

Service Strategy

1. Provide our guests with safe and smooth roads to provide access to the MCS terrain.
2. Maintain roads for easy access to all terrain daily.
3. Cooperate with all other departments.

General Policies

Before daily tours start; Drivers will report to work at 8am. Once daily touring begins drivers are to report to work at 7am. Drivers are to clock in at the Cat Skiing Office in Ski Patrol Headquarters. It is important that Drivers report to work on time to get clocked in and get radios and have the machines warmed up and on the mountain before the lifts start running. MCS Drivers may be required to work early mornings when avalanche mitigation routes are required.

You will be expected to know and follow the procedures covered in this manual. All MCS Drivers personnel are encouraged to offer suggestions that may improve the efficiency of the slope maintenance department. You might be expected to perform other duties as assigned that pertain to the operation of Monarch Mountain.

As an equipment operator, you are the best person to communicate to the Vehicle Maintenance mechanics about the performance of a machine. You will be expected to operate the slope maintenance and Cabin Cat's equipment in accordance with the manufacturer's operating manual and with good common sense. In doing this you will be able to tell the mechanics when you notice a change in performance or detect a problem of any kind. Good communication between the vehicle maintenance and slope maintenance departments is essential for an efficient operation.

Operators will do minor maintenance on equipment (i.e., tighten connections, loose nuts, bolts belts, adjust chains, track tension, change tires, and other minor adjustments that might take 15 minutes or less) and do minor servicing such as lubrication, cleaning, etc.

General Daily Operating Schedule

- Do pre-operation checks
- Start machines
- Do weekly inspection on scheduled machine while machines are warming up Secure a radio and place it on your person in a radio pack
- Do the needed work on the mountain or complete tour
- Fuel, inspect and clean up machines
- Fill out Daily Logs and a Maintenance and Repair Worksheet if necessary
- Return radio to charger
- Communicate with mechanics on needed repairs

General Rules

1. No unauthorized personnel will ride in or operate a machine without authorization from the MCS Manager or Supervisor.
2. No MCS Drivers will operate any machine without being checked out in the machine by the MCS Manager and the Slope Maintenance Manager.
3. Abuse of equipment will not be tolerated and shall be sufficient cause for termination.
4. Start engine up right away after stalling.
5. Seat belts will be worn while operating equipment.
6. Flashing lights, drive lights, and alarms must all be on whenever employees and skiers are on the mountain; i.e. when climbing Ramble On or if poor visibility in MCS terrain requires it.
7. If a machine must be left on a steep slope, set parking brake and drop blade and implement to the ground.
8. Be aware of all fire hazards. Know the location of fire extinguishers and their proper use.
9. Follow established safety and emergency procedures.
10. Be alert and ready for the unexpected at all times.
11. There is no smoking allowed in the equipment, in the shop or around the fuel pumps. This includes all smokeless tobacco products.
12. Do not get out of machines on steep grades.
13. It is our expectation that job related activities will always proceed with an attitude of concern, awareness and cooperation to maintain high safety standards. An employee's disregard for the safety of themselves, their co-workers and/or the public will not be tolerated and shall be considered grounds for termination.
14. No one should leave the base area without a radio; unless you are in a machine that has a base radio in it. Check to make sure it is working before you leave. Ski Patrol, Slope Maintenance and Mountain Operations operate on channel 1; MCS operates on Channel 10; if communication is unable to be maintained on Channel 10 then switch to Channel 1.
15. If carrying a portable radio, it will be carried in a case and worn on your person. Radios are expensive, protect them from the environment. Never leave radios lying on dash boards or consoles as continuous vibration from the machine is very damaging.

General Rules and Safety Procedures

1. MCS Drivers should be conscientious of their safety and the safety of others.
2. Safe operation of all equipment is essential and should be done in accordance with the manufacturer's guidelines.
3. Whenever anyone approaches your machine always drop blade and implement to the ground, apply the parking brake and idle machine down; this is especially important before the guests board or disembark the Tour Cat.
4. Be aware of side hills in all machines to prevent rollovers and slipping sideways
5. Do not follow another snowcat too closely, especially on steep terrain.
6. Ask if you are not sure of something. Safety is always the best policy.
7. If something seems wrong with a machine have it checked out immediately.

8. Know who to contact in case of an emergency.
9. Shut off the tiller when you or anyone else is outside the machine and near the tiller, including skiers or anyone else standing close.
10. Make sure garage doors are closed and locked when leaving the garage area.
11. Tools used from the toolbox will be returned immediately following usage. Do not leave tools in the machines as this could cause damage.
12. Employees will not be covered by Workers Compensation for any injuries occurring while on their free time and not working.

Pre-Operation Procedures

1. No machine will be started without checking all engine fluid levels, hydraulic levels, transmission levels, and any others specified by the manufacture.
2. Machines will be started only as the manufacturer recommends. Different machines have different start-up procedures. If you have any doubt as to these procedures, check the operator's manual or ask your supervisor.
3. Make sure heater extension cords are unplugged and cords are hung up after starting machines.
4. Before the machine is started, the operator will visually inspect the machine and any equipment that will be used (tillers, compactor bars, etc.). Also look for fluid spots under the machine and implements that might indicate a leak of some kind.
5. Walk the tracks and visually inspect the grousers, belts, lacings and tries to make sure they are in good operating condition. If not in operating condition, pull machine into the shop and make proper repairs.
6. Machines need to be warmed up for at least 10 minutes prior to operation.
7. Check all lights, steering functions and brakes before leaving the base area. No machine should be operated without adequate lights, steering or brakes.
8. When leaving the shop area check for proper function of all hydraulic operations and keep in mind that the hydraulic oil temperature is still cold.
9. Check for any unusual noises or vibrations as you make your way onto the mountain.
10. If you have any doubts as to any of these procedures, check the pre-operation and start-up procedures in the operator's manual or ask your supervisor.

During Operation Procedures

1. You as a conscientious operator will be the best evaluator of a machines performance and condition. When reporting problems on equipment be objective and specific, don't just say it doesn't work right ... explain the problem in detail.
2. Check all instrument and panel gauges frequently. Pay attention to any warning lights or buzzers and act accordingly.
3. A routine visual inspection should be made several times during an operating shift and should include the following:
 1. Visually check for any fluid leaks.
 2. Inspect tracks including grousers, belts, lacings and tires.

3. Check grooming implements and their hook-ups.
4. Be aware of any unusual noises or vibrations. Try to determine the cause of the problem and act accordingly.
5. Remember that your personal safety may depend on all systems on your machine functioning properly. If you have any doubts as to the proper operating function of your machine check it out, refer to the operator's manual or ask your supervisor.
6. If a machine or implement has a malfunction or breakdown during operations advise your Guides immediately. If it is something that needs attention from a mechanic notify Ski Patrol Dispatch and Vehicle Maintenance immediately.
7. Some minor repairs will have to be done during the day. Loose belts, loose hydraulic hose connections, etc., should be repaired as soon as possible so they don't create more serious problems.
8. If a breakdown requires a piece of equipment to be towed, make sure it is done in accordance with the manufactures recommendations and is done safely.

After-Operation Procedures

1. MCS Drivers will report all malfunctions, breakdowns and needed repairs by writing them down on the Maintenance and Repair Worksheet and by telling the MCS Manager/Supervisor and the Vehicle Maintenance staff.
2. Machines will be cleaned out after each shift. Remove all bottles, cans, paper, clothes, tools, chains or trash that was in your machine.
3. Diesel engines should be idled down for at least three minutes to cool the turbo and prevent damage to the engine.
4. Machines will be fueled and topped off at the end of each shift in order to keep the condensation of water in the tank to a minimum.
5. Visually inspect machines closely for any indication of broken welds, metal fatigue, loose bolts, leaking lines, etc.
6. At the end of the shift park the machine on level ground and drop the blade and implement to the ground.
7. Check the tracks for broken grousers, torn belts, loose track lacings, bad or flat tires and loose or broken chains.
8. Inspect grooming implements used during the shift for proper operation and report needed repairs.
9. Plug in the engine block heater on the machine.
10. Turn Off the machine's master electric switch.
11. The operator will be responsible for conducting routine and minor maintenance on machines and equipment used each shift.
12. Review the operator's manual frequently to insure that you are properly checking out, inspecting and servicing the equipment after each shift.
13. Clear as much ice and snow from the machine and implements. 7

Weekly Inspections

Check machines on a weekly schedule so as to rotate thru entire grooming and snow removal fleet. Typical weekly inspection includes but is not limited to the following:

1. Clean and vacuum machine cabs.
2. Wash all windows and mirrors.
3. Check for broken, worn or missing parts.
4. Grease all grease zerks on machines including blades and implements.

Equipment Check After Each Operation

1. Visually check for loose wires, belts, hoses, etc.
2. Exhaust system-loose connections
3. Visually check entire machine for signs of metal fatigue or broken welds.
4. Indication of fluid leaks.
5. Remove excess buildup of snow and ice from blade and blade frames and implement.
6. Gauges
7. Lights
8. Wipers
9. Horns
10. Heaters
11. Fans
12. Windows
13. Backup alarms
14. Beacon lights
15. Tracks-tension
16. Belt lacings
17. Track grousers
18. Tire guides and tires
19. Grooming implements: check for broken, bent, missing or malfunctioning parts.
20. Pintel hook and safety chains.

General Rules for Equipment Operation

1. Inner cooled diesels (Bombardiers) are not to be left idling more than 5 minutes. Idling for extended periods of time is expensive in fuel costs. Shut machines off during your lunch break.
2. Diesel engines should not be operated above or below ideal torque range for specific machines. Use the guidelines posted in the operator's manual for each machine.
 1. Bombardier Engine RPMs — 1700-2400
 2. Prinoth Engine RPMs — 1200-1500

3. Snowcats “shall” not be turned on axis quickly as it causes excessive wear on all track components, make six point turns. Always slow down when using turnarounds or making sharp turns.
4. Wipers:
 - a. Never beat the wipers against the windshield to remove snow or ice. This is a major contributing factor to broken windshields.
 - b. Do not leave wipers running while machine is parked.
 - c. Keep excessive snow buildup off of wipers as this is a weak system and will cause frequent breakage.
 - d. On all machines, if wipers are leaving black rubber streaks you are using the wipers too much.
 - e. Use the intermittent switch
5. Do not operate machines when they are overheated. When machines start to run hotter than normal find out why and correct it before the machine overheats.
6. Never use an emergency brake to slow or stop a vehicle except in an emergency situation.

Road Building, Maintenance and General Tour Cat Operations

Roads should be built using the MCS work cat #10 as soon as snow conditions and management allow. If #10 is unavailable then use whatever cat is available from Slope Maintenance and Vehicle Maintenance. Roads may be built using a combination of Slope Maintenance and MCS Cat Drivers. Winch Cat operation from Cat Skiing or Slope Maintenance operators may be required to assist in the building of roads. The MCS Tour Cat may be used to push snow and build roads, but great care should be taken when building roads with this machine. MCS Cat Operators should use their experience and caution when building all roads and communicate with other Cat Drivers and MCS Guides and Management with regards to snow and road conditions. It is imperative that if an Operator is uncomfortable with any machine or task they talk with other drivers or the Slope Maintenance Manager.

The Winch Cat will be used when working with the Disruption Roller. Prior communication between MCS Drivers and Slope Maintenance is required when planning to utilize the roller. A MCS Operator III or Slope Maintenance Operator II may operate the Winch Cat.

Slope Maintenance will typically build the Mirkwood Road and then MCS Cat Drivers have the ability to begin pushing and track packing snow down S Street and out Dog Ridge. Roads will be built in the order that conditions allow, taking care not to damage the cats and avoiding the Historical Sites on Dog Ridge or the top of Elation. Roads will be built beginning with the Dog Ridge road up to Bold Dog and then pushing down S Street towards Elation Ridge, and then down to Fifi I and II pickups, and out to Bob's Hole, the Hydrant, Dog Heaven, LOYM's, Under Dog and Lake Side when possible. As conditions allow, the Upper and Lower No Name Roads should be built. In up-slope years, the Chicken Walk and Powerline drop roads may be possible as well.

Snow farms are an essential part of road building and road maintenance throughout the season. Snow farms are to be track packed and wind rows may be built to catch snow during days that transport is occurring. They are typically located on the right side of S Street, top of Dog Trees and Sleeping Dog, as well as the top of Dog Heaven. Additional snow farms are available on the Lower No Name road as well as the road to the bottom pickups around Fifi's II and the Hydrant. Snow farms are essential to building the tongue for the Lower No Name road, the bridge on the Upper No Name road, and pushing down to Fifi's I.

Once the majority of roads are completed, it is up to the daily tour operator to maintain roads as needed. MCS adheres to the "Drive everywhere everyday" method of maintaining roads. If possible, cover every road to continue to push new snow and wind drifts and to maintain roads in the best condition possible. If a driver is unsure if they will be able to climb out of a pickup point due to heavy snow or drifts then they should use caution and pragmatism before entering that area. If needed due to heavy snow and transport, a work cat can be utilized to assist in clearing roads.

Work days are scheduled once or twice a week depending on conditions. A Slope Maintenance Work Cat is available for MCS Drivers to use in the Cat Terrain. The work cat should be utilized to extend roads, patch roads where needed, and to do other projects as required. The Work Cat Driver should discuss daily projects with the MCS Manager and Supervisor before heading out for the day.

Once Daily Tours are operating, the tour cat will be utilized for transport of guides and guests. Monarch Mountain has two tour cats, #50 and #31. #50 is the newer cat and box, it should be used first during high season. Tour Cat #31 is the older cat and acts as a backup cat to be used if needed. During early season if conducting ski packing or road conditions are not optimal, Drivers may be required to use #31 before #50 in order to keep #50 in good operating condition. Both cats have their own operating procedures and it is the duty of the Driver to know how to operate each cat. Operate within the manufacturer's guidelines. Daily Maintenance of roads can continue at the discretion of the Driver so as to not disrupt the daily tour.

Before loading and unloading guests, the parking brake must be set, the sticks centered, and the blade should be dropped all the way to the ground. If in Tour Cat #31, drop the stairs before loading and be sure to raise them again before moving; if in #50, raise the box so the stairs are closest to the ground using the blade. The backup cameras are to be used in both cats. If a camera is not working in one of the cats, the backup cat is to be utilized and Vehicle Maintenance is to be notified of the issue. If neither cat's camera is working then the driver should utilize great care and when possible, a guide to assist in backing up and traveling. It is the Drivers responsibility to ensure that all equipment and packs are transferred from one cat to the next when changing tour cats. This includes the medical/trauma pack, ALS jump kit, AED, equipment pack, spare ski pole, and any other equipment that may be in the cats.

Monarch Mountain owns all of their cats and slope grooming equipment and it is maintained by the Vehicle Maintenance department. Because the grooming cats and tour cats are a limited resource that are shared among different departments; care and prudence should always be utilized when operating such machinery. A broken or stuck cat impacts everyone on the hill, not

just one single department. Any and all issues with grooming and tour cats should be reported to the appropriate people as soon as possible.

Map and Forms

- [MCS Terrain Road Maps](#)
- [MCS Daily Driver Log](#)
- [MCS Daily Check and Maintenance Form](#)
- [MCS Maintenance and Repair Worksheet](#)