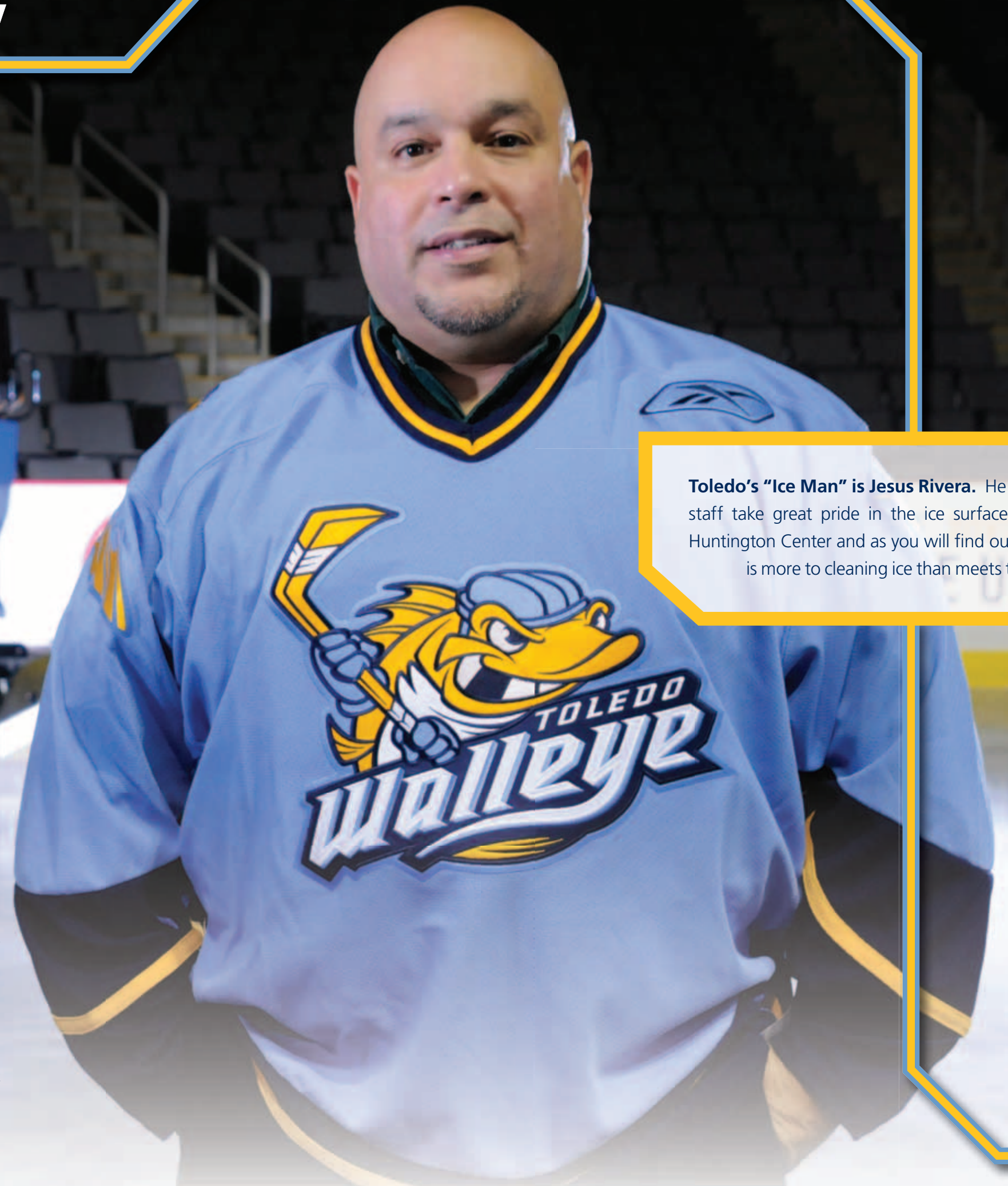
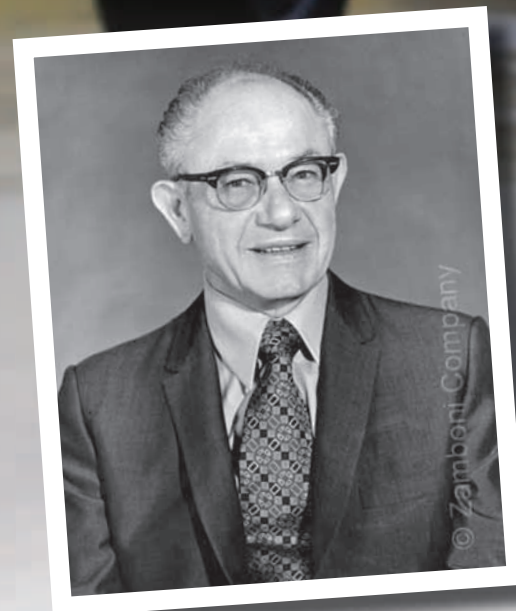


# THE ZAMBONI® STORY

## THE ZAMBONI STORY



Toledo's "Ice Man" is Jesus Rivera. He and his staff take great pride in the ice surface at the Huntington Center and as you will find out, there is more to cleaning ice than meets the eye.



Frank J. Zamboni

If necessity is the mother of invention, Frank J. Zamboni might be considered its father. This tireless inventor and entrepreneur never came across an obstacle he couldn't tinker his way around. Frank J. Zamboni was born on January 16, 1901 in Eureka, Utah. Frank's parents (Frank immigrated from the Tyrol region of Italy and Carmelina, originally from northwest Italy near Turin) moved their family from Eureka to a farm in Idaho, where Frank developed his mechanical skills. Frank moved to Southern California in 1920 with his brother Lawrence to join their older brother George in his auto repair business. After a short time tinkering on cars, the two younger Zambonis decided to open an electrical service business in Hynes, California (later to become Paramount) catering to the local dairy industry.

As part of their electrical business, the brothers built and installed refrigeration units used by dairies to keep their milk cool. When the demand for cooling expanded into the produce industry, the brothers expanded their business vision as well: they built a plant that made block ice for home use and for produce wholesalers to pack their product for transport by rail across the country. But as refrigeration technology improved, demand for block ice began to shrink, and Frank and Lawrence started looking for other ways to capitalize on their expertise with ice.

That opportunity came in the sport of ice skating. Popularity of the sport was growing, but there were few rinks in Southern California, so in 1939, Frank, Lawrence and a cousin built Iceland Skating Rink in Hynes and it opened in January of 1940. The rink still operates today just blocks from the Zamboni Company factory. In fact, it is not unusual to see Zamboni ice resurfacers venturing down the neighborhood streets for a test drive.

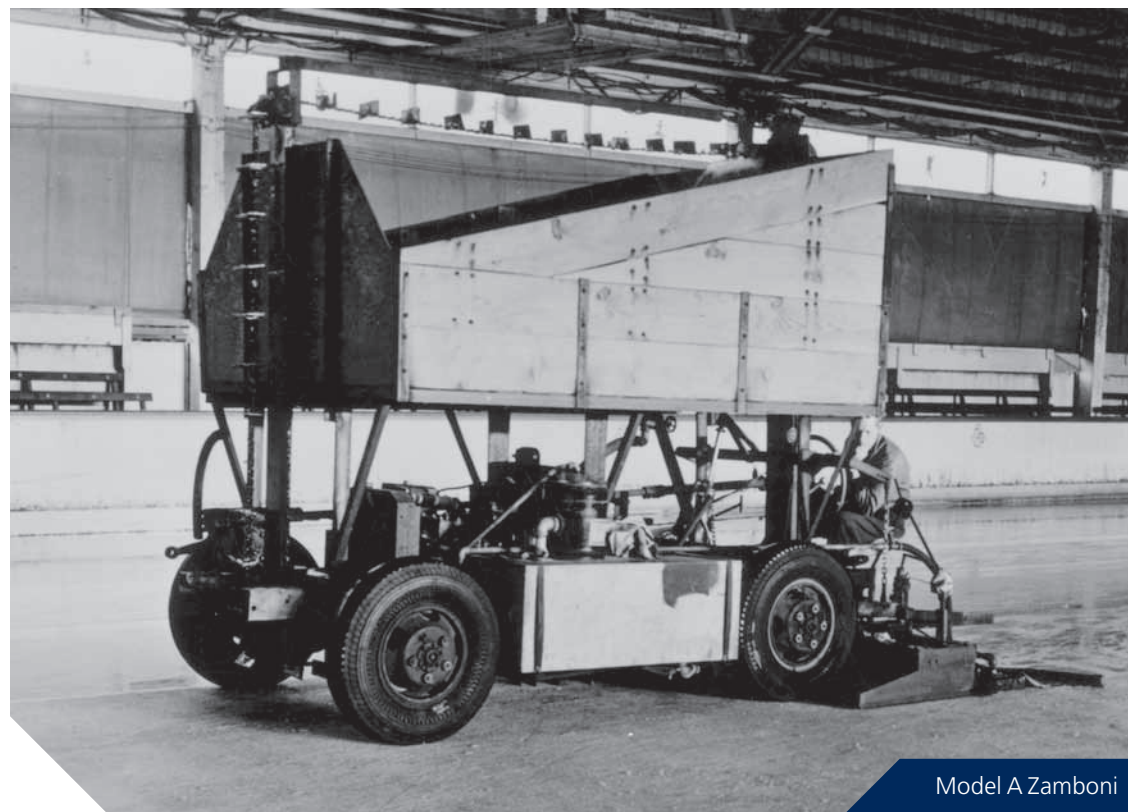
When the Iceland skating rink opened in Hynes, California, it was one of the largest rinks in the country, with 20,000 square feet of ice surface. Frank Zamboni originally built the rink as an open-air facility and Iceland's ice surface could hold up to 800 skaters. Frank soon learned that with the intense Southern California sun and dry desert winds, the ice was difficult to maintain, so the Zambonis added a domed roof in May of 1940. Now, the challenge would be to maintain the quality of the indoor ice surface for the skaters.

At the time, the ice resurfacing process was quite labor-intensive. It could take three to five workers up to 90 minutes to complete a process which consisted of a planer being pulled behind a tractor, shaving the ice surface, followed by workers pushing away the shavings. They then would wash down the ice and dirty water would be pushed off of the ice by hand with large rubber squeegees. The washing operation was followed by a final spray of water which produced a mirror-like surface. Realizing the need to make a good sheet of ice in a short period of time, Frank set to work on a machine which could make the ice resurfacing process more efficient.

### Enter the "Model A"

In March of 1942, Frank bought a tractor and started experimenting. His first attempt – a machine built onto a sled towed behind a tractor – neither smoothed the surface nor picked up the "snow" adequately. Repeated

experiments with the design proved fruitless. But Frank had another idea, and in 1947 he began tinkering with a completely different approach: a self-propelled machine by which one person could accomplish a complete resurfacing operation. This attempt had only two-wheeled drive and was unsuccessful because of lack of traction on the ice and limited snow carrying capacity. Parts from this prototype were used in building a four-wheel drive machine that would shave the ice, remove the shavings, wash and squeegee the ice, and hold snow in an elevated tank large enough to last for an entire resurfacing job. And the new machine's adjustable blade could be held firmly in the conditioner, thus keeping it from chattering or digging into the ice. By the summer of 1949, he was able to get a good sheet of ice consistently, and the "Model A Zamboni Ice Resurfer" became a working reality.



Model A Zamboni



Original Toledo Sports Arena Zamboni

The Model A ice resurfacing machine, built and used at the Paramount Iceland Skating Rink, had four-wheel drive and four-wheel steering on a hand-built chassis using war surplus axles and engine. The four-wheel steering feature was dismantled after usage showed that it created a "jamming" effect when trying to steer away from the boards. A cover was added at the front over the conveyor chain to keep snow from falling onto the fresh ice surface. Its wooden side was hinged so snow could be shoveled out or melted by overhead sprayers. The Model A introduced the "wash water" system, which washed the ice with recirculating water before applying the final coat of water.

Frank applied for a patent on the machine and in 1953, Patent Application No. 93,478 was granted by the United States Patent and Trademark Office.

Initially, Frank Zamboni wanted to call his company the Paramount Engineering Company, after the city he helped to name, but that name had been taken. So he named the company after himself, knowing there could be no disputing a name that belonged to him.

### Frank's Lasting Legacy

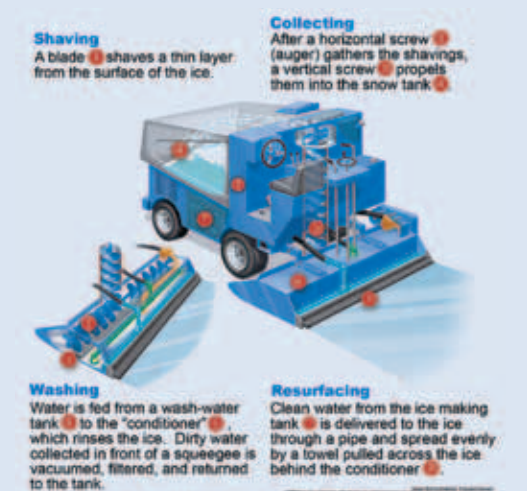
As Frank often pointed out to rink owners, a comment indicative of his own lifelong mission: "The principal product you have to sell is the ice itself." His dedication to the continuing improvement of his resurfacing machine has been passed on to his successors with the result that the equipment bearing his name today sets the standard for the industry and his Company remains the leading manufacturer of ice resurfacers throughout the world.

### The Other Machines

The Zamboni® ice resurfacing machine was not the only machine built by the Zamboni Company. Frank Zamboni actually developed the "Grasshopper" (a machine to roll up artificial turf); the "Black Widow" (which was used to fill in dirt on top of cemetery vaults); the "Astro Zamboni" (designed for Monsanto Chemical Company to vacuum water from their Astro-turf® product); and the "Vault Carrier" (built to lift and carry heavy cement burial vaults).

# Zamboni Fun Facts

- At approximately ¾ of a mile per resurfacing, if there are four resurfacings per game, the machines travel an average of three miles during each hockey game.
- On average, a Zamboni machine "travels" close to 2,000 miles each year in the course of resurfacing.
- In 2001, a Zamboni machine was driven from the East Coast of Canada (St. John's, Newfoundland) across to the West Coast (Victoria, B.C.). At about nine miles per hour, the journey took approximately four months.
- Over 9,000 Zamboni machines have been delivered around the world.



- Prior to the invention of the Zamboni machine, the manual resurfacing of the ice sheet required three or four workers and took over one hour to complete.
- The blade on the Zamboni machine is designed especially for ice-resurfacing. It is sharp enough to slice through thick stacks of newsprint, weighs 57 pounds and is ½ inch thick.

### Zamboni Fun Facts, Continued...

When the machine resurfaces the ice, it is capable of removing close to 2,500 pounds of compacted snow, while it can leave behind about 1,500 pounds of water.

In January of 2004, a Zamboni machine operator for the NHL's Tampa Bay Lightning buried a pewter Zamboni machine charm at center ice for good luck during the Stanley Cup Finals. The Lightning went on to win the 2004 Stanley Cup.

In April of 2005, Road & Track magazine performed a "road test" on the Zamboni Model 500 ice resurfacing machine. They determined the machine's top speed to be 9.7 mph and that the machine would go from 0 to ¼ mile in 93.5 seconds.

The Model A, Frank's first working prototype of the Zamboni® ice resurfacing machine was the largest machine he ever built, measuring 14 ft. 9 inches in length and 9 ft. 6 inches in height.

In 2000, Frank J. Zamboni was inducted into the U.S. Figure Skating Hall of Fame. In 2006, Frank was inducted into the World Figure Skating Museum and Hall of Fame. In 2007, Frank was inducted into the National Inventors Hall of Fame. In 2009, he was inducted into the U.S. Hockey Hall of Fame.

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## MEET JESUS RIVERA



Toledo's "Ice Man" is Jesus Rivera. He and his staff take great pride in the ice surface at the Huntington Center and as you will find out, there is more to cleaning ice than meets the eye.

**Jason Griffin:** At what point in your life did you decide that driving a Zamboni was what you wanted to do? Was this something you thought about as a kid?

**Jesus Rivera:** It happened when I started working in Grand Rapids at Van Andel Arena (home of the Grand Rapids Griffins) as a member of the ice crew there. They appointed me to go to "Ice School" in Tampa Bay (home of the Lightning) to learn how to drive the Zamboni and have been doing it ever since.

**JG:** So, how many years ago was that?

**JR:** I have been driving for 15 years

**JG:** How many hours of training does it take to learn how to drive?

**JR:** Understanding all of the controls of the Zamboni are the hardest thing to learn. The driving is the easy part. But it takes a couple months for sure.

**JG:** How many times have you cleaned an ice surface?

**JR:** Wow. I bet it has to be over 5,000 times.

**JG:** How long does it take to clean the ice?

**JR:** Nine minutes with one machine and four and a half minutes with two.

**JG:** How important is it to Nick Vitucci and the players to have the best ice surface?

**JR:** Very important. Every arena is a little different and I will talk to the players, coaches, and officials to ask them about the ice. The harder and colder the ice, the faster it is and that is a good thing. I am always communicating with them to make sure everything is the best.

**JG:** How do you guys dye the ice surface for special events?

**JR:** We paint over the original ice surface and logos with the color they need (pink, green, orange, etc.) and then we build another layer of ice over the paint. We have it down to a science.

**JG:** How many staff members here at the Huntington Center are trained to drive?

**JR:** Including me there are eight of us.

**JG:** At the intermission of a hockey game, the cleaning of the ice with the Zamboni is an event. The driver (along with the riders) are practically on stage. Everyone is watching. That must feel pretty cool.

**JR:** We love it. The fans seem to enjoy it and the riders really get a kick out of it. They even have a Zamboni song that they sing. The clean look of the ice when the Zamboni leaves the surface is beautiful and it means that we are ready to play Walleye hockey once again!



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