

RoadSaver III G



TRUE COST OF OWNERSHIP

**YOUR LIFETIME MICRO SURFACING/SLURRY EQUIPMENT PURCHASE
OUTLASTS, OUTPERFORMS AND EXCEEDS EXPECTATIONS**

AVOID DOWNTIME AND INCREASE PRODUCTIVITY

TRAINING IS THE **KEY** TO BEING SUCCESSFUL

Etnyre International does more than just manufacture professional grade slurry seal and micro surfacing machines; we also provide comprehensive training on the equipment, materials used in the equipment, and typical situations you are likely to encounter.



TRAINING INCLUDES:

- ❖ Machinery
- ❖ Chemistry
- ❖ Application
- ❖ Troubleshooting

CONSULTING SERVICES AVAILABLE

Etnyre International can provide one or more Professional Service Representatives for the purpose of assisting with the commissioning of equipment and training for additional fees. Consulting services may also be extended to include additional items including but not limited to:

- ❖ Personnel training in sealcoating, slurry seal or micro surfacing basics
- ❖ Materials used and methods of applications
- ❖ Training in pavement selection, design procedures and application procedures
- ❖ Practical construction procedures, stockpiles, material handling, application procedures
- ❖ Inspection of completed work



TRAINING INCLUDED
WORKING WITH OUR CREWS*



*Invitation to work with our crew and attend the Rayner Technical Institute included in the price of the equipment. Additional training available for monetary fees. See representative for details.



England



Argentina



Russia



Thailand

ROADSAVERS ARE HARD AT WORK AROUND THE GLOBE.



Chile

EVERY ROADSAVER THAT'S BEEN BUILT IS STILL IN OPERATION TODAY.



Panama



Turks & Caicos



Chile



China



Russia



Brazil

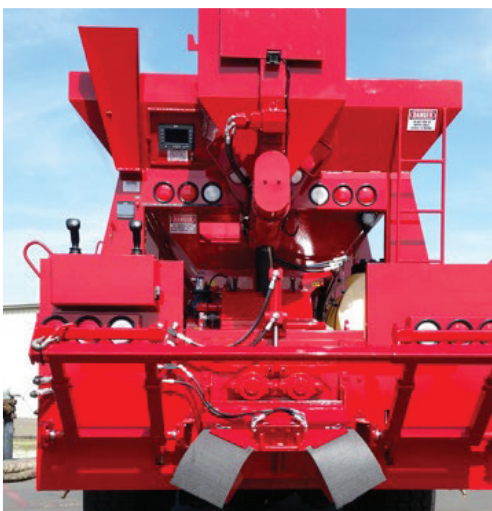
ROADSAVER III G SUPPORTS PUBLIC WORKS AND CITIES NATIONALLY.

THE BENEFITS OF OWNING YOUR OWN SLURRY SEAL / MICRO SURFACING MACHINE, AND “DOING IT YOURSELF”

How do you stretch your road maintenance budget? The *RoadSaver III G* is the solution. Each year cities and counties are faced with the dilemma of how to make the best use of their maintenance dollars. Sadly, there is never enough money in the budget to take care of all road maintenance needs. So an agency has to carefully strategize about how to best use their money. And that prompts the question, “How does an agency get the best bang for their buck when it comes to spending their maintenance dollars?”

To understand the problem, one has to first understand the concept of pavement preservation. The purpose of pavement preservation is to take care of your best streets first, and keep them in excellent shape. Pavement preservation products put down a protective barrier that wards off the damaging effects of the elements, extending the pavement’s life by pushing costly pavement repairs farther and farther out into the future.

PUBLIC WORKS



A “GREEN CLASSIFICATION” WITH THE REMOVAL OF THE SIDE ENGINE

- ❖ No noisy side engine
- ❖ Easier for the crew to hear and communicate
- ❖ No Side engine to fuel and perform maintenance
- ❖ No Side engine to have to track hours
- ❖ Helps your agency meet your “green” environmental goals

SMART-OPS MONITORING SYSTEM

THE BEST FRIEND AN OPERATOR EVER HAD

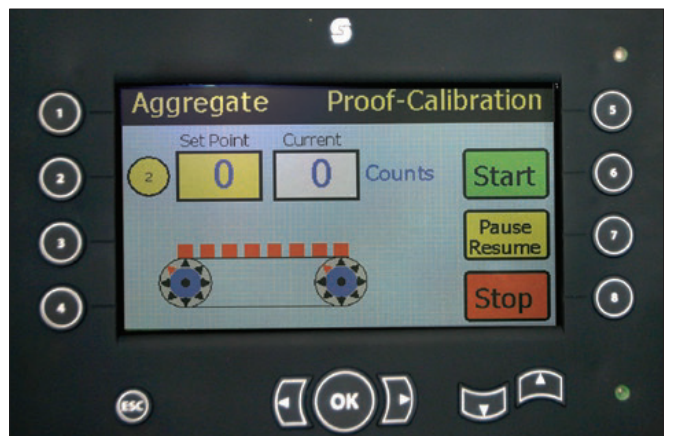
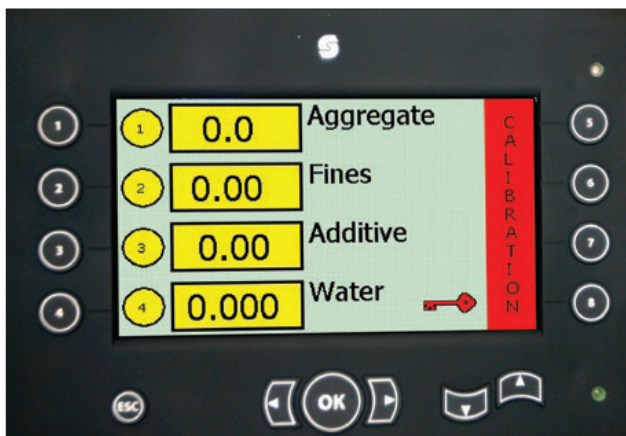
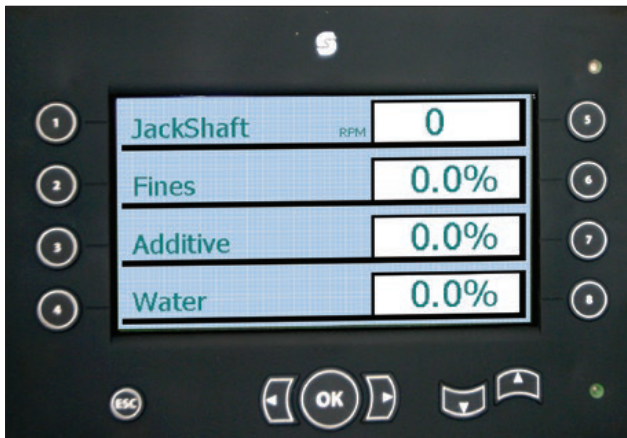
Etnyre International's software package was designed to provide the operator with REAL TIME data from engine performance to mix design compliance. The production information for each component are calculated and presented to the operator in an easy to read format.

When it comes time to calibrate, Smart-Ops will walk you through it with easy input and easy to follow directions. Use Metric? Conversion from US to Metric is a simple push button away.

Smart-Ops comes complete with a self-diagnostic screen in the unlikely event of an electrical component failure. This screen makes it quick and easy to verify operational status.

The computer display has an IP68 rating which means it is dust proof and approved for washing or rinsing with a water hose. The display features both back lighting and reflective lighting. This means the operator will be able to see the screen as easily in bright sunlight as in the dark of night.

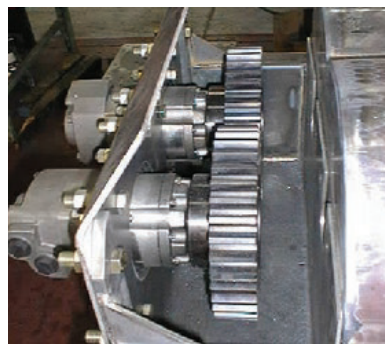
Languages included in the basic software package are English, Spanish, Thai and Russian. The operator can change the language the screen is shown in with a simple key switch. Other languages available.



TRACTION MASTER CONVEYOR SYSTEM

A precision engineered, hydraulically driven, multi-roller, aggregate delivery system. Engineered the *Traction Master* to *balance stress loads*. We use specially designed rollers and rugged high performance materials to guarantee longer lasting conveyor belts and conveyor systems.

The *Traction Master* is designed with a reverse gradient. Moving the aggregate up-grade means the hopper will empty from the front of the machine to the back, assuring that you have constant material. Various slope angles within the hopper design conform to the *Traction Master* reverse gradient. The *Traction Master* conveyor platform and herringbone pattern pulleys are designed to promote self-centering of the conveyor belt. As a result, **RoadSavers** have exceeded 10,000 hours on the original conveyor belt; keeping density of agg at gate constant to help provide a consistent mix for better end results.



TWIN-DRIVE, TWIN-SHAFT PERFORMANCE MASTER PUGMILL

We build the strongest, most powerful pugmill available. We don't use one motor to drive two shafts through a set of gears, we use two powerful drive motors and keep them in time with a set of gears. This balanced load with twice the power and torque allows the **RoadSaver** pugmill to easily outperform all others.

Designed by operators, *for* operators, and further refined by engineers; all systems have been optimized to provide the ultimate in reliability, dependability, and ease of operation.

With the precise control necessary for Micro-Surfacing, the **RoadSaver IIIIG** is the Operator's Choice for comfort and ease of operation. All functions of the machine may be monitored with a glance or controlled by fingertip, allowing the operator's attention to remain focused on the material being applied.

Engineered with 21st Century Technology, heavy duty, top-of-the-line components, solid-state electronics, service after the sale, plus proven return on investment—make the **RoadSaver IIIIG** the "Owner's Choice!"

1 PACCAR MX - ENGINE

This new PACCAR truck engine has increased, low end torque allowing the removal of the side engine. The Traditional RoadSaver power is still available from engine idle through full range of operational speed. The newly designed machine runs quieter and reduces the air quality concerns inherent in older equipment.

2 SIDE ENGINE REPORTING REQUIREMENTS ARE NOW ELIMINATED!

This system includes a REPTO design with a hot shift feature including specific safety elements to protect you and your crew.

- Night Light Package for night work operations
- Additive Recirculation/Blending System
- **RoadSaver IIIIG** Additive Plus Metering System
- Increased capacity emulsion and water tanks
- Dual Compartment-Secondary Tank, with individual pumps and precision metering systems, for post-adding additional polymers and specialized additives into the slurry or micro-surfacing system
- Battery Box Enclosure, with 2-12VDC 970 CCA (Recommended if doing large night work projects)
- Custom features fabricated for your needs
- Crew field training and consulting

*We also build the **RoadSaver II-E Model***



3 EMULSION FILTERING SYSTEM

With the advancements in technology, we are able to mount the emulsion pump below the tank allowing an increase in available head pressure. The new location dramatically improves the pumps performance and reduces problems from cavitation. This design also includes a high volume suction filter that eliminates pump blockage from emulsion shot/contamination.

4 TWIN DRIVE/TWIN SHAFT PUGMILL

Featuring twin hydraulic drives for balanced torque, this reversible, twin shaft pugmill has infinitely variable speed control. Precision design and thorough field testing assures high productivity and product uniformity. The hydraulic diverter and pugmill gate guarantee even distribution and operator control of material supplied to the box.

5 SMART OPS SYSTEM/ COMPUTERIZED DISPLAYS

State-of-the-art electronic sensors and displays provide the real time system information on water, aggregate, emulsion, and mineral filler rates. Should the electronic sensors detect any deviation from preset tolerances, an instantaneous signal will instruct the machine to initiate an automatic shutdown sequence or, if selected, sound an alarm.

6 DRY ADDITIVE SYSTEM

Hydraulically driven, infinitely variable, removable fines feeder with digital ratio meter allowing precise adjustment from operator control center.

7 OPERATOR CONTROL CENTER

"The heart of the **RoadSaver IIIIG**", this unique feature employs twin joysticks to control the following functions: one button sequenced start, engine throttle control, spreader box lift, shift and auger control, pugmill gate control, diverter gate control, and vibrator control.

Learn more about how the **RoadSaver IIIIG** can help increase your profits and put your company on the **Road to Opportunity**.

RoadSaver III G - Over three decades of field use and testing has proven the RoadSaver's claim of **RELENTLESS RELIABILITY**, now also **ENVIRONMENTALLY FRIENDLY**.



2 SIDE ENGINE REPORTING REQUIREMENTS NOW ELIMINATED!

6 DRY ADDITIVE SYSTEM

3 EMULSION FILTERING SYSTEM



PACCAR MX

1 PACCAR MX - ENGINE

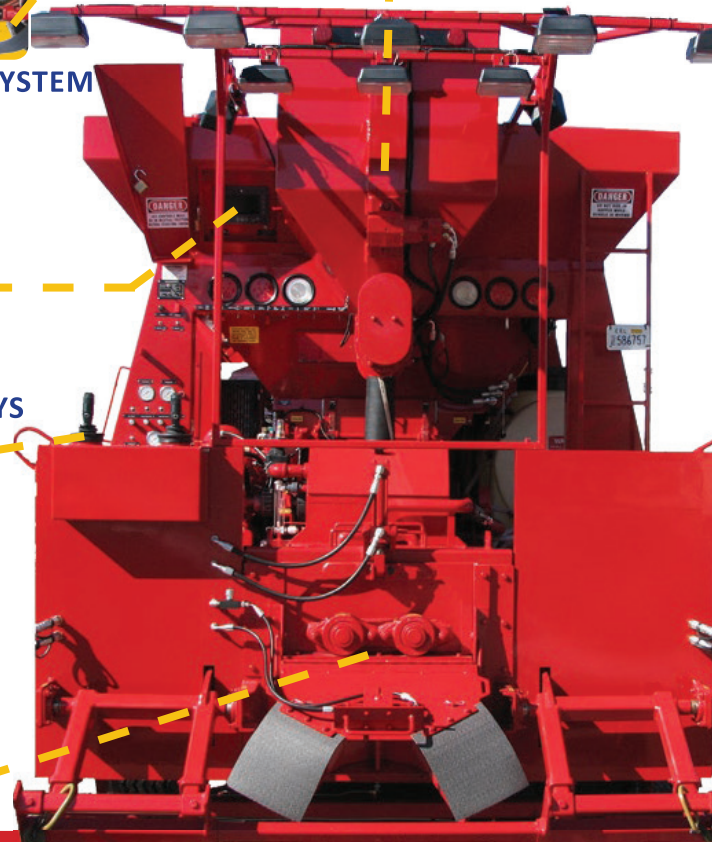


5 SMART OPS SYSTEM/
COMPUTERIZED DISPLAYS

7 OPERATOR
CONTROL
CENTER



4 TWIN DRIVE/
TWIN SHAFT
PUGMILL



DON'T LET THAT INITIAL PRICE FOOL YOU.

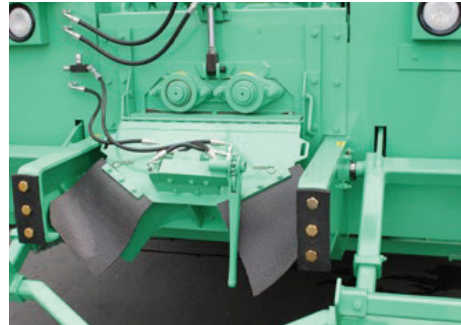
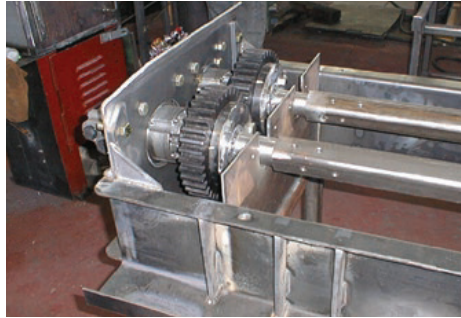
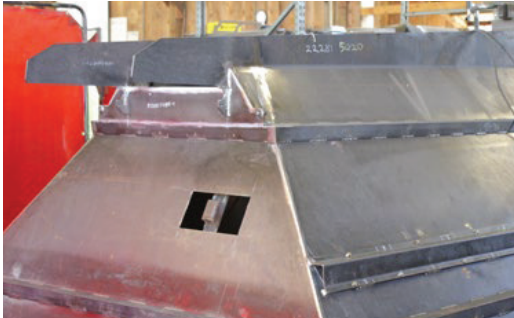
The initial price may be expressed with a “teaser” rate which represents a bare-bones machine few buyers, if any, ever select.

Those that do often wind up buying several options later at an even greater expense.

We prefer a standard unit which includes many items others may charge extra for or may not even offer at all.

T-1 Steel: ASTM A572 High Tensile Steel Plating, beauty beneath the skin. You can't tell by looking but you'll know after 20 years of hard service. In addition to superior steel, **RoadSavers** use superior building techniques. Tank seams are overlapped and welded inside and out.

Aggregate hopper steel is formed with the steel grain aligned with the flow of the aggregate to prevent premature wear.



OUR STANDARDS INCLUDE:

- ❖ T-1 Steel Construction
- ❖ Smart-Ops Monitoring System
- ❖ Hydraulically controlled Steel Pugmill Shutoff Gate
- ❖ Hydraulically controlled Steel Diverter Assembly
- ❖ Traction Master Conveyor
- ❖ Twin-drive, twin-shaft performance Master Pugmill
- ❖ Twin Joystick Controls



EMULSION DELIVERY SYSTEM

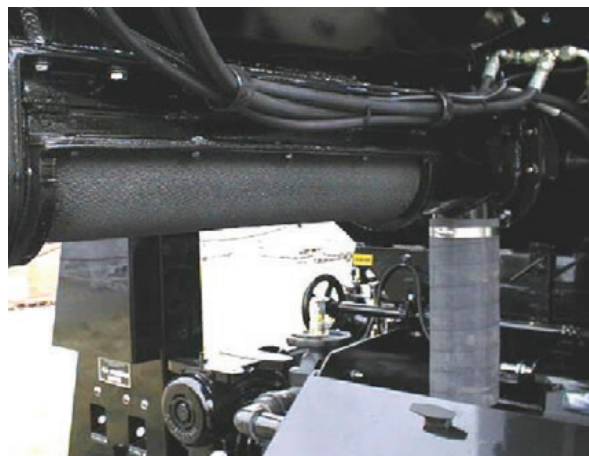
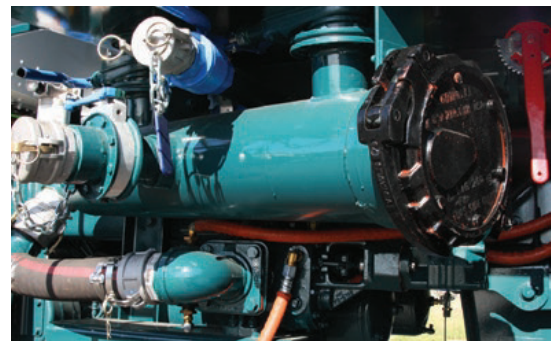
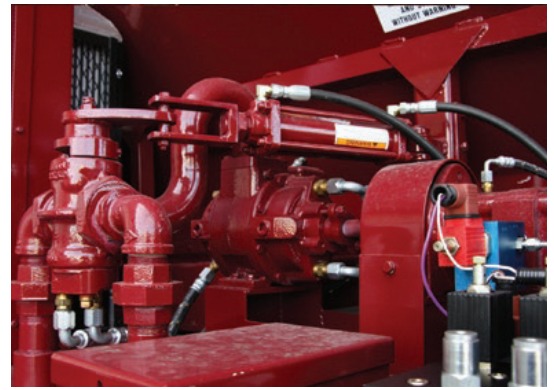
All **RoadSavers** have several different *Emulsion Delivery Systems* available.

The fender mounted vane pump option provides a highly accurate design that draws emulsion from the storage tank and directs flow through the **RoadSaver IIIIG** way valve to either recirculate material or directs flow into the Pugmill.

The fender mounted 2" helical gear, positive displacement pump provides the same operation as the vane pump with lower shear on more sophisticated emulsions.

Technology advancements have offered direct electrical synchronization that allow for smart placement of the emulsion pump. The Low mount 3" helical gear pump reduces cavitation, improves performance and greatly reduces shearing of the emulsion oil. In today's environment where more exotic emulsion blends are popular this pump is capable of supplying the higher volumes when needed. With the emulsion pump mounted below the storage tank it benefits from the head pressure, short inlet lines and in-line filtration. The inlet filter has two tank feed ports with "knife" valves providing a positive close and unrestricted open. Filtering the emulsion before it gets to the pump prevents the pump stoppage caused by transfer hose O-rings, latex strings and asphalt clumps.

- ❖ Multiple pump sizes and types available
- ❖ Improved pump performance
- ❖ Filtration options



DRY ADDITIVE SYSTEM

Hydraulically driven, infinitely variable, removable fines feeder with Smart-Ops digital ratio meter allowing precise adjustment from the Operator Control Center.

Precision Feed System: Each **RoadSaver Fines Feeder** is built with an engineered metering tube which controls the amount of material delivered with precision. You get what you want, when you want it.

Soft-Trough: Ever have a problem with moisture in your cement? The *Soft-Trough* was designed to help clear these annoying problems. And if you ever do experience hardened cement, the Fines Feeder is easily removable for cleaning and service. Don't need any dry additive? Just remove the *Fines Feeder* and store it.

ADDITIONAL “BENEATH THE SKIN” FEATURES

Polyurethane Liquid Additive Tank - Off the shelf tanks just wouldn't hold up so we designed our own.

Engineered for the stress of road work and highway travel.

HYDRAULIC SYSTEM:

- ❖ We use only premium components, piston pumps and load sensing controls.
- ❖ We install magnetized suction strainers on all our **RoadSavers**.
- ❖ We install shutoff valves on each suction line.
- ❖ We use “thru hull” or bulkhead fittings where hydraulic lines pass through steel walls.
- ❖ All lines are properly routed and mounted professionally.



No Rear Pugmill Bearings - Those out-of-sight, hard to reach or grease bearings don't exist on the **RoadSaver IIIIG**. RES uses load bearing drive motors, protected from the working area.

WATER SYSTEM

We drive the water pump with a Rexroth Bent Axis Piston motor, allowing high RPM and a service life that could last as long as the machine. This costs 80% more but allows the RoadSaver to deliver 130 Gallons per Minute at 110 PSI, full water pressure when you want it, where you want it, regardless of other water demands. A diaphragm valve allows precise metering of water to the pugmill. A float system tells you the water level at a glance.



SAFETY CATWALK PLATFORM WITH FALL PROTECTION

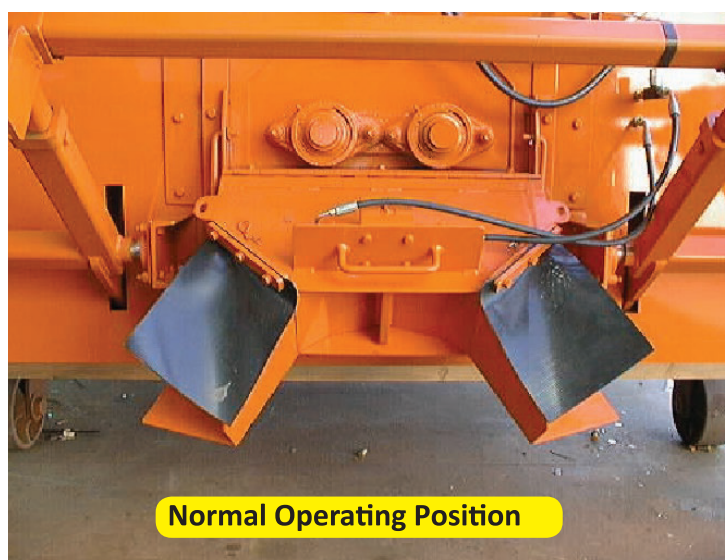
Allows easy, safe access for tank and hopper inspection or service. D.O.T. rated lids are standard on the storage tanks. A vacuum breaker water loading pipe is provided for hydrant compliance (as well as direct in tank loading) and includes a one-way check valve.



HYDRAULICALLY CONTROLLED STEEL PUGMILL SHUTOFF GATE:

Instantaneous joystick control of the steel shutoff gate allows precise metering of material. Every **RoadSaver** built is delivered with a steel shutoff gate to provide precision control of material flow. Release the amount of material you want, when you want it. No more having to empty your pugmill when you mix a batch; no more guessing how much mix is enough.

Not all slurry or micro work is on open high-ways; many projects require short runs and precise control of your materials, the **RoadSaver III G** was designed with these time tested features built in as standard features.



DIVERTER ASSEMBLY

Instantaneous joystick control places material where you want it, when you want it. Every **RoadSaver** built is delivered with a steel diverter to provide precision control of material flow. To the center of the box, the left, the right, the uphill side, the shoulder side; wherever you need material, whenever you need it.

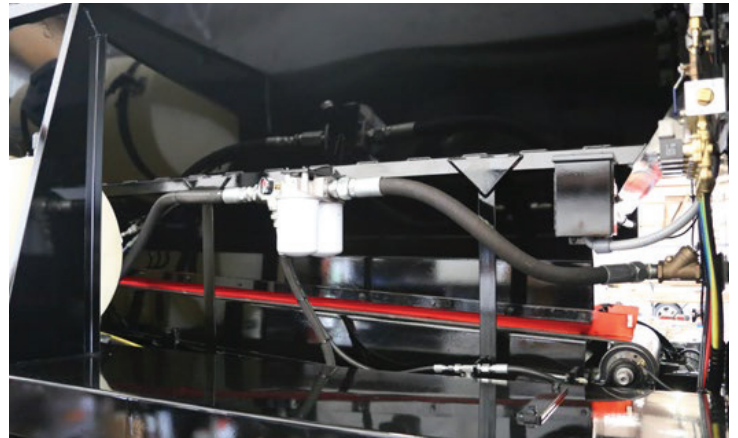
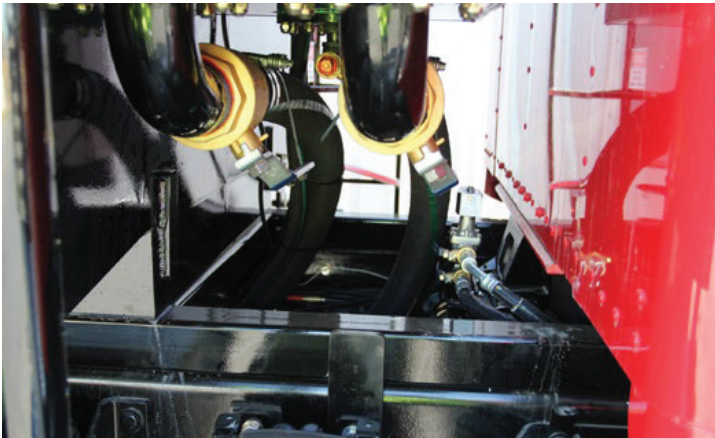
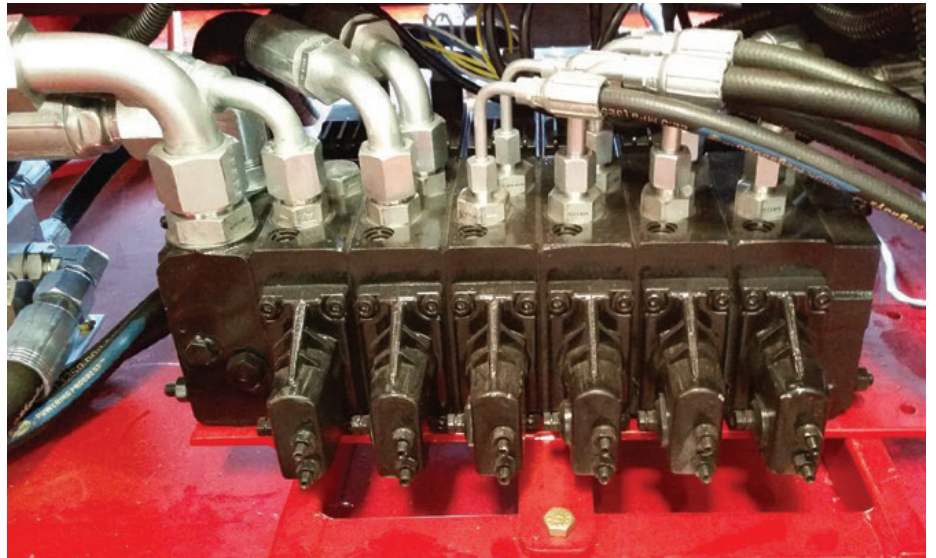
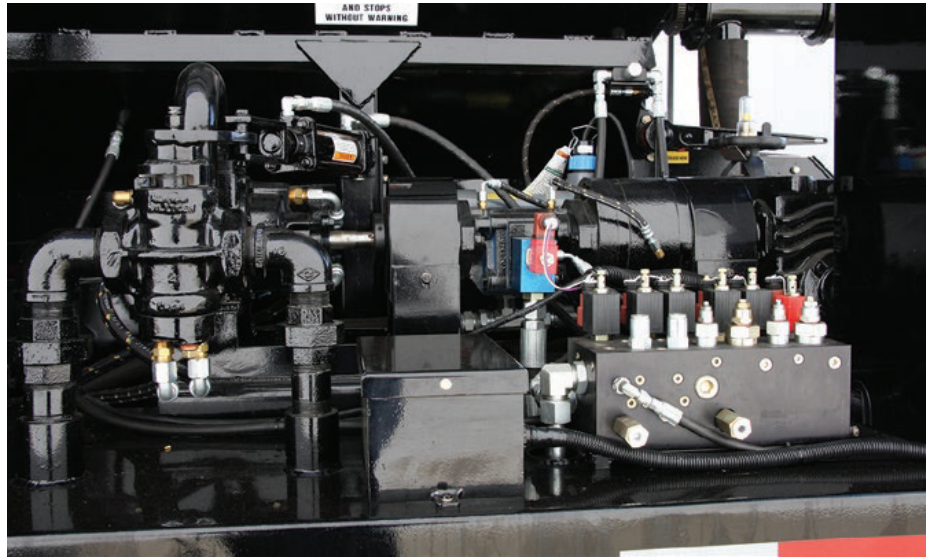
ELECTRIC/HYDRAULIC SYSTEM

Another Industry First - Patterned after the design of aerospace control systems, this advanced feature performs hydraulic functions based on electrical input and system demand.

Complete system redundancy is built in through a fail-safe override systems for all critical systems.

Etnyre International engineered this design and has used it continuously worldwide for three decades with tremendous reliability.

Energy Smart: *Pressure Compensation* and *Load Sensing* controls combine the electro-hydraulic systems with energy smart power usage. Individual post compensated hydraulic circuits keep the horse power demand low while providing the power needed to accomplish the most demanding tasks.



EVERYBODY TALKS ABOUT UPTIME; ETNYRE INTERNATIONAL DOES SOMETHING ABOUT IT

Things that are more than skin deep. The choices in every component are made with a single criteria; the best choice for performance and longevity, regardless of price. Things like the *Traction Master Conveyor*, remote, ground-level service points, oversize hydraulic fluid capacity and a host of other features.

NATIONAL PAVEMENT LONGEVITY STUDIES HAVE SHOWN THAT FOR EVERY DOLLAR SPENT ON PAVEMENT MAINTENANCE, \$9-\$12 IS SAVED ON NOT HAVING TO DO COSTLIER PAVEMENT REPAIRS OR REPLACEMENT.

MAINTENANCE

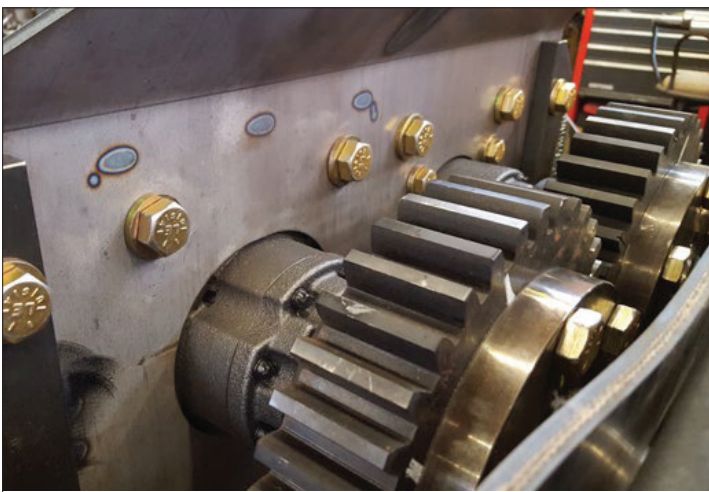
RoadSavers are designed and built to withstand the rigors of heavy daily performance. If repairs become necessary, each component is built with consideration for easy service:

- ❖ The **RoadSaver III G** pugmill is an independent unit that sits on rails for easy slide-in, slide-out accessibility with the removal of six bolts.
- ❖ Pugmill paddles are fitted with replaceable carbide tips and wear plates.
- ❖ There are NO rear pugmill shaft bearings to grease or worry about; load bearing drive motors with protective spacing from the pugmill.
- ❖ The Traction-Master Conveyor is mounted on rails for easy slide-in, and slide-out access.
- ❖ Remote grease points are installed at walk around height to reach typical hard to reach grease fittings.
- ❖ Should you ever need to work on hydraulics, we have installed shutoff valves on each suction line are installed.
- ❖ To help prevent fluid contamination by installing magnetized hydraulic fluid suction strainers are installed.

We stock most components in order to have a speedy respond time.

Whenever possible, premium components that offer world-wide support so our customers don't have to call across the country or around the world for a replacement part.

Painting - We paint each assembly before it is installed on the machine. Items found "beneath the skin" like the tops of fender braces will experience water intrusion and will eventually rust, along with the fender. At Rayner Equipment Systems, all hidden surfaces are primed and protected before they are assembled.



ROADSAVER IIIIG UNSEEN FEATURES

- ❖ T-1 Steel Construction
- ❖ An oversized engine radiator, excess cooling capacity
- ❖ Oversized hydraulic fluid reservoir
- ❖ Magnetized hydraulic fluid suction strainers
- ❖ Load Sensing Hydraulic Piston Pumps
- ❖ Milliken Oil Valve, designed for the life of the machine
- ❖ Steel Emulsion lines
- ❖ Steel Diverter
- ❖ Steel Material Gate
- ❖ Full system backup manual over-rides

CONSTRUCTION

Tanks: 1/4" ASTM A572 High Tensile Steel formed plate construction: Front, Sides, Bottom Sections. Top-Rear Plate Section attached to aggregate hopper are formed 3/16" ASTM A572 High Tensile Steel. All corner seams are overlapped and welded inside and out. Structural Channel stress-relieved tank bracing is also installed to reinforce the tanks interior and exterior weld joints.

Hopper: 3/16" ASTM A572 High Tensile Steel, with the hopper plating formed with the steel grain aligned with the flow of aggregate to the conveyor to reduce wear.

SPECIFICATIONS

Dimensions	US	Metric
Length	26 Ft	7.8 M
Width	8.0 Ft	2.4 M
Weight (est)	17,600 LB	7,983 KG
Height Above Frame	7.0 Ft	2.1 M

CAPACITIES

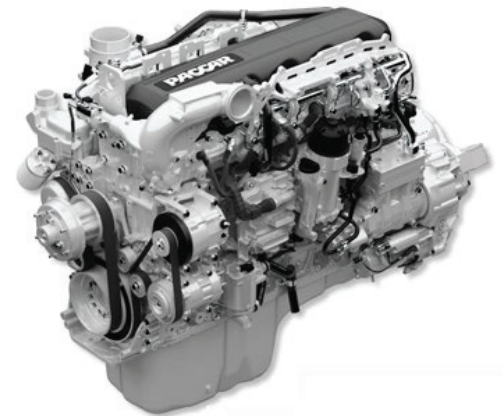
Aggregate Bin	12 Cu. Yds.	9.2 M3
Water Tank	800 Gallons	3,040 L
Emulsion Tank	800 Gallons	3,040 L
Additive Tank	90 Gallons	340 L
Fines Feeder	16 Cu. Ft.	.45 M ³



A PACCAR COMPANY

PACCAR MX 13 truck engine has eliminated the need for a side engine. We mount our **RoadSaver IIIIG's** on a Kenworth T800 truck chassis. Full power for all functions throughout the operating speeds of the RoadSaver.

PACCAR MX-13



THESE QUALITY FEATURES COME STANDARD ON EVERY ROADSAVER III G

BENEFITS

PACCAR MX ENGINE — This new PACCAR truck engine has increased low end torque which allows for the complete removal of the side engine. The traditional RoadSaver power is still available from engine idle through a full range of operational speeds.

NO SIDE ENGINE — With the removal of the side engine, the *RoadSaver III G* is classified as a “Green Machine”. It runs much quieter and produces far less exhaust emissions than traditional, non-green slurry seal machines. An added benefit is that with the removal of the side engine, the cumbersome and time consuming task of having to track and report air quality data is no longer required.

EMULSION FILTERING SYSTEM — With advancements in technology RES is able to mount the emulsion pump below the tank allowing an increase in available head pressure. The new location dramatically improves the pumps performance and reduces problems from cavitation. This design also includes a high volume suction filter that eliminates pump blockage from emulsion / shot contamination.

TWIN DRIVE / TWIN SHAFT PUGMILL — Featuring twin hydraulic drives for balanced torque, this reversible twin shaft pugmill has infinitely variable speed control. Precision design and thorough field testing assures high productivity and product uniformity. The hydraulic diverter and pugmill gate guarantee even distribution and complete operator control of material supplied to the box.

SMART OPS SYSTEM / COMPUTERIZED STATUS DISPLAYS — State of the art electronic sensors and displays provide the real time information on water, aggregate, emulsion, and mineral filler rates. Should the electronic sensors detect any deviation from preset tolerances, an instantaneous signal will instruct the machine to initiate an automatic shutdown sequence, or if selected, sound and alarm.

DRY ADDITIVE SYSTEM — Hydraulically driven, the dry additive feeder is infinitely variable, has a digital ratio meter that allows for fine adjustments from the operator control center, and is user removable from the *RoadSaver III G* body.

OPERATOR CONTROL CENTER — At the “heart” of the *RoadSaver III G* is the operator control center. Twin joysticks give the operator precise control over engine throttle, spreader box lift, engine shifting, auger speed, pugmill gate, diverter gate, and vibrator action.



Etnyre ROADSAVER III G INTERNATIONAL

WHEN YOU'RE OUT ON THE ROAD, EVERY MINUTE COUNTS

And you can count on your RoadSaver III G to perform day-in and day-out.

RELIABILITY - DON'T COMPROMISE.

The actual repair costs of equipment only accounts for a fraction of the costs an agency may suffer if a failure takes place on the road. Downtime costs in lack of production, lost crew time, rescheduling, loss of opportunity and a host of other factors may be much higher. Uptime becomes a valuable consideration when selecting your new machine.

