

Multi-Ripper Products

The Leading Edge Attachments, Inc.'s "SHARC™" (SHanks on an ARC) Multi-Ripper™

Products are construction equipment non-hydraulic attachments that are used in place of hydraulic hammers for ripping rock or frost. These unique patent pending designs have demonstrated that *they can break rock up to 4 times faster than a hydraulic hammer and dig up to 10 times faster than using a single pointed ripper tooth*. The performance exceeds any other design of rock ripping tool ever developed. This design is also used for the purpose of wall and roof rock scaling, and for use in rock quarries. The Multi-Ripper Bucket version is the undisputed most productive combination ripper and bucket ever developed. The Multi-Ripper products are constructed with tough Swedish HARDOX 400 steel, use conventional replacement teeth, and they are currently available to fit any excavator or backhoe above 6,000 pounds.

Multi-Ripper Products are innovative because each version of the attachment functions similarly to that of a trencher except it uses the excavator rolling action to rip. These tools work amazingly well on a wide range of severe material applications such as excavating frozen ground, coral, sandstone, limestone, shale, decomposed granite, caliche, asphalt and concrete. The staggered ripper teeth fracture the substrate in sequential order. No two ripper teeth align with each other, so that the maximum breakout force is applied sequentially to each tooth. The Multi-Ripper is considerably shorter thus causing the force multiplication effect. For example, the breakout force generated using the standard bucket on a Caterpillar 330 is 51,000 pounds shared across the five bucket teeth, or 10,200 pounds per tooth. The Multi-Ripper on the same machine, due to the shorter length generates 79,000 pounds of breakout force and, through one tooth at a time.

That means that the tooth tip force is almost 8 times that of a standard bucket. Also, when the first tooth breaks out a chunk, the second tooth is there to come slamming down like a hammer ripping out the second chunk, and then the third tooth does the same due to machine momentum. The result is a relatively flat trench bottom due to the fact that the ripper tooth tips all lie on a constant radius with a center of rotation that is close to the tractor loader backhoe or hydraulic excavator "dipper stick" bucket pivot. The Multi-Ripper Bucket scoops all material that has been ripped so that there is little ripped material left in the trench. The tools are wider than the excavator stick so the operator can rip very deep while being able to rip the sides of the trench flat. This is not possible with a single pointed ripper or a rigid mounted hammer. This method is very productive and will greatly extend the life of the machine and buckets. Hundreds of these tools have been sold and many operators have claimed "this is the best attachment that I ever bought."

Multi-Ripper Products are used in place of hydraulic hammers or single pointed rippers and they are more productive and cost less to purchase and to operate. Hydraulic hammers are very expensive to purchase and operate and cause severe wear on the machine. For example, a hammer for a Caterpillar 330 machine is between \$75,000 and \$100,000 and the Multi-Ripper is \$8,490. Hammers also require hydraulic kits mounted on the machine that are very expensive to install and hard to maintain. The hydraulic hammer breaks rock into rough chunks and the Multi-Ripper rips out smaller uniform chips that are easily removed and transported. Hydraulic hammers are slow with one speed (tink-tink-tink) while a Multi-Ripper can rip rock up to four times faster.

The original Multi-Ripper was developed in 2002 as a low cost backhoe attachment to be used to rip caliche rock to help dig footings at a job site near Phoenix Arizona. The Multi-Ripper then won *Construction Equipment* magazine's to 100 products of the Year award for 2003 and *Construction Site News'* "Top 25 Products of the Year". The Multi-Ripper Bucket development followed. Leading Edge Attachments, Inc. is currently licensing the product to Wedgelock LTD in New Zealand for manufacture and sales in New Zealand and Australia and working with another potential licensee in Switzerland for the European market. Other Multi-Ripper products such as the Multi-Ripper Rake, the Skid Steer Multi-Ripper, The Multi-Ripper V-Bucket and The Multi-Ripper Skeleton Bucket are all in the process of being introduced to the market. In the future this concept is expected to be used on many other styles of buckets for excavators, backhoes, skid steer loaders and wheel loaders.

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Presents the Award Winning Excavator

Attachments,

"Multi-Ripper"™



and the

"Multi-Ripper Bucket"

*Breaks rock or frost
4 times faster than a hammer,
at a fraction of the cost*



*Rips the sides and bottom
of the trench flat,
with no depth limitation*

*Owners Claim: "I haven't
used a hammer since!"*

*Your excavator will work like a trencher,
applying the maximum breakout force individually to each tooth,
(approximately 8 times that of a standard 5 tooth bucket,) using our patent pending "Staggered Shanks on an Arc" technology*

