

How to Drive a Zamboni™

For an Ice Hockey Rink

Kayla Percy



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Introduction

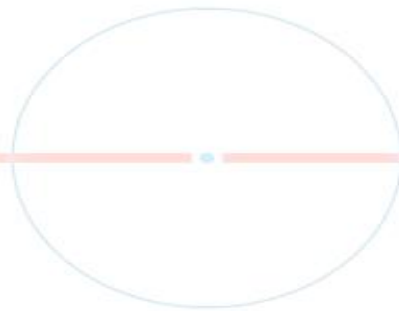
Learning how to drive a Zamboni is an important part of maintaining an ice rink because ice hockey players need the rink to be resurfaced frequently while in use. Hockey is a rigorous sport in which the players skate at an extremely fast pace, causing the ice to become uneven from the player's skates. As an avid ice hockey fan, I believe it is necessary for employees in these fields to know all of the elements which go into an ice hockey game.

This manual will show employees the different mechanisms on a Zamboni to better understand how it works in order to operate it more effectively and in the proper order. The manual will also teach readers how to properly run a Zamboni to successfully resurface ice efficiently.





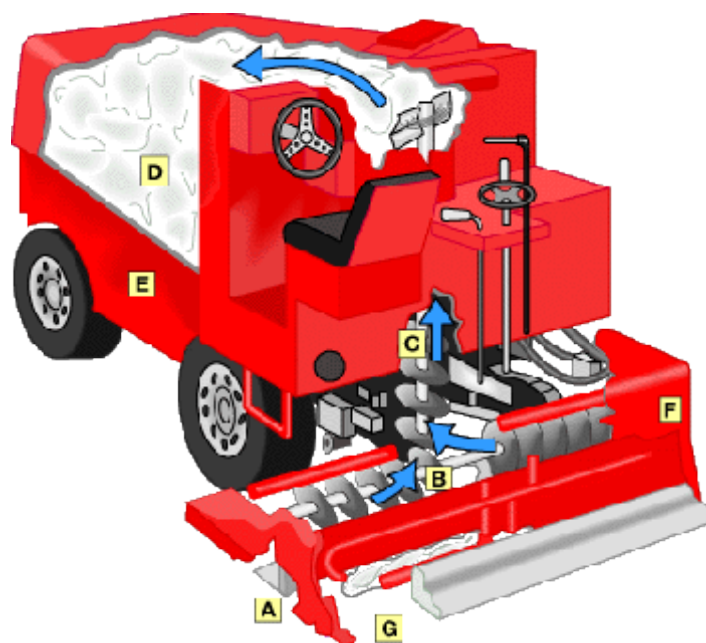
Learning the Parts of a Zamboni



Learning the Parts of a Zamboni™

Breaking it Down

It's important to know the proper vernacular used in maintaining the ice at a hockey rink prior to learning how to operate a Zamboni. The figure below will show you the parts and names of a standard Zamboni.



A→The **Blade** of the Zamboni cuts about $1/16^{\text{th}}$ to a $1/8^{\text{th}}$ inch of ice off of the surface. The ice at a hockey rink is usually left with about $1/4^{\text{th}}$ of an inch of ice around the entire ice rink

B→The **Horizontal Auger** is a rotating screw which scrapes up the ice. There are two on a standard Zamboni, a horizontal auger and a vertical auger

C→The **Vertical Auger** is another rotating screw which scrapes up the ice and brings it to the bucket

D→The **Bucket** holds the scraped up ice and snow from the rink. In a standard Zamboni drive, the bucket tank will be $1/4^{\text{th}}$ of the way full, so it is important to remember to empty the bucket in case there is a lot of excess ice

E→The **Wash-Water Tank** is the tank that holds water use to clean the ice

F→The **Conditioner** is what glides over the ice and gives the ice an even finish. It also dispenses water into the deep cracks and grooves in the ice from skating

G→The **Vacuum** scoops up the ice and recycles any dirt or debris so that the wash-water can be reused again.



Maintaining the Ice Before Driving a Zamboni



Maintaining the Ice Before Driving a Zamboni™

Maintaining the ice is a very important aspect of keeping the rink right for ice hockey players. The ice in an ice hockey rink is usually around a quarter of an inch in thickness. This is because the thinner the ice is, the faster the players can skate. The blades of their skates dig grooves into the ice, and keeping it thin and even can ensure they skate with speed and agility. The most important part of ice rink maintenance is consistency. The thickness of the ice should be $\frac{1}{4}$ of an inch around the entire rink. Keeping the ice in good condition is important and makes driving the Zamboni much easier.

Edging the Ice

A machine called an ice edger is also used in maintaining an ice rink. It is a smaller, lawn-mower type machine that can be taken out onto the ice. It collects excess ice in close proximity to the boards where the Zamboni cannot reach. The conditioner of a Zamboni has straight angled edges, whereas the ice edger is rounded off. This helps get the rounded off corners of an ice rink. During an ice hockey game, the players often hit the boards and use the boards to guide the puck behind the net. These movements cause excess ice to collect around the boards. Ice edging is helpful to keep the ice consistently flat around the rink. The more often edging the ice is done, the easier it makes a Zamboni drive along the rink. There are ten notches on the ice edger which control how deep the blade goes into the ice. It is important to keep it consistent across the entire circumference of the ice rink.

Chipping the Ice

Chipping the ice involves using a blade called a chipper bar. This bar is only about six inches long, making the task very strenuous. The blade is used to chip away any excess ice that has frozen solid around the boards.



Driving the Zamboni



Driving the Zamboni

Zambonis typically travel somewhere in between 6 to 9 miles per hour. The National Hockey League requires that two Zamboni's be present at each professional ice hockey game. Each Zamboni makes four laps around the rink. There are generally six different levers on a Zamboni. These levers move and control the elevation, conditioner, brush, wash water, tire wash, and elevation.

1. Use the tire wash lever to cleanse the tires of any debris so you do not track it onto the ice.
2. Use the board brush lever to collect excess ice around the boards.
3. Use the conditioner lever to lower the augers cut the ice and shave it to size. This lever is also used to spread hot water over the ice to create a new layer of ice after it has been shaved. After the first lap, the conditioner is raised.
4. Use the wash-water lever to pump more water into the conditioner to be spread across the ice.
5. Use the elevator lever to raise the Zamboni and vacuum up excess ice into the snow dump tank.



Blade, 3

Bucket, 3

Conditioner, 3

Hockey, 1, v, 11

Horizontal Auger, 3

Vacuum, 3

Vertical Auger, 3

Wash-Water Tank, 3

Zamboni, 1, iii, v, 1, 3, 5, 7, 9, 11, 14



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