



## Course Maintenance 101 -

	What	Cause	Where	Effect	Tools	Repair
Hole	Similar to a pothole. Very dangerous	Break through of weak layer where racers pressure ski in same place	Racing line below the gate	Disrupted race line possibly for several gates.  Binding pre-release	Steel shovel	1 <sup>st</sup> – Lengthen hole along race line by shoveling downhill hole edge, blending depth equal to surrounding snow (never deeper) over several feet. 2 <sup>nd</sup> Repeat along up-hill race line. 3 <sup>rd</sup> Repeat along the gate side edge being sure to blend with surrounding snow
Chatters	Ripple similar to washboard	Ski edges gripping and releasing as racers slide sideways	Above and below gate	Usually minimal.  Possible binding pre-release	Rakes	Work toothed side of rake parallel along chatter mark to smooth whole area. Sufficient pressure without breaking through the layer. Do not break through layers and cause hole.
Ruts	Long groove	Softer snow yielding to ski pressure	Along race line above and below next gate	Deep/steep downhill end of rut make launching the racer or causing ski to loose contact with snow	Steel shovel	If not getting worse, leave it alone. Same as for holes, special attention to eliminating launching effect. Under melting conditions, gate pole may need to be tightened further into the base during race maintenance.
Double Ruts	Two short parallel ruts likely across race line	Double pumping to pressure ski	Beside /below gate	Possible pre-release. Racer thrown off balance, possible tail hooking	Steel shovel	Lengthen the up-hill and downhill ends of the ruts; merge the ruts by removing the bump/ridge between the ruts
Berm	Built up snow from slipping on the outside of the race line	Insufficient widening of the slip area by slip crew to blend excess with surrounding snow.	Beginning opposite gate, continuing below gate outside and low of the racing line	Unbalanced, sudden deceleration leading to a tumbling fall. Lateral launching	Steel shovel and rake	Excess snow spread out, packed down and blended into surrounding snow for entire length of the berm.
Snow Piles at Gates	Snow build up at the base of turning pole	Slipped snow from inspection and racing	At the base of turning pole	Ramping Invisible dye mark, Impaired GJ quality, Pole rebound	Grain scoops  Steel shovel	Remove loose snow from wide area around pole base, down to firm layer. Critical to perform this action after inspection closes. Under melting conditions, gate pole may need tightening.