



ROC'N

REMCO OPERATORS COUNCIL NEWSLETTER

Productivity Plus

A super-user-friendly cone crusher boosts production capacities & plant uptime



Figure 1: The aerial view of Cossatot Rock.

With the current uptick in aggregate demand, plant productivity gains are an imperative. The latter is driven by near-record-high construction contacts; a healthy home building market; and the potential of considerable infrastructure investments over the next five years. Consequently, many aggregate producers are keenly focused on improving all aspects of the mining operation while building substantial inventories of key products.

One such producer is Cossatot Rock, a 400,000-ton-per-year sand, gravel, and crushed aggregate producer located on a 900-acre site along the scenic Cossatot River in Southwest Arkansas. The operation ramped up its strategic crushing circuit upgrades nearly three years ago with the installation of a new REMco 4510 PROcone crusher. Before its installation, Cossatot Rock had experienced a costly production bottleneck with the operation of an older-style cone.

According to Cossatot General Manager Bobby Young, his team is consistently evaluating crushing efficiency and performance; and he says that the benefits of their new cone are significant. Young describes the PROcone as “a super-user-friendly unit” that offers ease of maintenance, and safe operation while delivering major increases in production capacities and plant uptime. Importantly, since its installation, the operation realizes a much-desired 150-percent increase in the production of its biggest selling product – its high-quality #57 concrete aggregate.

Efficient Material Flow

The Cossatot plant uses its cone as a primary crusher much of the time. “We do have a jaw, but we don’t operate it during every shift, as we found that would slow production,” says Young. He explains that from the feed hopper, oversize material (plus-6-inch) is scalped off and stockpiled to be crushed later in

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Figure 2: (left); rock fed to the REMco PROcone 4510; (right) finished product.

the jaw when needed. All minus-six-inch material is sent to the wash plant screens where it's sized and separated into 1-inch; 3/8-inch pea gravel; and sand product stockpiles.

All plus-one-inch (and up to 6-inch) material is fed to the new cone. "When we were operating our previous cone, we had to reduce the feed size as any material exceeding plus-4-inch would slow it down," says Young. "The PROcone gives us our desired output of approximately 400-tons per hour – and it easily accepts a coarser feed and produces a finer product," he adds.

Next, in a two-stage crushing process, the material is fed from the PROcone to a REMco Model 300 SandMax VSI Crusher before being sent to a finishing wash screen. "We've operated the VSI for more than 12 years. Its reliability is one of the reasons that we turned to REMco to find the right cone crushing solution for our application," says Young.

User-friendly Operation

When acquiring a new cone, Young lists the hot buttons as maximum plant uptime; production capacity; ease of maintenance; ease of setting adjustments; a user-friendly design; and greater safety.

"Reducing downtime is critical. I need maximum production to meet the demands of our 200-mile market area radius," says Young. "I need a cone that's as maintenance-free as possible. With the new PROcone, changing out liners takes less than three hours. Alternatively, turning the bowl of the older-style cone requires pulling it apart, unscrewing it, putting a cable on it, and manually cranking it. It was always a costly two-plus-day event just to get our previous cone ready to accept a new bowl and liner," he says.

As to ease of adjustments, Young says that the new cone features push-button, hydraulic controls designed to provide fast, and accurate adjustment of the closed-side setting. "We've eliminated the

Model	4510 REMco PROcone
Max Feed Size	7" (180 mm)
HP/KW Range	200 - 250 HP / 132 -160 kw
Max Lift Liner	6,600 lbs. / 3,000 kgs
Weight	25,500 lbs. / 11,500 kgs.



Figure 3: Typical REMco PROcone 4510 application specifications.

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safety hazards associated with time-consuming manual intervention in older-style cone adjustments. Currently, we adjust our cone each morning, or when we run oversize. In seconds, we can achieve a 1-1/2-inch closed-side setting, which is perfect to efficiently feed the VSI, and to maximize liner wear life,” he stresses.

Innovative Engineering & Design

According to REMco, the PROcone is engineered with a large feed opening that remains consistent throughout the life of the manganese liners. This provides a consistent feed acceptance even when liners are worn. Since no backing is required on the wear liners, change outs are fast and efficient. The unit also features hydraulic tramp iron relief to prevent damage from uncrushables, and field-changeable eccentric throw to ensure flexibility and reliability in rugged applications.

Young especially likes the simplified, maintenance-friendly design of the PROcone. “Many cones feature components typically located on the outside of the machine, such as baffles and cylinders. On our unit, all components are internal, which eliminates the excessive wear and tear that’s common to external components.”

Most importantly, Young emphasizes the need for crushers designed with greater safety in mind. “Our cone crusher is the safest unit I’ve ever operated – and that’s due to its engineering and design. While even some newer cones are quite a chore to take apart, the PROcone is easy to disassemble. Other cones often require many hours of being ‘dangerously harnessed’ over, in and around the machine while completing



Figure 4: The REMco PROcone 4510 in operation. The PROcone is engineered with a large feed opening that remains consistent throughout the life of the manganese liners.



Figure 5: (left to right) REMco's Central Regional Manager Mike Howell and General Manager of Cossatot Rock Bobby Young.

maintenance tasks.” Additionally, he adds that the cone is mounted on “a well-built, well-engineered stationary frame, which allows plenty of room for maintenance workers; and well-designed catwalks keep the crew safe.”

Maximum Performance

“The PROcone is another tool we offer to optimize the crushing circuit for maximum performance,” says Mike Howell, who serves as the Central Regional Manager for REMco. The company’s headquarters, North American manufacturing operations, and materials test crushing facilities are based in Livermore, California. Howell and the REMco parts & service support team work closely with Cossatot Rock on an ongoing basis. “After thorough analysis of the application, we can provide a very affordable crushing solution that easily tackles coarser material while delivering ease of operation, higher production, and lower operating costs. Cossatot processes the highest quality base products by utilizing the PROcone and SandMax VSI Crusher in combination – and they have dramatically increased sales due to the quality and particle shape of the finished material,” he says.

Industry forecasts indicate that the next five years look good for total aggregate demand. With that in mind, Cossatot Rock has made significant strides in crushing performance and efficiency, positioning it to continually supply customers with all the quality products they need, just when they need them.

By: Carol Wasson (08/2017)

REWARD



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TECH TALK

SERVICE AND MAINTENANCE TIPS FOR REMco CRUSHER OPERATORS

Converting from Grease to Oil Lubrication

Do you currently have a grease lubricated machine and want to know how to switch to an oil lubricated system? If the answer is "YES", then you are in LUCK.

What is a REMco 3.0 oil lubrication unit?

REMco's new and improved compact 3.0 Oil Lubrication System commonly referred to around the factory as "oil cube 3.0" is the latest generation of lubrication for REMco VSI crushers.

Seven years in development, it is designed as an independent dual pump system for both lubrication of the crusher's main-shaft bearing and hydro-

lift pump. Packed with standard features such as exterior circulating oil pump and motor; pre-wired safety systems for over-temperature, oil flow; tank thermometer; 40 gallons baffled reservoir; oil level gauge; pressure gauge; bypass valve; filtered air breather; and self-closing inspection/fill lid.

Optional accessories include thermostatically controlled silicon pad tank heater and oil-to-air heat exchanger. Oil cube 3.0 also includes an independent 2 hp external hydraulic pump for the hydraulically opening crusher feed hopper complete with flow control valves, pressure control valve, pressure gauge, and electronic control solenoid valves.



Figure 1: Typical REMco oil cube with a REMco VSI unit in the field.



Now for the interesting part, REMco has available oil lubricated MK and BC style bearing cartridges which will allow you to retrofit your grease lubricated 7500, 8500, 9500, 300, 400, 500 or 800 hydraulic opening REMco crusher or it can be ordered without the hydraulic system should you be interested in retrofitting an older millennium series REMco like the 7000, 8000, 9000 or super 100.

Why switch to oil lubrication?

Since their introduction in 2006, REMco's oil lubricated machines have experienced significantly longer service life (12,000 hours to 15,000 hours) before changing the oil seals. Bearings run cooler, operate smoother and experience less dramatic heat rise than the older grease lubricated bearing cartridges which is why the bearing life is longer and more reliable.

Maintenance on the new REMco oil cube 3.0 is fast and easy: change the oil filter every 500 hours; check and clean the trash filter every six months; grease the labyrinth seal every 40 hours; and change the oil every 1,000 hours. Oil requirements are simple, REMco recommends Chevron Rando 32 or equivalent for standard operation and Rando 68 in extreme heat.

The system can be used in warm or cold climates with the addition of the oil tank heater and oil-to-air heat exchanger which keeps oil at the right temperature for operation in most geographic locations.

Likewise, if you have hot material to feed the crusher, the circulating oil system will keep the bearings cool with an oversized air to oil heat exchanger.

Oil lubrication allows operation of the crusher in severe applications requiring higher speeds when making very fine products.

Can I convert my unit in the field?

All of the systems on the oil cube have been tested for fit, function, safety, and conformity at the factory to ensure it is ready to run once it is at your plant.



Figure 2: 3D model showing the oil system mounted lower than the crusher for gravity return of the oil.

Retrofit of older grease lubricated units can be done in the field with the supervision of a REMco field service technician. Our technician will instruct your personnel on what to do and how to do it and usually takes about 8 to 12 hours.

Is there additional maintenance with this system?

Of course, if your traditional grease lubricated bearing assembly isn't broken, don't fix it. However, if you think that a change to oil lubrication has benefits for your operation; call the REMco guys to see if a switch might be right for you.

Our next tech tip will be a three part series on all things rotor - selection, tuning, and balancing.

UPCOMING EVENTS



Proman Infrastructure Services Pvt. Ltd. is a company formed by a group of professionals with extensive experience in Crushing, Screening and Heavy Equipment and is REMco's business partner in India. **Proman Infrastructure** has been our local exclusive authorized licensee for REMco products in India since 2001 and is the standard bearer for VSI excellence in the region.

Join us in supporting **Proman Infrastructure**, as they will be exhibiting at the **EXCON 2017** with their full product range which includes the REMco VSI, PROcone, PROscreen to name a few in Bengaluru, India December 12 - 16, 2017. This is the 9th International Construction Equipment and Construction Technology Trade Fair in Asia with over 500 local and international exhibitors and over 30,000 visitors.

ANNOUNCEMENTS

We are pleased to announce the following employee promotions as of August 1, 2017:

Mr. Terrence Costa has been promoted to REMco's National Sales Manager. He began his career with REMco in 2000 working as a temp employee in our Shipping and Receiving department and has been promoted to Inside Sales Manager and California Regional Sales Manager during his career with us.

Mr. Jason Desrosier has been promoted to Buyer's Assistant from Inside Sales Assistant. Mr. Desrosier was hired into REMco's Shipping and Receiving Department in 2005 and later promoted to Inside Sales Assistant.

Mr. Rigo Ramirez has been promoted to Inside Sales Assistant. He began his career with REMco in 2013 as a temp employee in Shipping and

Receiving, and quickly moved to the Production Department where he spent some time in each of several assembly areas until this recent promotion into the offices.

Please join with the REMco staff in welcoming them to their new positions.



(left to right) Jason Desrosier, Terrence Costa, and Rigo Ramirez

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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