



Material Transfer Vehicle

SB-2500

ENGINE

SB-2500e: Tier 4i; Cummins® QSL9 300 hp (224 kW) @ 1,900 rpm
SB-2500ex: Tier 3; Caterpillar® C9 300 hp (224 kW) @ 1,900 rpm*

* ex machines for lesser regulated countries

OPERATING WEIGHT

78,000 lbs (35,380 kg)



THE ROADTEC DIFFERENCE



Our Customers

"I have to give Roadtec credit, because they're the best people I've seen in terms of supporting their equipment."

"Handling asphalt is tough on machines, but Roadtec equipment holds up. Roadtec designs stuff to do the job."

"We've got some Roadtec pavers with well over 10,000 hours on them."

"They're exceptional about support, whether it's parts or other issues."



Count on Roadtec Equipment & Customer Service

Dependability

Roadtec has been manufacturing innovative, heavy-highway equipment since 1981. We continue to grow and add new products, yet our personal connection to our customers and our ability to respond immediately to your needs is even stronger.

Longevity

Roadtec supplies equipment globally. Road builders everywhere are encouraged to visit our website at roadtec.com, where they will find the local Roadtec contact for their region. Roadtec equipment is designed with longevity and reliability as the focus because we realize that this is the most important factor for our customers' success.

Partnership

At Roadtec, we understand that our success hinges on the success of the customer. To accomplish this common goal, we focus on building reliable, long lasting machines that consistently perform at the highest level. Roadtec is dedicated to giving the customer every advantage to excel in the field.

Crews Like Roadtec

Our customers experience minimal downtime, and their crews are comfortable with Roadtec equipment. That's reflected in the quality of work they do.

Any customer familiar with us and other brands will prefer Roadtec because equipment operators achieve better ride smoothness, the machines have lower maintenance costs, and the design is user-friendly. That makes operators more comfortable and confident with the equipment.

New Generation of Machines

The new generation of Roadtec machines arrives with a slight change in terminology used to classify each model. The model number of each new machine will include the letters "e" or "ex". The single letter "e" denotes that the machine's engine has a Tier IV emissions rating. The letters "ex" denote that the machine's engine has a Tier III emissions rating. The "ex" models are machines exported to countries that do not require a Tier IV emissions rating. All features listed in this brochure apply to both "e" and "ex" models.

The One and Only Shuttle Buggy® MTV



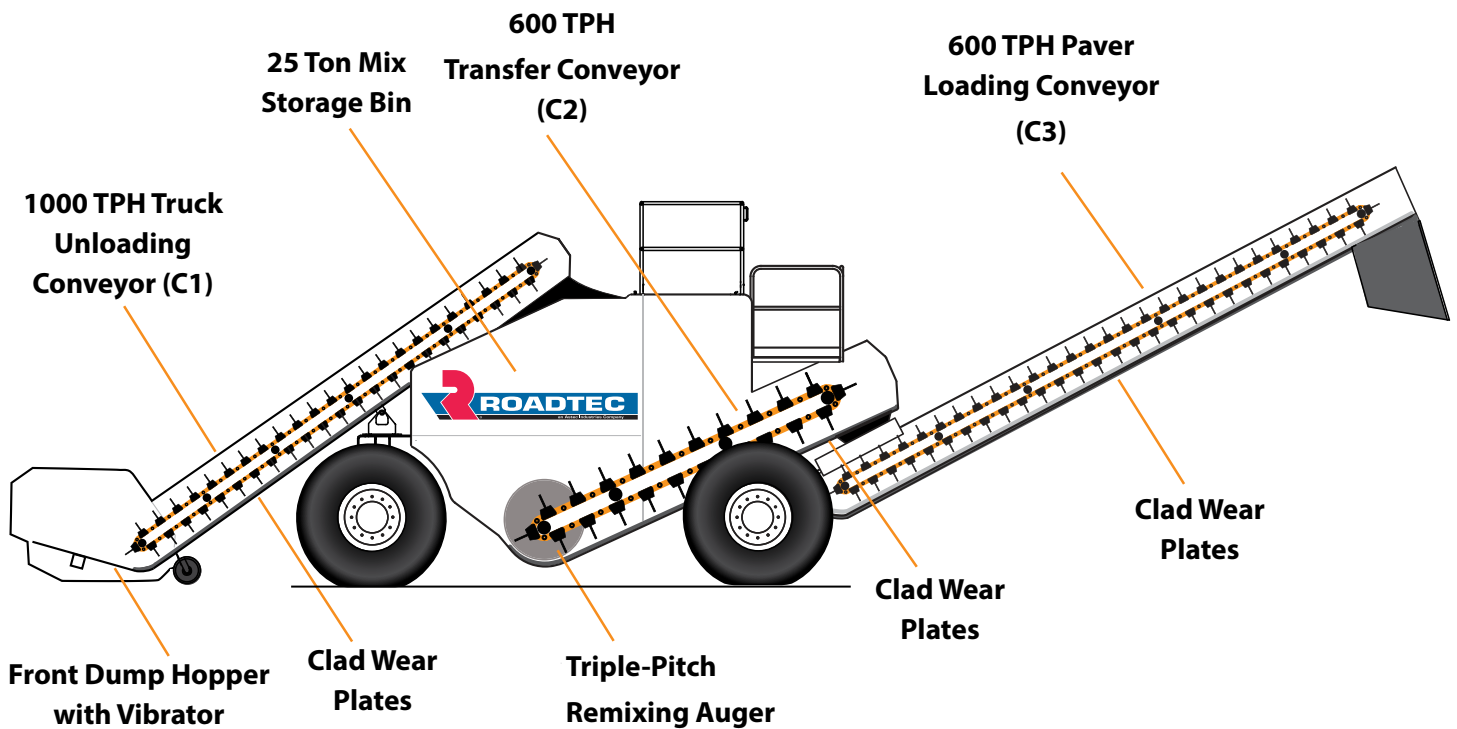
Material Transfer Vehicles (MTVs) : A Must-Have

In the year 1935 Harry Barber launched his invention, the very first asphalt paver. As you might imagine road building was changed forever and for the better. Road paving technology would not significantly change again until 1989 when Roadtec introduced the very first material transfer vehicle, the Roadtec Shuttle Buggy® MTV. Roadtec material transfer technology led the way to dramatically improved pavement life and quality, making Roadtec MTV's an essential tool for today's road builders.

The Shuttle Buggy® MTV

The Shuttle Buggy® material transfer vehicle (MTV) is designed to "shuttle" between the hot mix asphalt haul truck and paver. Segregation problems are eliminated thanks to the machine's remixing action. The Shuttle Buggy® MTV also allows non-stop paving, which leads to a much smoother surface. The machine has a storage capacity of 25 tons (22.7 metric tons) in the main hopper, allowing the contractor to smooth out his truck cycles and reduce haul costs. Truck unloading capacity is rated at 1,000 tons per hour (907 metric tons/hour) and paver loading capacity at 600 tons per hour (544 metric tons/hour).





Roadtec MTV Experience

MTV's lead a tough life. They're subject to getting bumped by trucks, they get 16 plus tons of hot mix dumped into them in less than a minute, they keep the abrasive material moving and mixing, and they feed the paver at rates up to 600 tons per hour. Materials and workmanship must stand up to those demands. With Roadtec you'll get a heavy-duty design you can rely on, coupled with the functionality you need.

Road Builders Rely on MTVs

The Shuttle Buggy® MTV is the only machine that combines the benefits of a remixing material transfer with unmatched reliability. That's why road builders worldwide recognize the value of using Roadtec's Shuttle Buggy® MTV to construct high quality asphalt pavements.

Important Benefits

Truck handling, temperature and material segregation all contribute to poor pavement quality. The Roadtec Shuttle Buggy® MTV provides a solution for all of these issues by remixing material onsite while allowing the paver to operate at a constant speed without stopping.

- Temperature Segregation during transport cannot be avoided. Without remixing, the colder material will screed out together and form a potential trouble spot.
- The Shuttle Buggy® MTV allows continuous paving, which leads to a much smoother surface.
- The machine has a storage capacity of 25 tons (22.7 metric tons), allowing the contractor to use fewer trucks by unloading them quickly so they can return to the plant.

BENEFITS



Windrow Head

You can order your machine with a windrow head instead of a dump hopper. Windrow heads are also sold separately as an option. They include oscillating pivots for the front conveyor; hinged, hydraulically controlled right-hand and left-hand caster wheels; spring-activated end gates; and material plow.



Front Hopper Performance Features

Sized for mass discharge from standard haul trucks, the front hopper allows trucks to unload fast. A steep slope and vibrating bottom plate in the hopper prevents material build-up. Heavy-duty, swiveling support casters under the hopper assure smooth movement. Ground operators can adjust the hopper position from either of two separate control boxes. They can also adjust the position of the push roller for different truck designs.

Moving Parts Made for Durability

All conveyors are outfitted with durable roller bushing chain. Slats are made of abrasion-resistant steel, and we install thick wear plate linings on the conveyor floors. The floor of the paver loading conveyor is insulated against heat loss. Rails installed at the bottom of this conveyor help protect it from any damage that could be caused by impact with the paver.

Engine Meets Latest Emission Specs

A 300 hp diesel engine powers the Shuttle Buggy® MTV. The engine delivers plenty of power while incorporating the latest technology for low cost of operation and maximum performance.

Drive Features

The Shuttle Buggy® MTV rides on four 21" wide x 25" high flotation tires. The steering wheel controls the front wheels of the all-wheel drive machines. The hydrostatic drive mechanism offers two speed ranges (working and travel) with continuously variable speed.



Security of a Wear Guarantee

All chains, sprockets, liners, bearings, as well as the remixing auger are warranted up to 250,000 tons (227,000 mt) or 1,500 hours of operation.

DURABILITY

Improved Wear Components

Road construction is not a delicate business. All machines involved have to perform daily in difficult environments. Roadtec has made an effort to reduce operating costs by incorporating stronger, wear resistant components in the “e” & “ex” model Shuttle Buggies®.



Floor Liners

Bolt-on chromium carbide floor plates are used on all three conveyors. The abrasion resistance of chromium carbide drastically increases the wear life of the floor plates and eliminates the need for wear liners.

Augers

The SB-2500 is now equipped with cast augers with a diameter of 29". The larger triple flight augers offer 38% more wear surface without compromising the machine's remixing ability.

Chains

Complete offset chains are used throughout the machine providing a substantial increase in tensile strength compared to straight linked chains or partially offset chains used in other models. The upgraded chains also have larger slats to transfer more material and keep the chain out of the mix.



Sprockets

Larger and thicker sprockets that provide 38% more surface area are used in the SB- 2500 to match the wear life upgrades of the other conveyor components.



Intersection Pay-off

Intersection work is typically slow, and getting trucks to the paver is often difficult. The Shuttle Buggy® is able to improve the maneuverability of your pavers on intersection work by freeing them from trucks.

Pivoting Discharge Conveyors as Standard

The discharge conveyor swings 50° right or left, allowing you to do offset paving and to save significant time and dollars when adding lanes, or working with string lines or barriers. This feature also lets you keep trucks off the milled edge and off the tack coat. Specialty projects, such as high-banked racetracks or airports requiring string lines on both sides, are paved much easier with Roadtec's standard pivoting conveyors.

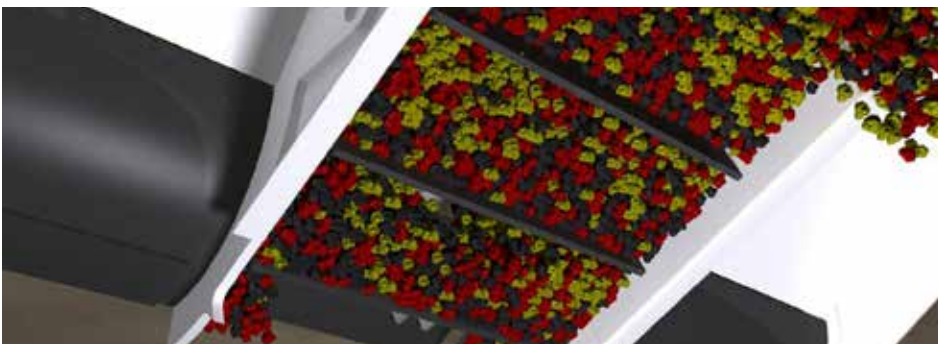
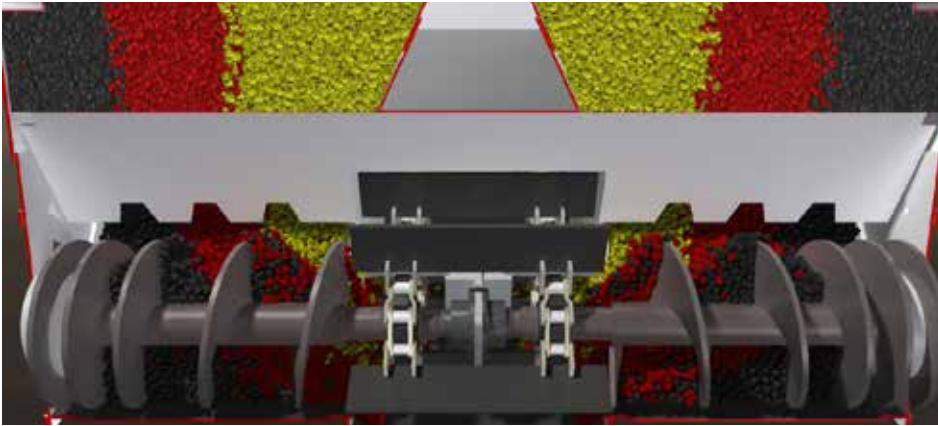
Make Tricky Paving Projects Easy

Parking areas that have a lot of islands or peninsulas are difficult to pave. Overhead power lines, tunnels, overpasses and other obstructions can present a different challenge. It's often impossible to form a good paving train and get the material in front of the paver. When you have a Shuttle Buggy® MTV the truck can unload at a convenient spot and the Shuttle Buggy® can bring the mix to the paver.

Speed Up Handwork

At times, there are spots that a paver can't reach, no matter what, and handwork is required. Roadtec MTV's are able to carefully dispense material to the workers exactly where they need it because the discharge conveyor can be lowered and pivoted from side to side.

REMIXING



Shuttle Buggy® MTV Triple Pitch Auger Design

The triple-pitch auger flighting design used in Roadtec Shuttle Buggy® MTV's provides uniform remixing across the width of the entire hopper. The triple-pitch auger located in the bottom of the hopper remixes the contents of the storage hopper. The mixing action equalizes temperatures and evenly mixes large and small particles. A slat conveyor runs from the bottom of the hopper and feeds the discharge conveyor.

Why Segregation is a Problem

Segregation in asphalt pavements will compromise their surface and structure. Cracking, raveling, stripping, and rutting are all pavement failures linked to segregation. Temperature and material segregation have also been known to hinder the compaction of the asphalt mat, and non-uniform density will result in pavement failure.

Control Over Segregation

It is extremely difficult to eliminate all the potential causes of segregation in asphalt mixes. However, the presence of thermal and/or material segregation can be corrected before the new surface is paved. With Roadtec's material transfer technology, you can depend on thoroughly remixed material that is evenly distributed as it's paved.

Single-Pitch Augers Don't Remix

Single-pitch flighting pulls material primarily from the sides of the bin. The spaces between flights fill up and the auger just tunnels through. The contents of the bin are not remixed, and therefore segregation remains a problem. The Roadtec Shuttle Buggy® material transfer vehicles use a triple-pitch auger design. This Roadtec innovation is key for achieving the best mixing results, and will help you meet the tightest temperature segregation specifications.

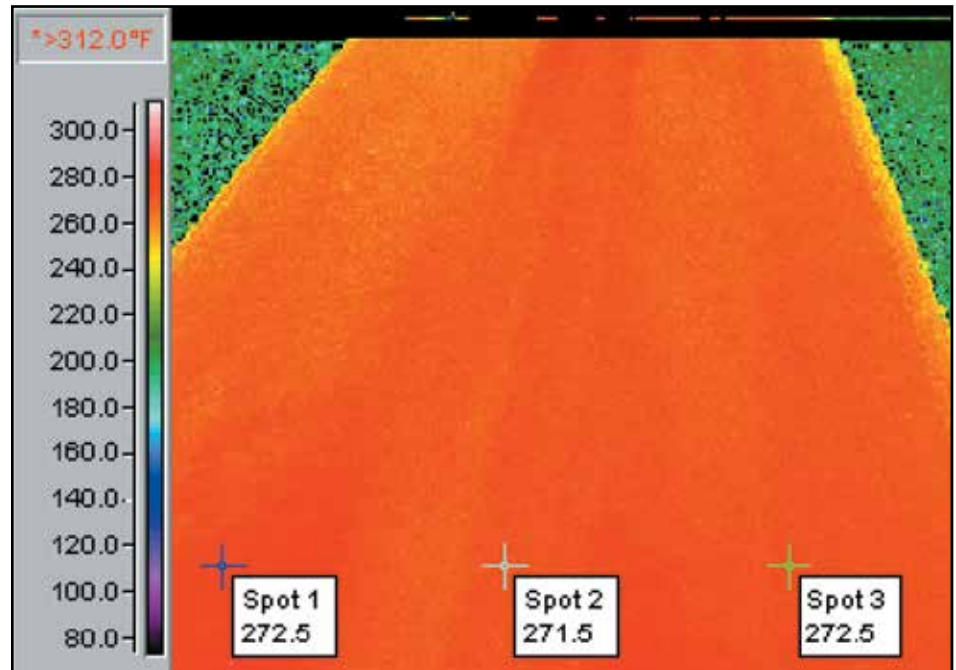
Roadtec Remixing Technology

Infrared images show the quality of remixing that takes place with different devices. Time after time Roadtec machines have consistently performed better than others. Roadtec mixing technology is better engineered and achieves superior results.

Proof in Thermal Imaging

Infrared images have been taken behind numerous machines and are shown below. Color variations in the infrared photos show temperature differences. Uniform density cannot be achieved when mix temperatures vary. Cold spots become potholes.

1



1. Roadtec Shuttle Buggy MTV - Virtually no temperature difference.

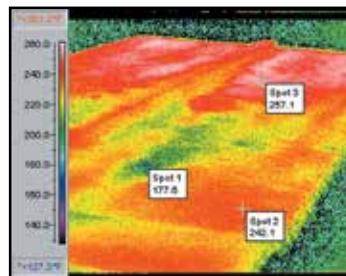
2. Windrow Pickup Machine

3. Windrow Pickup Machine with Truck Dumping Head

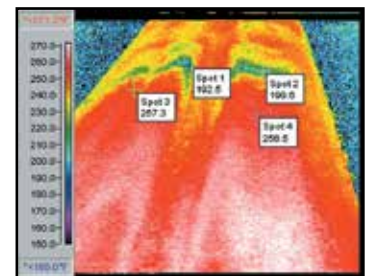
4. Belt Conveyor Type Material Transfer Vehicle

5. Belt Conveyor Type Material Transfer Vehicle with add-on

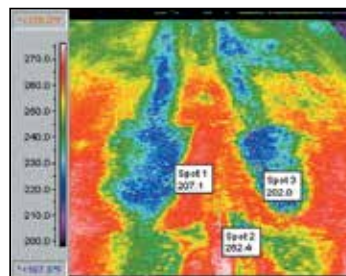
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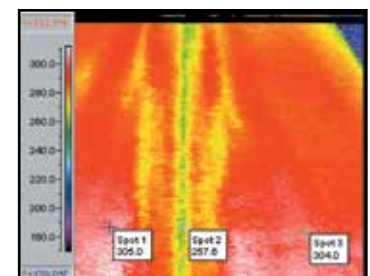
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4



5



COST SAVINGS



Your Goal is Continuous Paving

Keeping the paver moving increases efficiency and the quality of the mat. Whenever the paver stops, the screed has a chance to settle. The head of mix cools, creating a bump in the mat when you start moving again. And whenever a truck backs up to unload into an idle paver, there can be another bump. All of these issues affect smoothness readings.

Cut Costs with a Roadtec MTV

With a Shuttle Buggy® MTV you can drive profits on every job because you'll need fewer trucks. The Shuttle Buggy® MTV provides on-site mix storage and can eliminate the delays that happen at the paver when trucks are unloading.

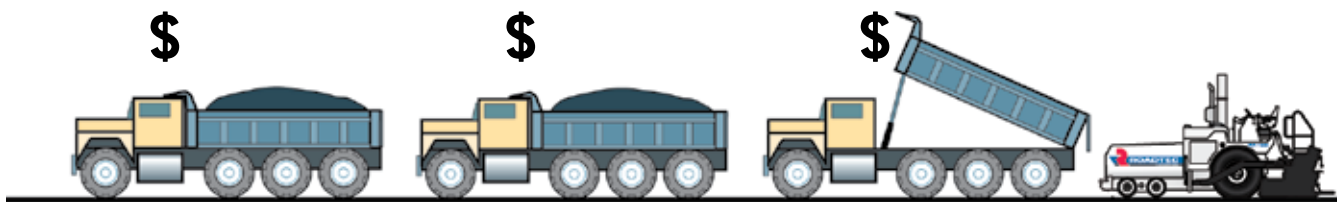
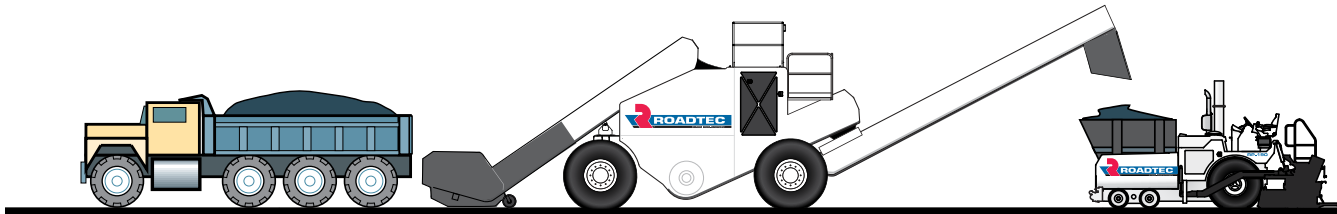
Keep Trucks and Paver Moving

To have three or four trucks waiting to unload at a job site with no Shuttle Buggy® MTV is fairly common, but it's unnecessary and expensive.

A wait time of more than 15 minutes per truck at the job site is common for most jobs where no Shuttle Buggy® MTV is used. Even if you calculate a very conservative cost of one dollar per minute of truck time, that's \$15 extra you pay for each truck every time it's delayed for 15 minutes at the job site.

With a Shuttle Buggy® MTV, trucks can be unloaded much quicker, typically in a fourth the time. This can result either in the need for fewer trucks or increased production.

If you can create a buffer of material at the job site by using a Shuttle Buggy® MTV, you won't have to use trucks as storage bins to keep the paver supplied with mix. Don't let money sit on the road. Use fewer trucks.



How to Maximize Storage Capacity

The Roadtec Shuttle Buggy® MTV has a 25-ton (22.7 metric tons) storage bin. Add an insert to the paver and you get another 10-15 tons (9-14 metric tons) of capacity, sufficient for continuous paving. Trucks can be stopped 100 or 200 feet (30 or 60 meters) away from the paver and dump safely into the Shuttle Buggy® MTV without moving. Being able to unload without moving also makes it possible to use bigger trailers, thus even further reducing the number of trucks needed. However, even with regular dump trucks you can cut your trucking cost when you use a Shuttle Buggy® MTV.

Example assumes: 10-hour workday. Mix usage rate 2,400 tons per day. 20-ton truck capacity. Truck cost \$60/hr = \$1.00 per minute. Distance to hot mix plant 10 miles.

Use the job calculator on our web site to run the numbers on your projects. Go to roadtec.com and click on "Training/Tools."

TRUCK CYCLE CALCULATION

	Without Shuttle Buggy	With Shuttle Buggy
Delay at Plant	0 min.	0 min.
Loading time	1 min.	1 min.
Ticket, Tarp & Sampling	5 min.	5 min.
Haul to Job	20 min.	20 min.
Delay at Job	15 min.	0 min.
Truck Exchange	2 min.	0 min.
Dump	3 min.	2 min.
Return to Plant	20 min.	20 min.
Total Minutes per Truck Cycle	66 min.	48 min.
Cost per Truck Cycle	\$66.00	\$48.00
Cost per Ton	\$3.30	\$2.40
Cycles per Truck	9	12
Cycles Required	120	120
Number of Trucks Required	14	10
Total Cost	\$8,400	\$6,000

FEATURES



Operator Station

Dual operator stations allow the operator to occupy the left or right side. The operator platform slides 16" to the left and right of center for excellent visibility down the sides of the machine. The FXS® fume extraction system comes standard to increase operator comfort.

Better Maintenance Access

Maintenance access is a major goal in all our designs. Engine access is gained by hydraulically lifting the one-piece hood. There are hinged access doors that make the oil cooler, radiator and pumps easy to reach. Hydraulically operated clean-out doors are found at each conveyor. Your mechanic will really appreciate the remote lube points for all the conveyors.

Safety & Convenience

The Shuttle Buggy® is equipped with a telescopic flashing amber beacon and a mirror package. The beacon calls attention to the machine from a long way off, and the operator uses mirrors to see both sides of the machine. Safety brackets at the front of the machine keep personnel from entering the area between the tires and the front hopper. Safety bars at the operator station prevent falls. Emergency shut-off switches are found at ground level and at the main operator stations.

The sun shade umbrella supplied increases operator comfort. A wash-down system is provided and includes a 50-foot retractable hose. Longer hoses can be supplied.



Improved Control Panels

The SB-2500e features ergonomic control panels that increase operator safety and comfort. The controls are laid out to be operator friendly, and all panels are now fully backlit for safe control at night.



Ground level control boxes also feature improved layout and are backlit as well.



Full width cleanout doors

A full width C1 cleanout door provides easy access to the dump hopper makes maintenance much easier. Full width "bomb bay" style C2 cleanout doors give incredible access to the remixing augers and greatly improve end of day cleanup time.



OPTIONS

Auxiliary Power

- 4 kW 60 Hz Continuous Duty Hydraulic Generator
- 450 Hz Continuous Duty Hydraulic Generator

Additional Lighting

- Light Package – Includes Five 24v HID Lights Mounted At Machine Corners
- Truck Dump Signal Light Package

Mass Flow Hopper Inserts

- Low Profile Hopper Insert for RP 170 Pavers
- Low Profile Hopper Insert for RP 175 Pavers
- Low Profile Hopper Insert for RP 190 Pavers
- Low Profile Hopper Insert for RP 195 Pavers
- Low Profile Universal Hopper Insert
- Mass Flow Hopper Side Wall Extensions

Miscellaneous

- Automated Lubrication System
- Truck Hitch Instead of Push Rollers
- Bindicators for both high and low level
- Release Agent Spray-Down System – Includes 55 Gallon Tank, Pump, Retractable Hose Reel with 50' Hose Length (Replaces Standard Wash-Down)
- Automatic release agent system
- Windrow Pick Up Head Instead of Dump Hopper*
- Windrow Pick Up Head Assembly as Spare*

* Windrow Head Includes Oscillating C-1 Pivot, hinged, hydraulically controlled right-hand and left-hand caster wheels;

Buggy-Paver Tether Package

- Sonic sensors allow the buggy and paver to move simultaneously. Option includes a remote for the paver operator to control the position of the C3 conveyor on the shuttle buggy.

Camera System

- (2) color, night-vision-capable cameras, one on the front and one on the back of the machine. Includes color monitor in waterproof case.

EDGE Extended Equipment Warranty

The EDGE Extended Equipment Warranty is an industry leading warranty that demonstrates our confidence in the quality and reliability of everything we make. This warranty goes above and beyond power train or extended engine warranties currently offered in the industry by covering more components and repairs as well as covering repairs done by the customer for a term of 3 years or 3000 hours on the machine and 5 years or 6000 hours on the engine. By covering most components other than wear items at full replacement cost and for a longer time period, the EDGE warranty gives owners an EDGE over their competition by lowering their operating costs.



SPECIFICATIONS

ENGINE

- SB-2500e: Tier 4i; Cummins® QSL9 300 hp (224 kW) @ 1,900 rpm
- SB-2500ex: Tier 3; Caterpillar® C9 300 hp (224 kW) @ 1,900 rpm

WEIGHT

- 78,000 lbs (35,380 kg)

CONSTRUCTION

- Heavy-duty conveyor flights and chain. Replaceable wear plate in all high wear areas. Stability without unnecessary weight.

COOLING SYSTEM

- Quiet operation, dual, variable speed hydraulically driven fans

ELECTRICAL SYSTEM

- Two 4D batteries & 115 amp alternator
- 24v system with master disconnect switches.
- Electric-over-hydraulic solenoids with manual override.

PROPEL SYSTEM

- Hydrostatic drive
- Continuously variable speed control with two speed ranges.
- Front-wheel steer

SPEED

- Working: 0-3.0 mph (0-4.8 kph)
- Travel: 0-9 mph (0-14.5 kph)

BRAKE SYSTEM

- Hydrodynamic disc caliper brakes, and parking brake

TIRES

- 21" (533 mm) wide x 25" (635 mm) interior diameter high-flotation tires.

OPERATOR STATIONS

- Two operator stations (left & right side) with deluxe adjustable seats.
- Operator stations can slide 16" (400 mm) out past edge of machine for visibility.
- Center control console pivots to right or left operator seat as needed.

GROUND CONTROLS

- (2) front dump hopper control boxes

FUME EXTRACTION SYSTEM

- Clearview FXS® system with dual fans to draw fumes away from operator area.

TRUCK DUMP HOPPER

- Front hopper has swivel support casters. Vibrating floor plate. 9'2" (2,794 mm) wide truck opening (adjustable width option available).
- Hydraulic, adjustable push rollers.
- Hydraulic front hopper baffle adjustable for optimal material flow.

DUMP HOPPER TRANSVERSE AUGER

- 29" (737 mm) o.d. cast, ni-hard, segmented auger.

DUMP HOPPER UNLOADING CONVEYOR (C1)

- Drag conveyor with 1,000 tph (907 mtph) capacity.
- Dual roller bushing offset link chain
- Conveyor floors lined with replaceable chrome-carbide clad wear plates.

SURGE BIN

- 25 tons (22.7 mt) storage capacity.

REMIXING AUGER IN SURGE BIN

- 29" (737 mm) o.d. cast, ni-hard, variable pitch augers

SURGE BIN UNLOADING CONVEYOR (C2)

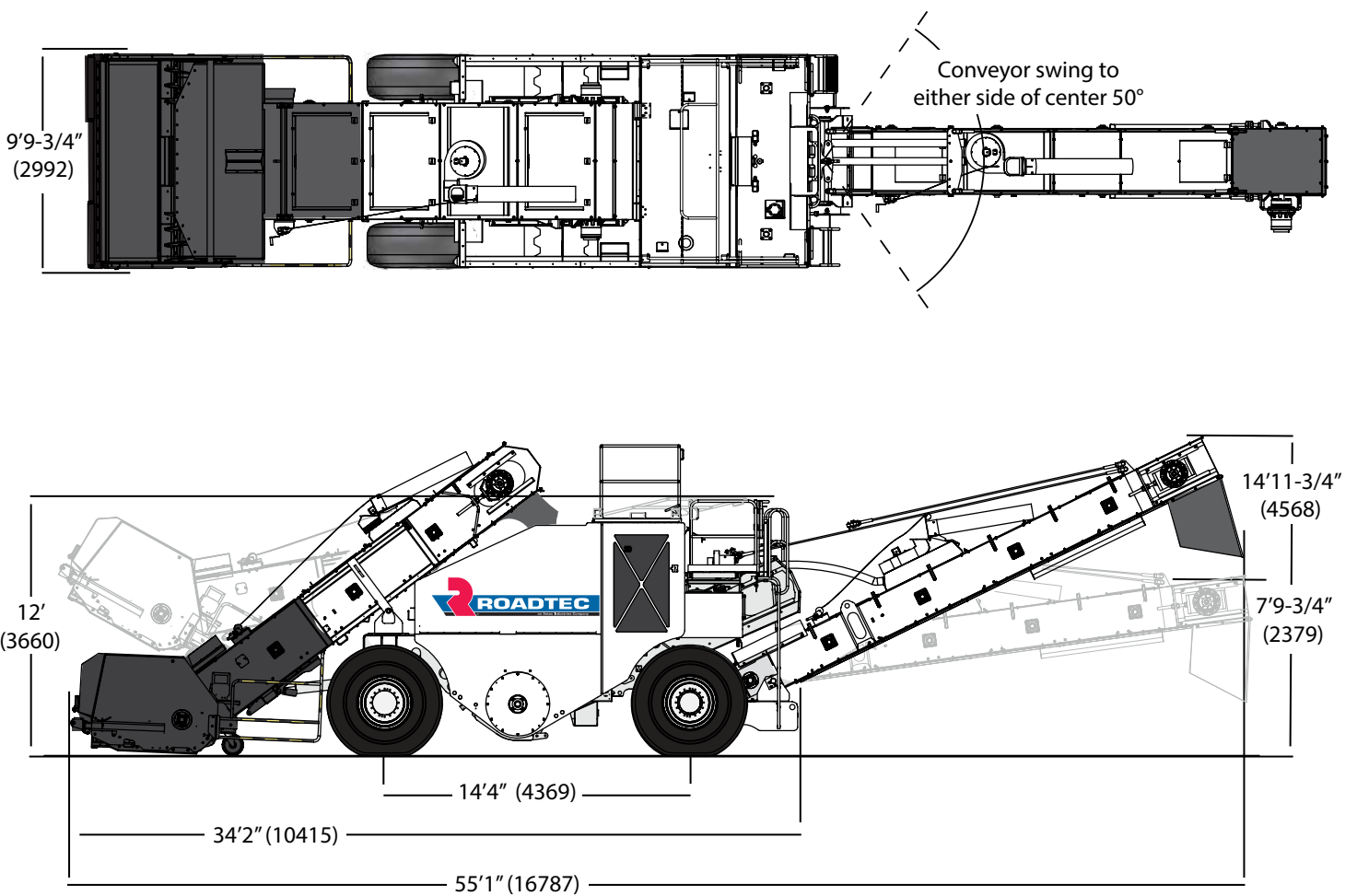
- Drag conveyor with 600 tph (544 mtph) capacity.
- Dual roller bushing offset link chain
- Conveyor floors lined with replaceable chrome-carbide clad wear plates.

PAVER LOADING CONVEYOR (C3)

- Drag conveyor with 600 tph (544 mtph) capacity.
- Dual roller bushing offset link chain
- Conveyor floors made of chromium carbide clad plate.
- Insulated conveyor floor.
- Controls interlock with surge bin unloading conveyor.
- Conveyor can be positioned up to 50° to either side of center.
- Conveyor guard rails.

SERVICE CAPACITY

- Fuel Tank 150 gal (568 l)
- Hydraulic Fluid Tank..... 96 gal (363 l)



Dimensions in brackets are mm.

Specifications are subject to change without notice.



ROADTEC an Astec Industries Company

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