



# ROC'N

REMCO OPERATORS COUNCIL NEWSLETTER

## Pump Up the Volume

### Mississippi Producer Boosts Production with Economical Crushing & Screening Solution



**Figure 1:** The aerial view of the REMco PROscreen at Dickerson & Bowen Construction site in Mississippi.

In the world of asphalt paving, contractors stay on top by maintaining complete control over the quality and delivery of the asphalt mix – while keeping costs down. That's the mission for Jackson, Mississippi-based Dickerson & Bowen (D&B) Construction, which produces and places more than 700,000 tons of asphalt per year. Founded in 1947, the company is recognized for premium paving projects that include highways, city and county roads, airports, and commercial developments throughout Central and Southwest Mississippi.

For optimum quality control and cost-efficiency, Dickerson & Bowen, under the name D&B Sand & Gravel, operates its own asphalt plants at four locations, and controls its raw materials costs by processing its own aggregate products at three mining facilities. According to the D&B management

team, the operation of its own asphalt and aggregate plants “is what sets us apart in our region.”

To meet market demand, D&B needed to boost its aggregate production, particularly at its Georgetown Plant, which had experienced crushing and screening bottlenecks due to the operation of older, antiquated equipment. Maintenance downtime had literally started to exceed plant uptime.

When the D&B management team decided to upgrade the plant, they wanted their new crushing and screening equipment to be robust and reliable, yet affordable. “We needed to find well-built units that would allow us to beef up production, while also meeting our budget targets,” says D&B Plant Foreman Keith Killingsworth. He explains that the plant upgrades began in consultation with



REMco (Rock Engineered Machinery Co. Inc.), which maintains its North American manufacturing operations and materials test crushing facilities in Livermore, California.

After working with REMco application engineers, D&B installed a REMco Series 1530 RockMax VSI Crusher. The success of the crushing circuit led to the recent installation of a new REMco PROscreen. “We’re excited about the results,” says Killingsworth. Along with eliminating the bottlenecks, and lowering operating costs per ton, he says that they have “pumped up production volumes by more than 40-percent,” while significantly minimizing the company’s capital equipment investments.

### Cost-efficient Operation

The material flow at the plant begins with washed material (either #57s or pea gravel) being fed to the 300-HP RockMax VSI, where it’s crushed into a range of products from 1/2-inch to 3/8-inch-minus. The crushed material is conveyed to a triple-deck, 6-ft. x 20-ft. PROscreen. “It’s a heavy-weight, well-braced screen that’s priced very affordably,” says Killingsworth.

He also likes that the screen is configured for grease versus oil lubrication, for ease of maintenance and reduced costs. “Our previous screen was just worn out, and we spent more time working on it than running it. Now, we’re seeing productivity and plant uptime,” he says.

With the new screen, Killingsworth explains that they can make three different products at one time. “By opening a gate or closing a flap, we can easily change out products. We’re able to stockpile 300-tons-per-hour of finished products – and that’s without even putting a full load into the crusher,” he says. Versus a volume of less than 1800-tons-per-day when operating the previous system, he says that the new equipment is processing up to 2500-tons of pea gravel daily, and “we can easily put out 10,000-tons of 1/2-inch material ‘without batting an eye,’” he adds.

As to the RockMax VSI, Killingsworth says that it had paid for itself within a year and a half. “This VSI is well-built and reliable, and it has saved us a lot on wear costs. On the old crusher, we had to change out the anvils every eight hours. On the new crusher, we change out the tips every hundred hours, and every 300-hours, we pull out the rotor,” he says.

### Engineered for reliability

“After a thorough analysis of the application, we worked closely with D&B to provide economical solutions and to optimize the crushing and screening circuits for maximum performance,” says Mike Howell, who serves as the Central Regional



**Figure 2:** The REMco RockMax Series 1530 VSI Crusher

Manager for REMco. Assisted by the REMco parts and service team, Howell provides ongoing support to producers throughout his region.

“We’ve engineered the PROscreen for reliable performance,” says Howell. He explains that the unit is designed with heavy-duty dual coil spring trunnion suspension. Its modular mechanism tube and support deck frames are secured by high-tensile bolts with self-locking nuts for easy replacement. Additionally, its vibrator mechanism is complete with heavy-duty, double-row spherical roller bearings; outbound fly-wheels with adjustable throw weights; and personnel guards.

To meet the requirements of any product sizing application, Howell says the PROscreen is





**Figure 3:** Close up view of the material being sorted through the REMco PROscreen.

manufactured in a wide range of sizes (up to 8-ft. wide and in lengths up to 24-ft.) and in one, two, three and four-deck configurations. Screen decks are available in single-crown, double-crown, or flat to suit specific screening needs.

Regarding the RockMax VSI, Howell says that its advanced technology allows the unit to cost-effectively surpass the tonnage capacities of older-style crushers. He explains that REMco VSIs are more power efficient due to the unique geometry and

variety of open and closed rotors to meet desired feed and product sizes. “Because the RockMax achieves such a high crushing velocity, it minimizes material recirculation and increases the volume of net finished product with the best particle shape,” he says.

Importantly, Howell stresses that the RockMax is engineered to deliver significant reductions in wear costs. “The unit combines extra heavy-duty vertical shaft impactor design with autogenetic (rock-lined) crushing chambers and rotors, which lowers the wear parts operating cost of the RockMax VSI to a level equal-to or less-than any fine-head cone crusher,” he says, adding that the latter applies to cost-per-ton of finished product regardless of the material or product tonnage required.

### Quality control

By employing economical crushing and screening solutions, Dickerson & Bowen can effectively retain control over the quality of the asphalt mix, providing its customers with the highest-quality finished products, while meeting budget and timeframe requirements. Its aggregate processing facilities and asphalt plants are cost-efficient and strategically located, allowing the company to remain a leader in cost-effective asphalt paving solutions.

**By: Carol Wasson (08/2018)**



**Figure 4:** The REMco PROscreen has been in operation for three years, and Dickerson & Bowen are satisfied customers.



# Just Crushin' it since 1983



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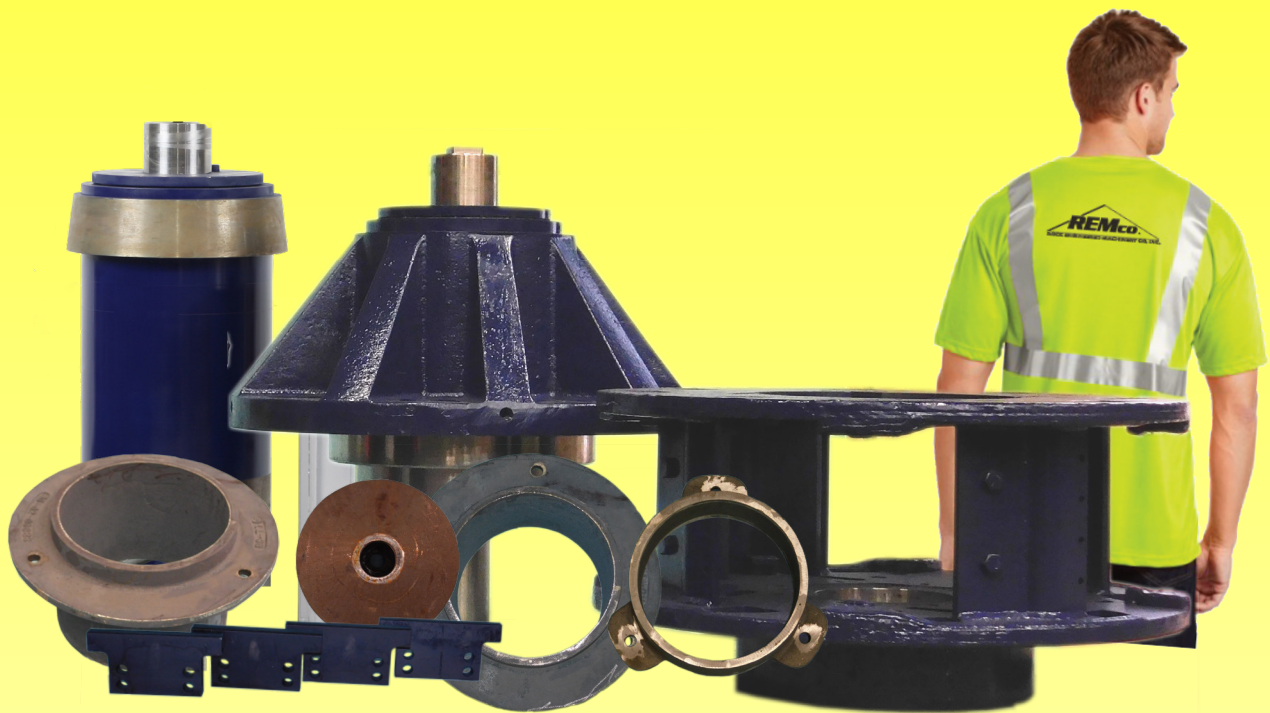
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# TECH TALK

## SERVICE AND MAINTENANCE TIPS FOR REMco CRUSHER OPERATORS

### Ignoring your REMco Safety Stickers can be costly

#### Guidelines to understanding safety stickers

All REMco crushers are supplied with a complete set of safety and information stickers. These signs are made of long lasting, weather resistant urethane laminate.

Did you know that crusher stickers are color coded? Informative stickers are green, warning/caution stickers are yellow and danger stickers are in red. Review all stickers and realize the significance of each of the warning labels. These REMco crusher safety stickers are mounted conspicuously around the crusher where operation and maintenance personnel can readily view them.

#### Why are these stickers important

**LIFT COMPLETE CRUSHER HERE.** These stickers are essential when lifting the crusher. Take care to use properly sized shackles, cables, or lifting straps and be sure that they are attached to designated lifting points on the machine. The placement of the hooks ensures that the crusher is level to avoid any damage to the crusher body. REMco recommends that a crane or similar suitable device designed for precision lifting be used for crusher servicing.

LIFT COMPLETE  
CRUSHER HERE



**Figure 1:** The proper placement of shackles on a REMco VSI to ensure machine is level when lifted.

**CAUTION: OVER-TENSIONING OF DRIVE BELT SHORTENS BELT LIFE AND MAY RESULT IN BEARING FAILURE.** Belt tensioning is the most important factor necessary for long, satisfactory v-belt operation. Too much tension results in excessive strain on: belts, motor bearings and shaft. While too little tension will result in slippage, causing heat, rapid belt and sheave wear, poor belt life and

crusher performance. The drive on new crushers or any new set of belts should be tightened at least 3 times. First, after initial no load running for a minimum of 30 minutes, second time after 2 to 4 hours of running under load and the third time after 8 hours of running under load. Using the *belt tension tester*, set the ring for the deflection and the tensioner push until the ring is even with the back of the belt. Try to get as close to the center between the two sheaves as possible to see the pound scale, adjust as needed. Do you have the correct belt tension for your REMco crusher? Contact our Technical Service Department to learn more about the different belt tension power rating.

**CAUTION:**  
OVER-TENSIONING OF  
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BELT LIFE AND MAY RESULT  
IN BEARING FAILURE



**Figure 2:** Using the belt tension tester to accurately determine the belt tension of the crusher.

**ROTATION DIRECTION.** Rotor direction is essential to the crusher's production. When any type of work is performed on a motor or starter, double check that the connection is correct to prevent the drive from going in the wrong direction. When a rotor runs backwards, excessive wear will occur on all the wear parts and rotor body. This type of error may result in catastrophic rotor and crusher damage.

ROTOR ROTATION



**Figure 3:** This was the damage created when work was done to the motor, the rotor ran backwards.

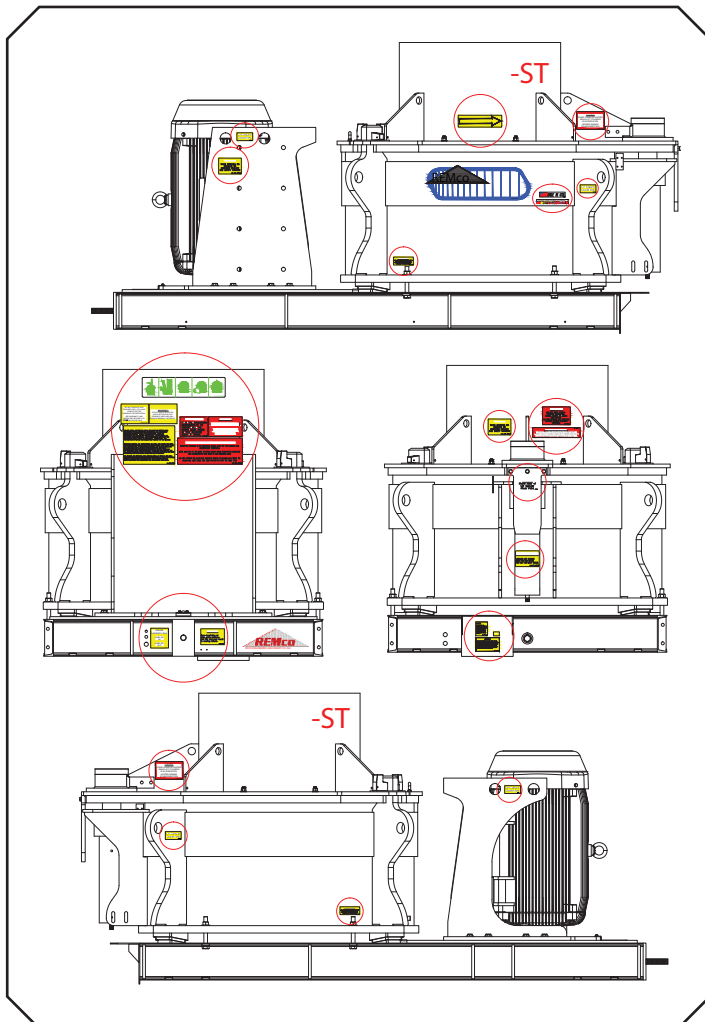


**DANGER: STAND CLEAR OF HOPPER WHILE LIFT CYLINDER IS IN OPERATION. HOPPER SWINGS EITHER DIRECTION.** All REMco models with a hydraulic open top (H.O.T) have a safety stop that will not let the hopper close or move until the operator is ready to move it. The safety sticker is a reminder that a point on the crusher lid creates a pinch point.

**DANGER:**  
STAND CLEAR OF HOPPER  
WHILE LIFT CYLINDER IS  
IN OPERATION. HOPPER  
SWINGS EITHER DIRECTION



**Figure 4:** The hopper lid moves in either direction and the safety stop allows the operator to position the lid.



**Figure 6:** Typical safety sticker placement for all REMco Single Drive VSI Crushers.

**IMPORTANT WARNING: DO NOT OPERATE THIS CRUSHER UNLESS THE DRIVE GUARD SAFETY SWITCH IS PROPERLY CONNECTED TO PREVENT OPERATION OF THE CRUSHER MOTOR WHEN THE DRIVE GUARD IS OPEN.** Safety switch must be interlocked to the main drive motor. This safety interlock prevents the crusher from starting if the belt guard were inadvertently left open, providing redundancy to existing safety procedure(s). When working on the crusher ensure that all lock out/tag out procedures are followed correctly. Be advised, the belt guard safety switch is not designed to replace your company's existing lock out/tag out procedures. Always follow your safety protocols to avoid bodily injury.



**IMPORTANT WARNING:**  
DO NOT OPERATE THIS CRUSHER UNLESS THE DRIVE  
GUARD SAFETY SWITCH IS PROPERLY CONNECTED TO  
PREVENT OPERATION OF THE CRUSHER MOTOR WHEN  
THE DRIVE GUARD IS OPEN.

**Figure 5:** Ensure that the drive guard is closed prior to running.

If any of the safety stickers are damaged, removed, painted over or otherwise obscured, it is the owner's responsibility to replace them promptly to insure continued proper and safe operation of the machine.

If your REMco crusher has stickers that are damaged or you need replacements, contact our Parts Department, Ms. Lupe Chin or REMco's toll free number (800) 782-2411 for detailed information on how to purchase new stickers. If you have technical questions, contact our Technical Manager, Mr. Jim Trinkle.

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# ANNOUNCEMENTS

We are very pleased to announce the following editions to REMco's sales team.

Daniel Ramirez is REMco's new Northern California Sales Representative. Daniel comes to us with more than 25 years' experience in the minerals processing industry working at the plant level and sales positions for consumable wear components and screen media.

**Daniel Ramirez - Northern California Sales Representative**

**Email: [dramirez@remcovsi.com](mailto:dramirez@remcovsi.com) Cell: (925) 409-0326**



Daniel Ramirez

Dan Jaques is REMco's new Southern California Sales Representative. Dan comes to us with more than 10 years' experience in the aggregate and mining industry providing sales and application expertise for capital equipment and consumable wear components.

**Dan Jaques - Southern California Representative**

**Email: [djaques@remcovsi.com](mailto:djaques@remcovsi.com) Cell: (951) 821-5532**



Dan Jaques

Both these professionals have the knowledge and integrity to help you solve your processing challenges. The rock never wins you do!

***This newsletter is produced for REMco users and its intent is to make your life easier!*** We want to hear what has been happening with the REMco crusher in *your plant*. Send us your questions, comments and job stories today!

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