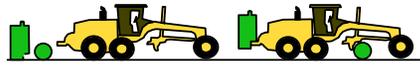
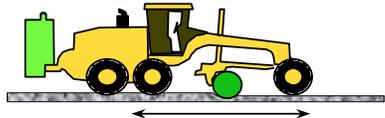
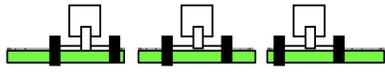
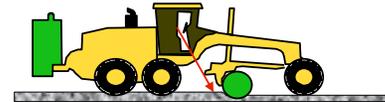
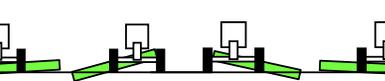


Comparison of Grinding Machine Capabilities

Road Maintenance & Stabilization Work Tasks	Explanation of Work Tasks	Machine Capability Comparisons	
		"0" Can do work, but not effectively	
		"+" Can do work effectively	
		Road Grader	MILL RAZOR
Gravel Road Surface Reconditioning	Reconditioning of gravel roads removes all defects from the top one to three inches of the road surface. Defects include pot holes, washboards, loose gravel, etc. Reconditioning improves the ride of road, saves costly gravel, reduces road user and vehicle maintenance costs.	0	+
Stabilization of Gravel Roads and Roads with Thin Pavements	Stabilization involves mixing 2 to 6 inch depths of gravel on the road surface with solid additives (Bentonite, Chloride, Cement etc) while adding water accurately to achieve uniform moisture contents. This activity reduces dust, road blading, gravel loss, and reduces road user and vehicle maintenance costs.		+
Remove Roadside Vegetation	Roadside grass and other small vegetation removal reduces snow drift plowing, improves driver safety by increasing sight distance and recognition of runout areas. A 10 to 12 foot wide strip is normally treated along each side of the roadway.	0	+
Stabilization of most types of road surfacing materials including thin pavements	Worn out road surface materials are ground up and mixed with various additives to bind them together. After this recycling/reclaiming is completed, the road surface is often given an asphalt wearing surface or turned back to a gravel road that can be smoothed with a road grader. Recycled roads reduce infrastructure costs and provide a safe driving surface.		+
Deep Stabilization of Roadbed Soils	The existing road surface and subgrade soils are mixed with water and additives to bind the materials together. Depths of stabilization normally range from 6 to 18 inches. Stabilization of soils is a very cost effective method of building a road structure especially where soil strengths are poor and when gravel materials are expensive.		0
Reconditioning of Rocky Native Roads	Native road surfaces that contain an abundance of large rock are crushed in place to provide a surface that can be smoothed by a motor grader. Often boulders are reduced to 3 inch minus rock. Grinding is often done 4 to 6 inches deep. This surface is safer to drive and reduces user costs and vehicle maintenance.		
Removal of compacted snow and ice from all road surfaces	Winter and spring removal of compacted snow and ice are a significant problem in northern climates. Grinding full road way lane widths makes this operation efficient and safe as well as providing a serrated ice surface that improves skid resistance. Motor grader operators are already familiar with accurately using their blade for this task. This attachment to the blade makes ice removal very efficient. The accuracy provided by the prime mover will protect expensive pavement surfaces from damage.		+

MILL RAZOR Unique Features

Primary Unique Machine Features	Benefits of Feature	Machine Feature Comparisons	
		"+" Has the capability	
		OTHER MACHINES	MILL RAZOR
Device attaches easily to existing equipment	 <p>Lowers purchase cost, personnel already know how to operate prime mover</p>		+

Long wheel base		Improves shallow grinding depth (2 to 6") control accuracy which is very important on roads with thin pavement structures (most rural roads)
Grinder Drum can be side shifted		Improves safety eliminating roll over hazard on steep embankments, allows traffic to pass on narrow roads, reducing delays to road user
Operator can view ground up road surface materials		Operator can observe grinding depths, moisture uniformity and content and mixing uniformity. Eliminates the need for a man on the road to make these observations and direct the grinder operator to make changes
Grinder drum can be angled		This feature is used in shallow road surface reconditioning to recover lost materials and move material to the center of the road for rebuilding road crown
Grinder drum height can be positioned low on the right side and high on the left side or vice versa		This feature is used for removal of shoulder vegetation, recovery of gravel thrown off the road surface and rebuilding road crown
Wide drum (12'-6") is more efficient		Wide grinder drum improves grinding efficiency by reducing the number of passes to get complete road surface coverage. Reduces the number of passes by 50 percent and provides better depth control. The wide drum also makes road ice removal practical.
Small grinder drum diameter		Small grinder drum reduces divots at start of grinding and humps at end of grinding. This reduction improves road user safety, grinding depths are more consistent and road blading costs are reduced.
Easy & Safe Carbide Tooth Removal		Access to the top of the drum enables easier and safer tooth removal and maintenance

		+
0		+
		+
0		+
0		+
		+
		+
		+

MILL RAZOR Unique Features (Continued)

Primary Unique Machine Features	Benefits of Feature	Machine Feature Comparisons	
		"+" Has the capability	
		OTHER MACHINES	MILL RAZOR
Low Noise Levels	Grinder head chamber materials absorb rock impact noise so that the operator can hear mechanical problems as they develop rather than relying only on electronic monitoring and warning devices that must reach a critical threshold before working. Low decibel levels create a safer working environment by decreasing fatigue and expenses related hearing loss issues for all personnel working around the machine.		+
No clog liquid additive injection system	Uniform moisture contents promote greater compaction which reduces need for road blading.		+
Low cost operation	Lower horsepower power plant uses less fuel		+

Machine Feature Comparisons	
"+" Has the capability	
OTHER MACHINES	MILL RAZOR
	+
	+
	+