid drive will return to neutral. Before restarting, the person or cause of the stoppage must be determined and resolved. With any stop, you must get “all clear” from all stations before moving the lift, and always allow 10 seconds for the fluid drive to return to neutral before restarting.
 13. If the Slow button is pushed at the bottom terminal, no clear is required from the top terminal.

Make sure the motor is started before a fast button is engaged or the lift will move fast when start button is pushed.

Attempt to recover all dropped articles such as poles or gloves that fall at loading area and send them up with the next chair. As an attendant it is your responsibility to be aware when a guest loses their ski while loading. Stop the lift quickly, reset their binding, and put the ski back on so that we don’t have to stop the lift at the top for our guest to unload. It is the top attendant’s responsibility to be watching for guests with missing skis. If a guest loses a ski on the way up, stop the lift with the guest on the flat part of the ramp, take their ski off and help the guest walk down the side of the ramp out of the way before giving a clear to re-start the lift. Patrol will recover items under lift line. If you are not sure the article will reach its owner in this manner, hold at the bottom until **owner returns or turn it into Guest Services.**

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Unnecessary stops are very annoying to our guests and raise our electric bills. Always plan to minimize stopping the lift. Use slow to stop button whenever possible. When stops are unavoidable, solve the problem and resume operation as quickly as possible.

Anyone jumping from a chair will have his or her ticket revoked. Jumping off the lift may cause a deropement, endangering the entire lift line. Call patrol dispatch with guests identifying information i.e., skier, boarder, color of clothing etc., so patrol can find and stop the guest. Lift operations and lift maintenance managers need to be notified.

Never allow passengers to bounce, swing or stand up while riding the lift. The bottom stations should inform the top terminal of the chair number involved in such activities. Call Dispatch at 5111 for assistance. Hold the person at the top station until assistance arrives.

Help load and unload necessary equipment for lift maintenance, Ski Patrol, race personnel or others in the manner in which they request. Slow the lift and leave an empty chair before and after the equipment.

Be ready for Ski School classes. Should an instructor need help loading or unloading a class, slow the lift and assist. Alternate students with regular guests every other chair. The only time personnel or guests are permitted to cut in lift lines are with a lesson, or with permission from a Director or Manager.

Adaptive Equipment



This is another group that needs your special attention. It's easy to help these people since they will usually tell you what they need, if anything. Often differently able guests will be with a guide or friend who knows how to help them at the lift. **As with others, ask!**

Stop or slow the lift anytime you are unsure whether they can get onto or off of the lift, as it is moving. Also stop the lift upon request for these riders. Your supervisor can show you how your lift serves guests with varying disabilities.

Unloading: Top Operator's Duties

At unloading stations, watch for skiers who forgot to raise ski tips, raise restraint bar, have a ski off, stand up late, stand up too soon, bull-wheel rider, clothing or equipment which may be caught. If a guest loses a ski on the ride up stop the lift on the flat part of the ramp, take off their ski, and help the guest walk out of the way before giving a clear to re-start the lift. If you stop the lift, please try to get the lift restarted as quickly as possible, based on circumstances.

Even on normal days there will be many kinds of unusual unloading situations, such as:

- People falling on the unload ramp platform, or in the unloading area, when this happens STOP the lift! If there is no injury help the guest up and out of the way by removing their skis/snowboard and guiding them to the side of the ramp and out of the path of unloading riders. If they are injured do not move them, call Patrol Dispatch at 5111, explain the situation and tell them the lift is not running. **DO NOT ATTEMPT TO LIFT A GUEST.** If skiers are blocking the unloading area simply asking them to **PLEASE** move off to the side may help.
- Missing or loose skis: slow lift as chair approaches, wave to the guest to confirm that you see him and are aware of their situation. **SLOW THE LIFT TO A STOP.** With a loose ski, check to see whether the guest is letting it dangle or holding it in such a way that it may catch on the ramp. Help the guest off to the side of the ramp and locate their ski. Inform Patrol if ski is under the lift line. Call an "All Clear".
- Novice skiers or first-time skiers: It may be necessary to slow the lift and give assistance. Do so politely. Bottom needs to inform the top of the chair number.
- Caution people who unload by pushing chairs backward that injury could occur from a swinging chair. Call for assistance from Patrol if a guest persists. When at the top terminal, give a "clear" to the bottom for any slow or stop you activate. Maintain the ramp every half-hour, or more frequently and note on top log. Do not fill this log out in advance, log the time and write your initials when you're done with your ramp work.
- Make sure all tower signs are posted and visible. Inspect tower equipment on each ride and use a radio to open lift in morning and to close lift at night.

Unloading Instructions:

Skiers

1. Place poles in outside hand.
2. Push up into standing position with inside hand at "Unload Here" sign.
3. Bend forward at waist.
4. Clear unloading area quickly.

Snowboarders

1. As chair approaches top terminal get ready by scooting forward in chair.

2. As you come to front side of unload ramp, hold board straight, as if you are riding on it.
3. As board touches ramp, place back foot on board in front of rear binding. [back to top](#)
4. Begin to shift your weight onto the board and off of chair by pushing up off his chair with both hands.
5. Keep board straight and flat so you won't catch an edge.
6. At "Unload Here" sign, fully stand up and glide straight down unload ramp, turning where appropriate and CLEAR of unload ramp. A bull wheel rider is a guest who fails to get off the lift and goes around the stop gate. Hit the normal stop button, help the guest off of the chair, reset stop gate and button, and give the bottom an "All Clear", remember to log in top log.
7. Our most undesirable situation is a "hanger." A **hanger** is a person hanging from a chair either by their hands or a piece of clothing (See **Ladder Evacuation**). Stop the lift before the person's chair goes too high in the air. Use the emergency stop button and leave it in until the person is evacuated. If the person is hanging and approaching the unload ramp, let them get close before engaging the emergency switch.

While you are at your station distractions such as earphones, reading, video games, cell phones, computers, drawing, sleeping, knitting or playing musical instruments are prohibited. Please maintain a professional appearance by keeping your feet off the windowsill and remaining alert.

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 lift personnel's duties. Logs help keep a history of lift incidents, accidents and maintenance. Log all incidents such as mechanical stops, weather stops, accident stops, or bull-wheel riders on the backside of the log sheet. **Stops that are longer than ten minutes** are to be logged on the backside of the log sheet. These are considered legal documents. For these reasons, be as precise and conscientious as possible when filling out any log or statements. **PLEASE DO NOT** write remarks or doodle on the log. The 'comments' section of the log is for serious concerns only. Ask Lift Maintenance or your Lift Operator if you feel you need to fill this out. These logs 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.

Section 23- Reportable Passenger Tramway Incidents

A situation you must be prepared to identify, and document is a reportable passenger tramway incident. You are required to know the difference between a **lift related accident** (incidents within the loading and unloading areas) and a **reportable passenger tramway incident** (incidents outside the loading and unloading areas). At Monarch, a reportable passenger tramway incident will also be referred to as a "**Section 23.**"

The **loading zone** is the area from the “wait here” sign to the point where ski closures are in place (pit ropes, fencing, etc.). Any incident outside this area is defined as a Section 23.

The **unloading zone** is the area approaching the unload area where the vertical clearance is less than 8 feet. Any incident outside this area is defined as a Section 23.

Passengers injured falling or jumping from a chair outside of these areas is considered Section 23's. This is the most common situation that you may have to report as a Section 23.

Other events that require a Section 23 include:

1. Fire anywhere on the lift
2. Unintentional deropements
3. Injuries or death resulting from a machinery malfunction
4. Loss of control of tramway
5. Unplanned evacuations

Your job is to notify your superiors should any of these events be witnessed or reported. Maintaining your log as necessary is essential. Remember this is legal documentation. Supervisors will provide other documents regarding Section 23; your primary concern is to identify and report any incidents that occur.

Downloading

At times a guest may come up to your top lift station, and ask to ride your lift back down because:

1. They are too tired to ski/snowboard down the mountain
2. They are a novice skier/boarder and are afraid.
3. They have broken equipment.
4. They are injured. In this case inform dispatch of possible injury so that Ski Patrol can assess the guest.
5. Wait until Ski Patrol arrives at your station and gives the ok before downloading anyone. Guests under age 18 will need to be accompanied by an adult.

Anyone who is sick or injured will get a courtesy ride or be taken down in a toboggan.

If required to download a guest use the following procedures.

1. Anytime a guest needs to download on your lift contact Dispatch at #5111 and describe the situation. Dispatch and/or Ski Patrol on scene will determine if downloading, a toboggan or a courtesy ride is appropriate. Let Dispatch know if a guest is in a ski school class, they should be given a courtesy ride down to get them back to their lesson as quickly as possible.

2. If dispatch tells you to download a guest, Dispatch will have a Ski Patroller come to your station to help watch and to ensure the guest is in the chair properly as you get resets and clearance to run the lift from the bottom station. Do not download [back to top](#) the guest until patrol has arrived to help. The guest should wait outside of the lift-house since these structures are for authorized personnel only.
3. Have the guest take off their skis or snowboard.
4. STOP the lift so the chair is on the ramp of the downhill side.
5. With the help of the patroller have the guest stand on the downhill ramp, the guest will then sit in the chair and hold their equipment tightly in their lap. Lower the restraining bar if the guest is riding down on the Pioneer Lift. Instruct the guest to call out or wave to the operator as they approach the bottom station.
6. When ready give the bottom operator the “clear “to run the lift slowly until clear of the downhill ramp and the chair number the guest is on. Have the patroller watch the guest as the lift starts to move. Call the bottom operator to let them know that you are downloading a guest. Give the bottom operator the chair number that the guest is downloading on.
7. Call the bottom operator back when the guest chair is ten chairs out from the bottom terminal to remind them that the guest is about to arrive.
8. STOP the lift to unload the guest on downhill side of the bottom bull wheel.
9. Remember, no sick or injured guests are to be downloaded. They will receive a courtesy ride or go down in a toboggan with Ski Patrol.
10. Follow the downhill loading capacity for your lift if more than one guest or employee is downloaded at the same time.

Downhill Loading Capacity; each lift has a limit to how many people can download. This is because the lift is not designed for downhill travel of every chair. Know the limits for your lift and do not exceed them, this could cause a rollback. Capacity for each lift is as follows:

#1 Garfield, and #2 Breezeway: 3 chairs max every 4 chair.

#3 Panorama: 4 chairs max every 4 chair.

#4 Tumbelina: 2 chairs max every 4 chair.

#5 Pioneer: 3 chairs max every 4 chair.

Ramp Work Procedures

It is your job to maintain these areas. Keep ramps as free as possible from ruts, bumps, dips, and any tools or objects. The loading area should be a flat surface, as level as possible. The unloading area should be a flat and level surface until reaching the break over point. The break over point must be a defined change in angle between the flat unloading surface and the down sloping ramp. This point is located right in front of the last sheave wheel, also known as the ‘guide sheave’ and is marked with the ‘unload here’ sign.

When performing ramp work at the bottom station, stop or slow the chair, and hold any guests at the ‘wait here’ board. Do not do ramp work and load chairs at the same time. During busy time’s 1 person loads, the other does ramp work, then switch.

Top station ramp work is best performed when empty chairs are approaching. If the chairs are completely full, stop or slow the chair to perform any necessary work. Do not do ramp work if you must stray from your control buttons, request assistance from the bottom station. Lift Maintenance and Ski Patrol personnel are also qualified to watch [back to top](#)

your control buttons utilize their help whenever possible. When switching out the top attendant, the ramp work should be done by the time the new attendant arrives. On busy days, the arriving attendant may watch the buttons while the leaving attendant completes ramp work. The leaving attendant should head down as soon as possible following completion of ramp work.

Ramp work is an important indicator of your job performance. Poor ramp work will be considered in any performance review.

Closing Procedures

Lift closing time is 16:00 (4:00 p.m.). Do not close early without instructions from management. All lift house clocks should be synchronized with Patrol Dispatch in the morning. Notify skiers that the lift is closing 15 minutes prior to closing

1. Bottom terminal puts up a “Closed” sign and notifies the top station of the last chair number. Lift personnel will stand by load board to guarantee no one else loads the chair. NO ONE boards the chair once last chair is called.
2. Top operator shall stop the lift after the last chair arrives. Prepare unloading ramp, and bar up stop gate after the last chair arrives. DO NOT leave ruts or an uneven ramp area overnight. It will freeze and make it difficult for you to groom in the morning.
3. Place closed sign at station and make sure it clears chairs. Turn heater to low, store tools, inform Patrol of last chair number. Let bottom know chair number you are riding down on. Secure lift house door.
4. Bring down the top log and the lift radio and give it to the operator.
5. On the ride down the operator should perform a visual and audible check of the lift. Inform Patrol if you notice any guests needing assistance.
6. Bottom station will prepare maze and ramp area for operation the following day. Do not leave ruts and bumps to freeze overnight; they will be difficult for you to remove the next day.
7. During periods of heavy snow maintain the appearance of the panels by resetting them often. When maze panels are taken down, store them in their designated area. Secure properly so the wind does not damage them. Also, stack the panels so the weight is not resting on the fabric. If a panel is damaged notify a supervisor so it can be repaired or replaced.
8. If Snow Cat work needs to be done contact your supervisors and request the needed work. If Cat work is approved mark all machinery and other obstacles with bamboos or ropes as needed such as; transformers, ramp structures, and maze panels. Make sure chairs are lined up appropriately so Snow Cat can maneuver effectively.
9. Operator will complete daily log, place needed materials or procedures on log and sign. Turn it in to the lift maintenance person that closes your lift at the end of the day. Secure all tools and equipment in appropriate storage.
10. Punch out before you change out of your uniform. Always place your uniform in your locker.

Conveyor Lift Operation



Monarch Mt. operates two different brands of conveyor lifts; the controls differ slightly and will be explained in depth upon training.

Conveyor Lift Terms

Normal Stop — Button used to stop lift under most normal circumstances

Emergency Shutdown Button — used in the event of emergency only; avoid use for normal operation

Transition Stop Device — device at unload area which shuts down lift in the event person or object begins to get caught between belt and unload ramp **Belt** — moving belt which passengers stand on to ride up lift.

Conveyor Lift Preparation

1. Check and remove ice around loading and unloading areas. Make sure load and unload areas are groomed and ready for operation. The maze area should be flat and uniform throughout and all the way up to the loading area. Remove snow from lift belt and walkway. Snow needs to be cleared at least 3 feet from edge of walkway. **DO NOT** use metal shovels or rakes anywhere near the lift belt or walkways, use the plastic ones.
2. Perform opening duties and fill out opening checklist on daily log.

Lift Start

The lifts are prepared to operate by Lift Maintenance each morning. They should be powered up and ready for you to run at your arrival. If maintenance has not signed off on the bottom log that morning, the lift is **NOT READY**. **DO NOT TRY** to power up and start up the lift, **DO NOT** press

and fiddle with any switches, buttons, or keys. If classes are waiting to load, notify your supervisor that the lift is not ready. If no one is waiting continue with your [back to top](#)

grooming and ramp work. Once you are cleared to run the lift and gone through your preparation, you may start the lift. Make sure all normal stop buttons are in the raised position. Starting controls are at the top unload area.

Safari Lift #6

To start the lift, turn the key in the ‘start’ keyhole to the right. The lift should start, and then let the key spring back into position. There should be no need to hold the key to the right, similar to starting a car. The belt should now be moving.

Caterpillar #8

If the “ESR Reset” light is flashing you must reset the key by turning it to “reset”, or to the left, then to the right to the “start” position. If the “ESR Reset” is not flashing and it is just lit, then you only need to turn the key to the “start” position. At this point the belt should be turning. If it’s not, check the TSD for ice or snow, check the buttons, then try to reset and start again.

Stopping the lift

For most normal circumstances, you will use the ‘normal stop’ button to stop the lift. Push down and the lift will stop operating. To resume, make sure you pull the button back up, and then go through your start procedure. Do not stop the lift just to load and unload.

For emergencies ONLY, you may use the emergency shutdown button. Make sure button is reset before attempting start.

Transition Stop Device

The TSD is located at the unload area, where the belt begins to go under and back down. This device is to prevent objects like skis or riders who may have fallen from getting caught between the belt and ramp as the belt goes down. The TSD should engage an emergency shutdown if it is triggered and set properly. You will have to reset TSD, go through emergency reset procedure, then restart lift. Take extra care in making sure TSD is reset properly.

Extrication from Transition Stop Device

A person or object may become caught between the belt and the unload area in the Transition Stop Device. Know how to access the panels that lift up to remove anything caught.

Safari: Slide the TSD lever to disengage. Remove cotter pin from opposing side and lift plates to access person or objects.

Caterpillar

Open the trap door next to the control panel. Locate and pull the pin from the arm on the left side of the TSD. The black TSD cover will then open further. If the black TSD cover is bolted down you need to get the ratchet and undo the bolts holding the cover down.

Other Stops

At the loading area of the lifts are further controls for stopping, which may be the normal stop, emergency shutdown or both, depending on lift configuration. These are for the instructor at the load area to use if they have a situation at hand. You will need to reset whatever they pressed, and resume operation. Encourage them to use the Normal stop if possible.

The Safari Lift has a diagnostic light panel that indicates where the stop was engaged; you may use this to see where stop was activated.

No button works to stop the lift

If you act to stop the lift using the normal or emergency shutdown and none of the buttons work, you may cut the power at the top station. The Safari Lift has a round, red, main power switch at the bottom of the top operating panel. You may turn this to shut electric power to the lift.

THIS IS AN EMERGENCY SITUATION ONLY!

Conveyer Lift Loading and Unloading

Guests load straight on to the belt, from directly behind, not from either side of the load area. Basically, the line of riders ready to load should be in line with the belt. We want to avoid guests having to 'step turn' on to the belt from an awkward angle.

Conveyor Lift riders need to remain standing; they may not sit or lay down. They stand in place and let the lift take them up, no walking on the moving belt.

You need to stay within 2-3 feet from the stop buttons at the terminals. If there is something that needs attending to, STOP the lift as quickly as possible, manage the situation, and resume operation.

The potential for accidents and injury on a conveyor lift is highest at the unload station. If a rider were to fall down near the unload area, it is possible to get caught up in the TSD and perhaps cause injury.

If no one is riding the lift, it is o.k. to walk away from the controls for a short period to perform any necessary duties.

As the riders approach the unload area, they step off the moving belt onto the stationary unload ramp. After stepping onto the ramp, they may slide on down or continue stepping, if necessary. You may be required to provide assistance and direction at the unload ramp. Make sure the unloading process keeps moving. To avoid a bottleneck of riders trying to get off the lift you may need to slow the lift.

Conveyer Lift Guidelines

Proper maintenance along the outer decking of the carpet is necessary to prevent riders from falling off the edge and possible injury. The snow at the edge must be flush with the carpet, extending 5 feet out, and must not have a slope more than 2 to 1.

When working Safari coordinate with ski school each morning to see what is planned for the conveyor lifts that day.

If nothing is scheduled, check with your supervisor for further assignment.

When leaving Safari for lunch or an extended period, leave a normal stop button engaged to avoid unauthorized starting and operation of the lift. Leave any keys at the lift, however.

Do not hang or excessively lean on any of the lift components, they were not designed to hold your weight and also present an unprofessional appearance.

Emergency and accident procedures are the same as all other lifts.



Tubing Park Rope-Tow Lift Operations

Name & lift#	Manufacturer	Year Installed	Type of Lift	Slope Length (Ft.)	Vertical Rise (Ft.)	Max Line Speed	Carrier Spacing	Tension System	Tension (Lbs.)
Kaleidoscope #9	Multi Skilift	2018	Rope tow	256 Ft.	48 Ft.	293 Fpm	29 Ft.	Kn meter (spring)	2300 Lbs.

Rope Tow terms

Emergency stop- Button used to stop the lift under normal circumstances. Push to engage, twist to disengage.

Start Button- Button used to start the lift. After stop is reset press once to start lift.

Slow Button- Button used to slow the lift. Press and hold the button to slow the lift.

Fast Button- Button used to speed up the lift. Press and hold button to speed up lift.

Stop Gate- Switch used to stop lift in case tube does not disconnect from paddle. Cords should be connected properly to insure electrical connection.



(Bottom terminal buttons)



(Top terminal stop button)



(Twist button to release)

Opening Procedures

If you are at the drive station you will be responsible for completing the remaining sections of the Daily Operational Log Sheet after the lift has been opened by Lift Maintenance. Instructions for completing the drive terminal inspection will be included in this section.

Upon arrival at your station, our first priority is to determine whether or not anything has happened to keep the lift from operating properly. During the course of your inspection, you should be looking for anything that might present a hazard to the operation of the lift. Report anything of this nature to Lift Maintenance immediately. If during your inspection, you find anything wrong or abnormal that isn't crucial to the safe operation of the lift, make note of it on your log sheet under comments and report it to your Manager or Supervisor. Should you notice any items that need repair, notify Lift Maintenance. As stated earlier, your first priority is to determine whether or not the lift can be started and run reasonably safe. You can do this by completing your inspections as listed under drive terminal on the Daily Operational Log Sheet and making the following checks:

Visually check the stops and stop gates. Get resets on all circuits (top and bottom). If you cannot get a restart, recheck the stop buttons and stop gate cords. More than likely, the problem is a switch that needs to be reset. If all stops have been checked and there is still a problem, notify Lift Maintenance immediately.

Opening Procedures

1. Sign In
2. Gather Tools
3. Examine Paddles
4. Do Safety Checks
5. Place Carpets
6. Groom Load and Unload Areas
7. Check Haul Rope Height
8. Check Signs
9. Conduct Test Runs to Assess Course Conditions

Closing Procedures

1. Groom Load and Unload Areas
2. Disconnect Safety Gate
3. Put Tools Away
4. Sign out
5. Store Carpets

Closing Procedure

- a) At the posted closing time, the Tubing Park lift will be closed, and the Top Personnel will be informed when the last guest is loaded.
- b) When the last loaded carrier has arrived at the unload terminal, shut the lift off and make time entries and calculations in the lift log.
- c) Make sure the bullwheel is clear at both ends.
- d) At the end of the day, the Tubing Park area should be cleaned. Before leaving your station, take one final look around to be sure that all duties have been completed. Remember to remove and store all

ropes, poles, cones, carpets, and other obstacles that would interfere with the snowcats operation during the night. Closed signs should be put up.

Line Inspection

On bottom drive lifts, the designated attendant at the top terminal (return) will be required to perform the job of line inspection; however, under no circumstances will the designated Operator leave the drive station to perform this task.

Operational Inspections

Operational checks are made once the lift has been in operation (running). All operational checks listed will be performed in the same manner as described in the Attendant's section of this manual. As you complete each inspection, please write your initials in the space provided. The remainder of the inspection will be completed as follows:

a) Information/Inspections done by Lift Maintenance

Date: Date of the month

Maintenance: Assigned Maintenance Personnel

Weather: Weather provided by Lift Maintenance

Wind speed: Wind speed from base station

Temperature: Record temperature from base station

Bottom terminal: Check for any terminal damage

Bullwheel: Check for obstructions

Check carrier guidage for damage

b) Information/Inspection done by operator

Operator(s): Operator assigned to drive terminal

Lift: Lift name

Handles: Visually inspect all handle

Top terminal and Bullwheel Check for any obstructions

Finish filling out paperwork

Haul Rope Twist Check to see if the handles are rotating as they enter the bullwheel. If the handles are rotating, it indicates a twist in the haul rope. If this is occurring, report it to Lift Maintenance. They will assess the severity of the problem and take corrective action, if warranted.



(Drive electrical box/control panel)

(Electric motor)

(Carrier guide)

Daily Operations Log

We are required by the State of Colorado to provide this information each day for every lift. The information you give us on this form also alerts us to potential maintenance problems. It helps to locate problems when the lifts malfunction. Fill out completely and accurately every day. Operating our lifts safely and efficiently requires that you provide us with this information.

It is very important that the person responsible for completing the log, signs the log sheet BEFORE opening to the public. The person responsible for proper completion of the paper at the drive station for the day is the Assigned Operator. All daily reports are collected daily and reviewed by the Lift Maintenance Manager. Any incomplete reports may result in a consultation with the Lift Manager. All daily paperwork shall be completed prior to loading any public tubers.

Electrical Problems

On occasion, lift machinery will malfunction or fail. It is essential that the Lift Operator be well versed in lift terminology. This will promote faster and more thorough communication of the problem to Dispatch at the time of the incident. There are a few procedures that the Operator can implement when the problem occurs. It is important for the Operator to remember that they are not allowed to open any electrical cabinets, unless specifically instructed to do otherwise. STOP FAILURE: Should all stops fail to operate, these are the steps the Operator will take to stop the lift. These steps should be taken immediately; each step should promptly follow the preceding step:

- Activate stop button/stop gate, to stop the lift
- Call Dispatch and report the problem to lift maintenance

Electrical Fire

Unlike an aerial lift, under fire conditions, it is not necessary that the handle tow lift be kept moving. Therefore, if an Operator sees smoke or sparks coming from an electrical unit, it is

imperative that they turn off the disconnects or breakers supplying power to the unit. Stop loading passengers in the event of a fire!

Record Accidents, Malfunctions, Abnormal Conditions

When there is an injury or suspected injury anywhere in the Tubing Park area, an incident report must be completed. Any time the lift is acting irregularly, causing you to stop the lift, immediately call Dispatch and make your report. Next, record the events surrounding the activity of the stop in this section of the log.

Down	Enter time of day lift shut down
Reopened	Time of day lift reopened
Causes - damages	Record cause of time down

Required Signs

Load Here	Proper level and visible
Stay in Track	Proper level and visible
Prepare to Unload	Posted before unload ramp on tower
Unload Here	Posted at top station
Stop Gate	Posted at stop gates
Check for Loose Clothing	Posted before unload ramp
Men Working	Hanging in motor room





(Yellow- warning paddle)



(Red- splice **do not load**)



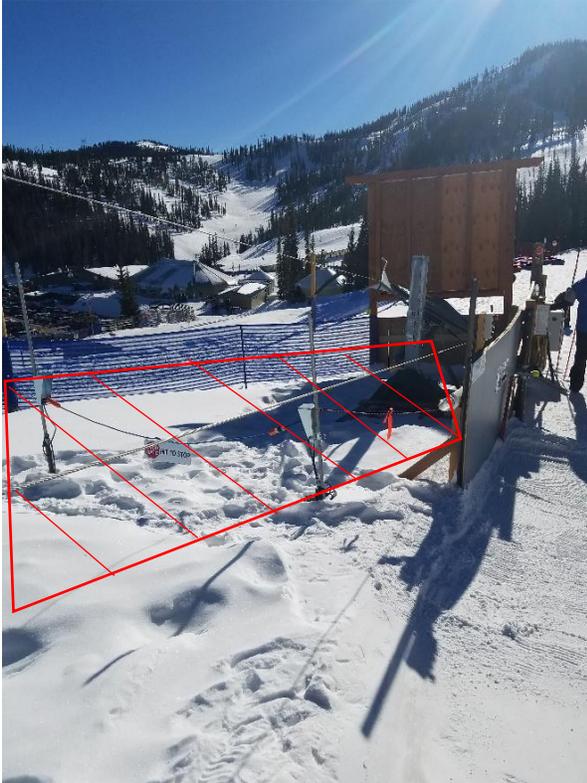
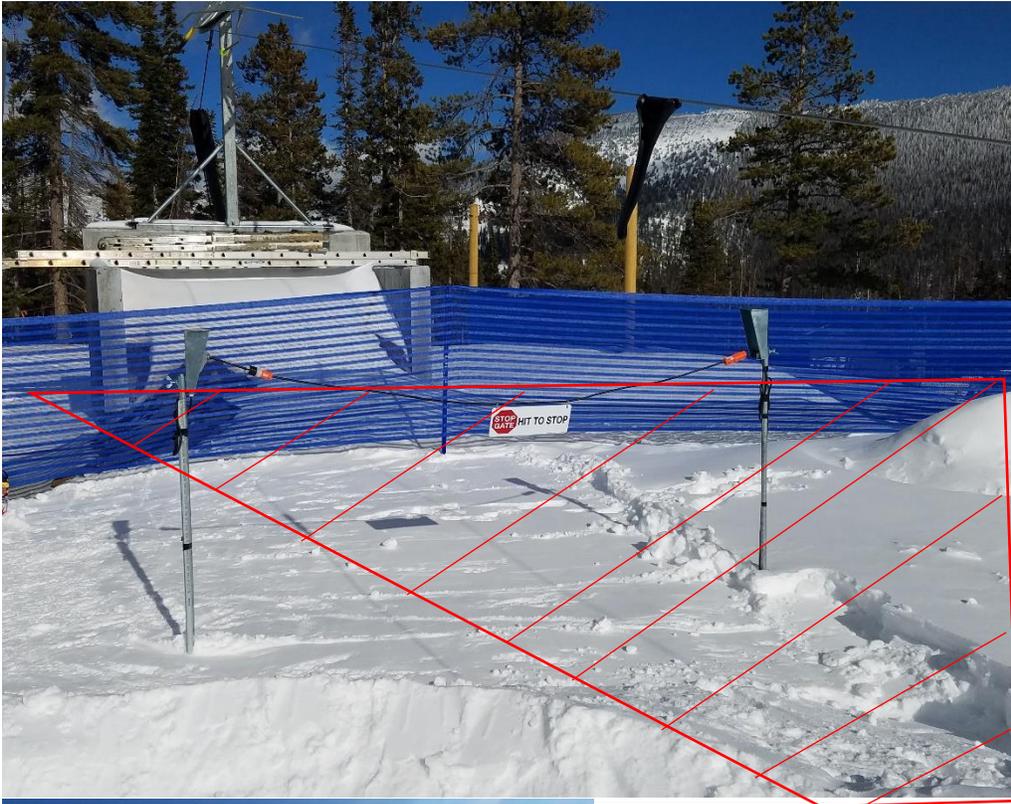
(Normal paddle)





Danger Zones/No-go Zones

For the safety of our employees we have no-go zones in which the operator and attendants are not allowed to enter. If for any reason, there is a problem that needs to be attended to inside these areas Lift Maintenance should be notified about the problem. The danger zones start on the right side of the load station where the electric motor is located and follows the right of the uphill side of the haul rope to the unload station where the top bullwheel is located. All along the right of the uphill side of the haul rope from the bottom terminal to the top terminal is a no-go zone and no guests or employees should be inside these areas especially while the lift is running. Make sure all fencing is in proper location and visibly closed off to the public around the load and unload stations and all rope is secure and taut.



Daily Operations

- Load and unload ramps must be maintained properly to ensure safe travel on and off the lift.

- All signs must be posted.
- Lift Maintenance pre-op's lift before operations.
- All operators must have working communications with dispatch during the entire time of operation.
- All guests must stay seated on tube while riding the lift and in the tubing park.
- One single rider per single tube.
- Children must be a minimum of 36" tall.
- Children under 7 years old must be accompanied by a paying adult.
- All operators must maintain constant line of sight of lift and park area.
- The top operator must be within a reasonable distance of the stop button when the lift is operating.
- Should a guest fall off tube, on the lift or in the park, the lift should be stopped immediately.
- If the lift is stopped, it may not be restarted until all guest are ready for normal operation.
- All operators must monitor the height of the haul rope from surface of the snow and be familiar with proper haul rope heights, I.e. waist high (3-4 feet) must be maintained from bottom load to top unload.
- All operators must inform tubers of the safe and proper use of the system.
- Any mechanical malfunctions need to be addressed by notifying Lift Maintenance immediately.
- If snow conditions become too dangerous for proper operation of lift or guest safety in the tubing park, stop lift if necessary and notify Lift Maintenance immediately.
- Operator must constantly note unfamiliar sounds and monitor the tracking of the haul rope and bull wheels, if it is not tracking properly stop lift and notify Lift Maintenance immediately.
- All operators must be familiar with the towing devices and continually monitor them to ensure they are functioning properly i.e. placement and positions on haul rope.
- All daily operators will be recorded in operation logbook for tubing hill.

Operating instructions per manufactures suggestions are as follow-The snow tuber places his /hers snow tube on the loading ramp, hands their tubing leash and handle to the operator, and places himself into the snow tube facing downhill. The operator will place the rubber ring around the entering system. The upcoming handle takes the rubber ring and transports the snow tuber up to the exit area, where the decline of the slope causes the rubber ring to fall off the handle and the snow tuber gets out of the snow tube. The top attendant stands by the top stop button monitoring the lift line and assists at the exit area. No hard or sharp objects (poles, etc.) are allowed.



(Load area)



(Leash handle guide)



(Paddle guide)

Emergency Procedures & Urgent Situations

Communication

Any member of a Lift Operations team may seek the immediate assistance of Ski Patrol, Maintenance, or Operations because of an accident, injury, lift failure, or other urgent problem by calling Patrol Dispatch at 5111. Remain calm. Give the dispatcher your name, location, whether your lift is running or not, and the situation. Then stay off the phone and await incoming follow-up calls. Limit comments to guests. If your lift is stopped and cannot or should not be restarted, be absolutely certain that the dispatcher understands that. All lift personnel on break should immediately return to their assigned lift stations immediately upon learning of any widespread emergency situation.

Accidents

If a guest is injured:

1. Stop the lift, call Dispatch at 5111 and tell them your name, location, description of injury, chair #, and whether your lift is running or not.
2. Move victim only to prevent further injury or if guest feels they can move without harm.
3. Comfort guest; imply no wrongdoing by you or the company.
4. Restart the lift or wait for assistance.
5. Hold all witnesses at station for Patrol.
6. After assistance has been given, call the Lift Operations Manager and fill out an accident report.
7. Mark the location of the chair when you hit the stop button, the location of where the chair stopped, and the location of where the person fell or landed (shown at right).

Reporting mountain skiing accidents

1. Often guests will report on the 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.
- Keep the person reporting at station until Dispatch has been called, and they say it's ok for them to go.
5. If needed, load person on lift so they may lead Patrol to the location. Inform top operator of chair number the person is on.

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Lift Rollback

1. Lifts are made to travel uphill **ONLY**, if lift moves backward, **engage Emergency Stop switch!** Note: when a lift stops, weight shift can cause the lift line to move back and forth slightly. This oscillation is normal. However, any continuous reverse movement is considered a Rollback. Emergency Stop switch should be engaged.
2. **No brake is to be released until Lift Maintenance Manager is informed of problem. Call Dispatch at 5111.**

Lift Deropement

If the haul rope comes off any sheave wheel, **engage Emergency Stop Button!**

Notify Dispatch that your lift is not running, and the location of the deropement if you can see it. They will notify Lift Maintenance, Lift Operations and Mountain Operations.

Hanger

One of our most undesirable situations is a “hanger”. A hanger is a person hanging from a chair either by their hands or a piece of clothing (See Ladder Evacuation). Attempt to stop the lift before the person's chair goes too high in the air. Use the emergency stop button and leave in until person is evacuated. If the person is hanging and approaching the unload ramp, let them get close before engaging the emergency stop switch.

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 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.
2. 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
3. Stop loading and call last chair to the top operator.
4. Call Dispatch at 5111 and explain emergency, location and need for help. [back to top](#)
5. Move bottom guests away from the area.
6. If safe to do so, try to extinguish fire with extinguisher at station. Procedure for use:
PASS:
 - a. Remove extinguisher from bracket.
 - b. Pull pin from handle and stand back 10 feet.
 - c. Aim nozzle at the base of the fire.
 - d. Squeeze handle in short bursts.
 - e. Sweep from side to side.
7. For electrical fires, turn off main building disconnect.
8. Never use water. Never leave flammable materials in lift house. Clean up all oil spills.

Wind

1. Operator will keep Lift 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 slowing or closing of the lift.
3. It may be necessary for qualified personnel to ride lift to assess conditions.
4. In marginal situations or sudden wind gusts, slowing lift speed will help.
5. Personnel may be released to go home or reassigned to other locations if lift will remain closed.

Lightning

During periods when lightning 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 arrives. Call last chair and wait for instructions at station. Remember to call Dispatch and inform them of the situation so they can quickly notify the other lifts and other affected departments.

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, and in such a case Lift Maintenance will remedy the problem. For your part, 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.

Mystery Stop

Should your lift shut down for what appears to be unknown reasons, do some quick investigation before calling for help. Usually, someone has inadvertently pushed in a stop or forgot to pull one out. Check the computer screen on the main control panel for possible problems on the Garfield, Panorama, and Breezeway lifts. Call your upper lift house(s) and have the operator there push in and then pull back out each stop in turn. Don't forget the stop gate at the [back to top](#)

top and the carriage and counterweight limit switches at the bottom. Basically, just repeat the opening stop check procedure. After that, if nothing gets a reset, call Dispatch at 5111 and report the problem. Don't forget to tell them that your lift is stopped. Keep the phone line open and await further instructions.

No Control Button Works

In the event none of the normal operating switches work, engage Emergency Stop switch. If lift continues to move forward or back turn off the 480-volt main disconnect on the main control panel on the Garfield, Breezeway, Panorama, and Pioneer lifts. On the Tumbelina lift the 480-volt disconnect panel is on the right wall as you come into the lift house. Notify Dispatch and Maintenance that your lift is not running, and why.

Lift Evacuations

When a non-routine lift stop 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. Don't forget to log the stop if over ten minutes.

1. Lift Ops personnel will call Dispatch at 5111.
2. Dispatch will notify Director of Ski Patrol, Manager of Lift Operations, Mountain Manager, the General Manager, and record the time of the stop.
3. The Mountain Manager or the General Manager will approve the evacuation and what method will be used.
4. The Director of Ski Patrol will designate an evacuation leader if manual evacuation is necessary.
5. Lift and Patrol personnel will freeze positions or return to duty stations and await instructions. Ops personnel may be utilized on evacuation teams. Team leaders will provide instructions as required.
6. 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.
7. Top lift attendant and Dispatch will record stop on log sheet:
 - a. Record the time of the stop.
 - b. Record the time Dispatch was called.
 - c. Record the time the evacuation began.
 - d. Record the time the auxiliary motor was started, if an auxiliary evacuation.
 - e. Record the number of the last chair evacuated, and the total number of people on the lift.
 - f. Record the time the evacuation was completed.

- g. Record the phone number, name and address of each guest on manual evacuation.

Auxiliary Evacuation Procedure

E.P.U or Emergency Power Unit

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. Your Lift Operator has been trained on how to start and run the auxiliary engine. [back to top](#)

You may be asked to assist. 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 ensure 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. Do not stop the lift unless ABSOLUTELY necessary. When unloading is completed inform bottom of the lift and dispatch that lift evacuation is completed. Record the completion time in the daily logs at the top station directly from the dispatch log. Procedures for performing this task are posted in each drive terminal. Be aware of where they are.

Ladder Evacuation 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 when a guest becomes suspended from chair while loading or unloading. Call Dispatch at 5111. Two or more people are required to carry out the procedure.

Procedure is as follows:

1. Push in Emergency Shutdown and leave it pushed in to prevent reset and inadvertent lift movement.
2. If available, place yellow crash pad under guest. Tell him to hang on and assure him that help is on the way.
3. Call Patrol Dispatch at 5111. Quickly say who you are, where you are, that you have a hanger, and that your lift is stopped.
4. Once patrol has arrived turn the rescue over to them and assist as directed. Pull ladder out and drag or carry it with hook pointed uphill and place it in a position under the haul rope slightly uphill of the hanger. One person holds the bottom of the ladder on the ground to keep it steady, the other person fireman walks the ladder up from top rung down toward bottom rung.
5. Once the ladder hook is over the haul rope, attach the hook to the cable. Ladder angle should be approximately 15 degrees.

6. One rescuer will then climb the ladder to assist guests and the second person will keep the ladder steady at the bottom. Remove guests' skis or boards before attempting to extricate the guest.
7. 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.

Manual Rope Evacuation Procedure

Ensure authorization to proceed has been given by the Mountain Manager or the General Manager:

1. Lift Operator and Lift Maintenance will ensure the following:
 - a. All lift power must be lockout tag-out, to prevent accidental restart.
 - b. Ensure all 3 brakes are engaged.
 - c. Guard top and bottom stations. [back to top](#)
2. Director of Patrol will assign evacuation leader and notify Administrative Office.
3. Administrative Office will notify other departments.
4. Ski School reports to class meeting area.
5. Vehicle Maintenance will warm up Snowcaps.
6. Evacuation leader will assign teams, equipment and location before dispatching.
7. Evacuation leader will ensure that the lift is locked and tagged-out.

Equipment and locations:

Equipment sets include the following:

1. Evacuation seat
 2. Evacuation rope
 3. Length twice the distance from the highest point of the lift to the ground.
 4. 11 mm gold line climbing rope
 5. Rope securely attached to evacuation seat \\
- Three sets each for Garfield, Breezeway, Pioneer and Panorama
 - Two sets each for Tumbelina
 6. Two-way radios for communication

Equipment locations are at the following:

1. Garfield Lift
 - Upper Patrol Building
 - Lower Lift Building
2. Breezeway Lift
 - Upper Patrol Building
 - Lower Lift Building
3. Panorama Lift
 - Upper Patrol Building
 - Lower Lift Building
4. Tumbelina Lift

- Upper Lift Building
 - Lower Lift Building
5. Pioneer Lift
- Upper Lift Building
 - Lower Lift Building

Procedure

1. Evacuation Leader assigns teams:
 - a. Evacuate teams and locations
 - b. Transportation team
 - c. First Aid team
 - d. Ski guide team
2. At the evacuation site location:
 - a. Team will communicate with Dispatch
 - b. Explain procedure to guests [back to top](#)
3. Deploying equipment and procedure
 - a. Rescuer climbs tower ladder and loops rope over the haul cable.
 - b. Explain procedure to guest again, have them do nothing until directed.
 - c. Have guests drop poles away from ground crew.
 - d. Raise evacuation seat to lift chair.
 - e. While raising evacuation seat, belay rescuer must be in secure position in case guest unexpectedly places weight on device.
 - f. Clear people from under lift line.
 - g. When both rescuers are in position, take slack out of rope and pull seat up to bottom lift chair.
 - h. Instruct guest to place security cord around body under arms twice, and hook back to device or pull metal sleeve to closed position.
 - i. After secured, both rescuers need to be on belay.
 - Principle of belay is to apply friction to evacuation rope so any weight can be controlled.
 - Weight of rescuer and that of person being belayed determines the amount of friction needed.
 - Evacuation team leader will be responsible for instruction regarding friction belay.
 - j. Instruct guest to move out onto chair, turn and face chair
 - k. With one hand hold chair until lowered down past chair level.
 - l. Caution guests to guard fingers from being caught in rope.
 - m. Lower to ground, second rescuer will turn guests sideways to hill.
 - n. Continue on to the next chair until entire lift has been evacuated, or evacuation has been called off.
 - o. To continue, slip rope over grip and pull down to next chair.
 - p. Assess each guest for first aid, record name, address, and phone number.
4. A separate guide will administer first aid.
5. A separate guide will lead guests to nearest trail
6. Ski Patrol will sweep lift line to ensure all guests and equipment are clear of lift.
7. After sweep, report to evacuation leader and General Manager Evacuation is complete.

Ticket Checking & Scanning Procedures

Why check tickets?

The most important thing we do as Ticket Checkers is check the validity of tickets and season passes. Conscientious ticket checking enables us to detect ticket fraud; there are those who would use our equipment and services without paying for the privilege. To make matter worse, some of these cheaters are so computer savvy that they can produce counterfeit tickets that are very convincing in appearance, making it especially crucial that we scan every ticket every time. During busy times or towards the days end if you are sure you've scanned the guest multiple times you may skip them in order to keep the line moving.

Ticket checking and scanning provides the demographics Monarch needs to target effective advertisement campaigns that will increase sales and help Monarch (and you) prosper and grow. Ticket checking provides actual attendance figures, which we must supply to the Forest Service to establish the rent we pay for using public lands. It also helps justify future expansions and building projects that will make Monarch even bigger and better.

Don't forget that finding and recovering a miss-used or fraudulent pass or ticket wins you a reward of \$15.00 for a lift ticket and \$35.00 for a season pass. You must hold on to the pass to collect the reward!!!

The methods by which cheaters attempt to defraud Monarch are varied, but here are a few of the more common types:

1. Using another person's pass.
2. Using a previous year's pass.
3. Using a stolen or lost pass.
4. Claiming to have lost or forgotten a pass in order to get a free ticket for the day and then selling the ticket to a friend.
5. Attaching the ticket to an easily movable article of clothing and then shuttling the ticket from body to body so many people ski for the price of one.
6. An adult purchasing a junior ticket and, when confronted, claiming that he and his "child" accidentally switched tickets, but the "child" is nowhere to be seen. Or blacking out or marking over 'Junior' and trying to use the pass.
7. Parents claiming that their child is 6 years of age or under when the kid is 7 or over.
8. Claiming that one's ticket was lost during the last run in the hopes of getting one free ride, and then heading for Panorama instead of visiting the ticket window as directed.
9. Obtaining a complimentary or discounted ticket, usually to another ski area, and "Scalping" it in the parking lot.
10. Attempting to use an uphill access ticket as a lift ticket.

Be aware that issues with tickets are not always someone trying to scam us, if you have a guest with a pass that is having issues be professional and polite! Never accuse a guest of trying to cheat monarch. Some passes will say they have been 'used' on a previous date, call the lift operator and they will contact a manager. Some passes have had barcodes accidentally put on them that have already been used. In this circumstance call dispatch with your situation and a lift

manager will take the guest and passes to the season pass desk to be researched and issued again if needed.

How, then, do we go about thwarting the fraudulent efforts? **Check every ticket every time.** Even if a skier has been riding your lift all day and you've seen him a hundred times, check his ticket – the numbers are crucial to the totals that paint the demographics picture.

Know the types and colors of tickets in use this season. If a color that you haven't seen before suddenly shows up, make sure to get a valid scan before you let that skier proceed.

Physically touch and gently tug on each ticket you scan. Ensure that it is properly attached to the guest's parka or pants and not to his hat, gloves, or backpack, you may have to help them accomplish this. The ticket sellers advise each guest to position his ticket on the front of his parka or pants to make it easier to get scanned.

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Many parents prefer to attach their child's ticket or pass to his helmet to prevent his going up the lift without that extra protection, and this precaution is quite acceptable.

If a guest tells you he lost his ticket on the last run, send them to the ticket office so they can reissue them a ticket. The only exception to this rule is if they are at the Garfield Lift. If you're sure you scanned the guest earlier that day, and they have their ticket stub you can permit them to ride up the lift one time and then ski directly over to the ticket windows for a reissue. If they don't have their ticket stub and you don't remember the guest, direct them to the ticket windows and let Ticket Sales sort things out.

If you're having continuous problems scanning tickets or a specific groups tickets call the ticket office at 5105.

When scanning a season pass, don't forget to match up the photo with the face. Make sure the name is appropriate for the gender of the guest and check the year of the pass. If you can't tell it's them, you can ask them to lift their goggles so you can see them better. If you still can't tell you can ask the operator for a second opinion. If neither of you can tell ask them politely to go to the ticket office for a new picture.

If the scanner reads see ticket office, send the guest there. If it reads Hot Pass, Lost Pass, or see Ski Patrol, take the pass, try to keep the person at the lift and call Ski Patrol Dispatch at 5111 and let them know you have a fraudulent pass and are trying to hold the person. Then have Ski Patrol radio Lift Ops Managers and notify them of fraudulent pass and which lift so you can be eligible for the reward.

Remember while you're doing all this you still need to keep the line moving and the chairs filled, so if things start getting problematic, call your Operator for assistance.

Using the Scanner

The actual job of ticket checking is performed with a scanner. A scanner is a battery powered electronic device that contains a laser barcode reader. The scanner is a radio transmitter, and every time you scan a pass or ticket, the barcode is read and sent to the master computer. The radio antenna is mounted atop the lodge. When all the scanners are busy, there may be a delay in the radio signal. Patiently try to scan again.

When the computer recognizes the number and determines it to be valid for that day, it responds with a confirmation signal and the scanner emits a beep and shows ticket approval on the scanner screen.

If the computer rejects the ticket, the scanner responds with a warning sound and shows a rejection note on the scanner screen. You may need to try to scan the ticket again.

If the system freezes for an extended period, manually check tickets by hand for the proper date and age range. Notify Patrol Dispatch, to radio Lift Management for assistance.

DO NOT let the battery run out while in the machine. As soon as you get a low battery indication, change the battery immediately. [back to top](#)

In the event of a scanner failure, DO NOT try to fix it or program it by yourself. Contact Patrol Dispatch to radio Lift Ops managers, and check tickets manually.

There are programs and features on the scanners that do not pertain to your duties. Do not take it upon yourself to explore the features of the scanner, only do what you've been trained to do.

Accessing any feature on the scanner not related to your duties will lead to disciplinary action, up to and including termination.

Although the scanners are fairly durable instruments and will operate at extremely low temperatures, they are not indestructible. They are very expensive tools that have been trusted to your care. Don't drop or throw them. Don't swing them in circles by their wrist leashes. Don't leave them outside unprotected. Be careful not to shine the light in your eyes or our guests' eyes.

Maze Control and Maintenance

The second part of the Ticket Checkers job is to control the maze. You need to be assertive and vocal to keep the maze flowing smoothly. Keeping every chair full is directly related to ticket checking. Scan effectively enough to always have someone at the "Wait Here" board as well as someone on deck. This may mean you will let someone through without scanning their ticket just to keep chairs full. Do not let things get out of hand; act the role of a traffic policeman.

Know when to start calling out the front row when it starts to become busy. To do this properly, hold all guests in the maze. Scan the first row across while asking the guest to remain where they are, and then call out 'FRONT ROW, COME ON OUT!' as nice and friendly as possible. Let that row clear the maze area as you scan the next row, and then call the next row out.

Properly integrate ski school and public lanes. Alternate ski school classes and guests **every other chair**. If possible, accommodate the instructors' needs regarding chair spacing. If the maze is not very busy you are permitted to space according to the instructor's request. However, once you have a full maze, they need to be spaced **every other chair**.

Call for singles to fill every chair when the maze is busy. Do your best to not let empty chairs go by with a full maze waiting.

It's a good idea when you're in the maze to take along a supply of plastic ticket ties and some wire cutters for cutting ties improperly positioned. It is also helpful to have a supply of trail maps to help guests, try to prepare for any eventuality.

Make sure maze lanes are evenly spaced and are free of ruts and bumps. All maze panel's always needs to be upright and level.

Watch out for line crashers. Do not allow guests to jump over or between panels.

Caution those entering the maze area at an unsafe speed.

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Detain anyone involved in an accident until Patrol has arrived to take control of the situation. Notify the Lift Operator that there has been an accident.

At times, guests or children may be separated from their parties or parents. If a lost child appears at your lift, **hold** the child there and contact Dispatch with all pertinent information. Do the same for parents looking for their child. In a non-urgent situation, the Guest Service Desk may put out a page over the P.A. system

The Lift Operator may assign you snow work duties unrelated to the maze. Please do as requested.

Helping the Lift Attendant

An important job of the Ticket Checker is making sure the guests are ready to load the chair, with the proper equipment.

Backpacks tend to get caught on chairs or cause guests to lose their balance and fall, politely advise and encourage all guests wearing one that is safer to remove the backpack and either carry it on or wear it on their chest. This is only a suggestion for the guest's safety and is **not an operational requirement!**

Make sure they have their pole straps removed from their wrists.

Only skis, snowboards and adaptive equipment with metal edges are allowed on the lift. No ski bikes (unless approved as adaptive equipment), snow skateboards, sleds and tubes are allowed.

Guests are not allowed to load with Hula-Hoops. The Lift Operations office also has a complimentary harness and tethers for certain situations.

If guests have children with them, position the child on the adult's right side. On all Monarch lifts, loading is done from the right side, and this will make it easier for the loader to help the child into the chair. In fact, any time you spot someone who'll probably need a lot of help getting into the chair, child or adult, put that person on the right side of his or her partner.

As you're scanning the ticket, check for loose clothing or backpacks that might get caught in the chair.

Scanner Setup

Startup procedure

1. Click trigger or push 'power' button; screen should appear. The screen must have the 'Windows' icon in the bottom left corner, if it shows otherwise the scanner is not ready; notify supervisors.
2. Using the stylus, push the 'Windows' icon. A new screen should appear. Make sure that the scanner is connected to the internet by checking the connectivity icon on the top of the screen. If icon is flashing, it is not connected to the internet. [back to top](#)
3. Click the large red icon that says 'Scan Man,' in the center of the screen. It should open to a screen that says, 'Scan man.'
4. 'Scan Man' will open and it should say what lift you are working across the bottom of the screen.
5. The scanner should be ready to go!

HELPFUL HINTS with SCANNERS:

- Make sure you have the matching scanner for your lift, they are labeled accordingly.
- Try to always use the battery until completely dead, this will not affect the scans. It also will help with improve the battery life.
- Always bring three batteries to your workstation.
- The scanners will not go to sleep when left unused, due to this the battery will die faster.
- On extremely cold days, use hand warmers inside the scanner case to keep batteries warm, this will extend the battery life during everyday use.
- If you use a fully charged battery and it dies quickly, turn in to the lift operator and explain the issue. They can contact a manager to get the battery out of circulation for everyday use.

Required Signs

Top Stations

- Unload Here
- Stop Gate

- Downhill Loading Capacity
- Closed Sign
- Authorized Personnel Only

Towers

- Check for Loose Clothing and Equipment
- Remove Pole Straps from Wrist Until Unloaded
- Keep Ski Tips Up
- Prepare to Unload

Bottom Stations

- Wait Here
- Load Here
- Remove Pole Straps from Wrist Until Unloaded
- Monarch Trail and Information Sign Lift Closed
- High Voltage
- Authorized Personnel Only
- Ski Patrol and Ski School Only
- Load And Unload Information
- Colorado Safety Act
- More and Most Difficult Slopes
- Lift Closes At 4:00
- Check for Loose Clothing and Equipment
- Nominal Chair Height 20" + or – 2"at Load and Unload Station
- Maximum Rope Speed

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Conveyor Lifts

- NO loose clothing, loose scarves, long hair exposed
- Remain Standing
- Load Here
- Prepare to Unload
- Unload Here

Here are some visual reminders of what the signs look like; these are not all the signs, only some of the most common:

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Glossary

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

Bails – side bars of carrier

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

Bull wheel – 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 – a lift chair that consists of a grip, gooseneck, bail, chair frame and seat

Counterweight – device used to tension the ski lift system; Pioneer uses hydraulic rams for the same purpose

Cross Arm – cross member on towers which supports haul rope and sheave assemblies

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

Depression Tower – where the rope runs under the sheaves

Deropement Switches – devices used on every tower and terminal to automatically stop ski lift if the haul rope comes off the sheaves

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

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

Gearbox – gears used to reduce motor speed and increase torque

Guide Sheaves – sheave which helps haul rope enter bull wheel

Hanger — a hanger is a person hanging from a chair either by their hands or a piece of clothing

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

Lift Related Accident — accidents within the loading and unloading areas requiring a call to ski patrol, documentation, and flagging

Lift Tower – support structure between terminals containing sheave assemblies

Loading Zone — the area from the “wait here” sign to the point where ski closures are in place (pit ropes, fencing, etc.)

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Match mark – yellow paint index mark applied to the haul rope to denote the starting location of each chair grip and from which excessive migration may be measured

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

Power mate – actuated speed control for lift, from zero to full speed

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

Reportable Passenger Tramway Incident — incidents outside the loading and unloading areas, resulting in injury or death, such as jumping or falling from the lift. Other incidents include fire, deropement, and loss of control, unplanned evacuation, and malfunction of machinery.

Rollback Detector – device, which sets the Emergency Brake upon counter rotation of Drive bull wheel

Section 23– shorthand at Monarch for a reportable passenger tramway incident

Service Brake – lift’s primary brake

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

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

Support Tower – where the rope runs over the sheaves

Terminal – top or bottom of the lift

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.

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

Transition Stop Device — Used on the conveyor lifts; shuts down lift if person or object is caught in device.

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

Unloading Zone — the area approaching the unload area where the vertical clearance is less than 8 feet to the area where the chair reaches its furthest point on the bull wheel

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