© 2007 Ice Skating Institute

Drivers' Ed: Resurfacer Training

by Al Tyldesley, Chair, ISI Safety Committee

Few businesses are required to train employees to operate equipment as complicated as an ice resurfacer. With most moving parts hidden from view, this piece of machinery is capable of gliding across the ice so smoothly that many spectators never understand just how involved its workings are.

The key words in that last sentence are "is capable." All too often we witness ice resurfacing accomplished by untrained, uncaring speed demons operating a $50,000 to $75,000 machine that looks and sounds like it's ready for the junk yard. Driving the resurfacer and knowing how to resurface ice are two different things. Many can drive a resurfacer (or think they can); few can do it properly.

Training an employee to operate your resurfacer should be considered a serious undertaking. Your machine is much too valuable to be abused. The operation is much too dangerous to be taken lightly. Every rink manager should institute a rigorous and well planned driver training program.

Employees treat your facility, and its equipment, as they find it. Keep a clean rink, and your employees will work hard at keeping it clean. If your resurfacer is covered with rust, is missing parts, and is mistreated by some employees, that's how all employees will view your resurfacer. Employees will drive and treat the machine as it appears. Above and beyond normal mechanical maintenance, your resurfacer must be washed, painted, and show from its appearance that management cares about how the machine looks and drives. If it's clean and well cared for, most employees will drive it responsibly.

Off-Ice Instruction

While the number of training hours required to bring a new driver on line might vary from employee to employee, all of the following information and training steps should be included. All resurfacer training should begin with dry land drills, and the first step should be to require the trainee to read the resurfacer operating manual.

The first training session should occur in the resurfacer room. Starting at the driver's controls, every switch, lever, gauge, and adjusting control should be explained without the engine running. Walking around the resurfacer, you should point out every moving part while explaining what it does.

Next, walk around the machine pointing out all of the safety features. Safety decals, guards, and verbal instructions on how dangerous the machine can be should be explained as a separate teaching unit.

Manufacturers of resurfacers instruct owners not to allow riders on the machines. The only time I make an exception to this rule is in training a new driver, and they know that is the only exception. It has been suggested that the instructor use a wireless radio with a headset for the trainee. This may work for some, but it leaves the instructor without the ability to take action should a mistake be made.

After an explanation of all controls and the safety features, start the machine. With the instructor sitting on the driver's seat, turn each control on and off one at a time. Allow the trainee to see your hand movement and to hear what happens. Sound is very important with resurfacer operation. Lift

the tank, turn on the water, operate the augers, and demonstrate how each operation goes in a certain sequence.

Once you have run through the controls, shut down and place the trainee in the driver's seat. Talk the trainee through each of the steps. Allow the employee to turn on all of the controls and to increase the RPMs to hear the sounds the machine makes. In some older machines, you may need to spend time on how to shut the controls off. Hydraulic controls that go past neutral may stall the machine and fluster an inexperienced driver.

On-Ice Instruction

After this two-part dry land drill, you are ready to move to the ice. Trying to train new drivers during the 10-minute ice making session is foolhardy. On-ice training must be pressure free, which usually means using open ice during the week or an hour before you open, or an hour after you close.

Allow the trainee to drive the machine onto the ice. Instruct the employee to drive all over the ice except next to the dasher boards. Make turns, go straight, go slow and go faster, all with the conditioner in the up position and, of course, no water. This will allow the trainee to get a feel for the machine.

With the blade turned up a few turns, introduce lowering the conditioner to the ice. This takes practice and will require repeated efforts. Using the red and blue lines as a simulation to leaving the ice, practice shutting off the controls, stopping the machine and lifting the conditioner. This allows the trainee to repeat the conditioner drill without getting near the boards and to practice the difficult leaving the ice procedure.

As the driver gains confidence, introduce the augers and blade. Once the trainee is comfortable with the controls, move to the important "first pass" around the boards. Remember, you are not using water so if the trainee gets nervous or there is a problem, it's easy to pull out without damaging the ice by simply turning the steering wheel.

It's at this point that operating the machine at the proper RPM level should become part of the instructions. Nothing will destroy your machine faster than improper RPMs. When one of my drivers is on the ice and sees me point to my ear, they know I am not satisfied with the sound of the machine. Getting the correct RPM down and holding it through turns requires practice. Insist on correct RPMs right from the start.

Some day every rink will have a machine with automatic RPM controls, but we still have many older models in daily use. If you have a newer model resurfacer with automatic RPM controls but use an older model as a spare, your driver training must include the spare machine.

You are now ready to allow the trainee to run a full ice making pattern. Do it without water. Have the driver leave the storage room, set all controls, run the normal pattern, but do it dry. This can be done several times. It gives the driver confidence, allows him/her to see mistakes, and does no damage.

Once the trainee is comfortable with dry scraping the ice, introduce the wash water system. Allow the trainee to run the ice making pattern using only the wash water system. Again, mistakes can be seen and you have done nothing to hurt your ice.

The above steps might be accomplished in one hour or three hours, depending on how fast your trainee learns. Training to this point has taken place over two or three sessions and has involved two or three hours. Don't overload the trainee.

Using Water

You are now ready to allow the trainee to actually resurface the ice. Pay no attention to time. Allow the driver to make a sheet of ice at his/her own pace. If you arrive at this "all systems go" point with extra time, allow the trainee to do a dry scrape, then scrape with wash water, and finally with everything. This will allow the trainee to operate the machine three times and to leave a good sheet of ice. Training on wet ice is impossible. This system allows you three resurfacing efforts at each training session and should take no more than 40 to 50 minutes.

The point at which you allow the trainee to operate the machine without you will differ with each person. I never leave the ice during the first two or three hours of training and am never out of sight or calling distance until I am confident the driver has full control. In most cases this does not occur until the third training session.

Problem Solving

Once the employee thinks he/she has it down pat, I begin to introduce problems. I will shout to the driver that there is a puck in front of the machine to test ability to perform an emergency operation. I will stall the machine to test ability to shut off water, shut off controls, attempt to restart, and then pick up the conditioner and drive around to restart resurfacing. What to do in a complete mechanical breakdown on the ice is included in this testing. I also bring a hockey net onto the ice and have the driver get used to this equipment which usually stays on the ice while resurfacing occurs.

All of the training to this point is done with no time constraints. Now is the time to work on the required 10 minute ice resurfacing. I have found that it is far more effective to demand full operational functions with no regard for time rather than introducing additional training later on. This means that each trainee is required to turn the blade up TWO full turns EVERY time the machines goes through the crease. It means they are required to control the water in all turns and in the crease every time they do a training session. New drivers will learn to make ice in 10 minutes with time. Introducing additional steps (blade and water control) after the trainee has learned to drive is difficult.

Additional Off Ice Training

In addition to the on ice instruction, each trainee should receive instructions on snow dumping procedures, prevention of stud damage when dumping outside, tire washing, conditioner flushing after use, use of blocks to lower the conditioner for storage, fueling or charging procedures, and very specific instruction on your air quality procedures.

A well trained resurfacer driver is like money in the bank. You get better ice, your machine is better cared for, and that all important safety and training documentation makes you look good.

** Editor's Note: This article is reprinted with permission from the May 2000 issue of RINK RAT.*