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Design features set Allied-Gator MT Series Multi-Tool apart

"With 89 U.S. and foreign patents pending on the Allied-Gator MT Series Multi-Tool, it's hard to isolate specific features that set it apart in a marketplace crowded with other shears and concrete processors," says Michael Ramun, marketing and sales representative for Allied-Gator. "But there are three design principles that differentiate the MT Series Multi-Tool from its competitors."

First is the tool's power dynamic. "Other shears and cracker/crushers are limited by their power curve and achieve maximum power somewhere early in their duty cycle," Ramun says. "This is because the angle between the hydraulic cylinder and the jaw varies throughout the stroke, which results in a 'sweet spot' in terms of mechanical advantage. Ahead of and behind that sweet spot, power falls off."

The Multi-Tool's Power-Link and Guide System works as a pair of levers to power the jaws of the tool. "Due to the force generated by this system, there is an ever-increasing power slope rather than a power curve," Ramun says, "resulting in a power efficiency that does not rely solely on hydraulic power. From a fully open jaw position, this design's high initial force increases continually as the jaws close."

The real-world advantage, according to Allied Gator, is that when the attachment gets any purchase on its first attack, it will complete the job. "If you squeeze out on a concrete wall and it doesn't break initially, that doesn't mean it's not going to," says Doug Jordan, president of DMJ Contracting in Olympia, Washington. "As the jaws close a little bit, a chip will come off and the force actually increases, giving you more breaking strength." Jordan says with other tools he's used, he often had to take them completely off the material and find a new angle of attack, sometimes more than once, before finding a spot vulnerable enough to make headway. "With the Multi-Tool, when that one chip comes off you can actually feel the pressure increase and all of a sudden it just squeezes right through," he says.

That advantage is just as great when using the shears, according to Steve Wright, site supervisor for L&C Services in Anchorage, Alaska. "The Multi-Tool does the same work as another attachment we were using, but it's half the size and weight," he says. "On one job we were cutting 2-foot I-beams with the 4,500-pound Multi-Tool. I'd take a bite, turn the tool and take another bite so I had a notch. Then I'd just reach down through the notch and pinch off the whole beam."

The second design principle is the ease with which the jaw set can be changed from a shear to a cracker/crusher. "There are only six pins to be removed and replaced and no hose lines to drop and re-attach," Ramun says. Allied-Gator claims the changeover can be accomplished in as little as 15 minutes under optimal conditions, but the switch takes no more than 30 minutes, according to Jordan. "An added benefit to this modular system is that the tool rotates 360 degrees," Ramun adds. "And the unit never needs hub

adjustments."

Allied-Gator has designed the wear parts for easy replacement. Changing from cracking to crushing concrete is as simple as adding or removing teeth on the jaws. This saves time and lowers tool costs.

With the hydraulics tucked into the main body of the Multi-Tool, the cylinder and rod are fully protected. "Because there are no hydraulic lines to handle while changing the jaws of the Multi-Tool," Ramun says, "the risk of getting contaminants into the machine's hydraulic system is eliminated."

The third design feature is the cast steel construction of the attachment. "Other tools are made of welded plate," Ramun says. "The problem with welded plate is there are spots where forces congregate (stress risers), which leads to cracks and failure. The structure of cast steel is denser and more uniform, so forces are more evenly distributed and fractures are virtually eliminated."

Wright is quick to mention a couple of benefits beyond power, ease of use and durability. "Compared to a jackhammer or hydraulic breaker, we have much less noise," he says. "That's good for our employees, and it's good for the communities where we're working."

"Also, the Multi-Tool makes it quick and easy to process material so we can pull out steel, concrete and other recyclables. We send much less material to the landfill, and that really reduces our disposal costs."

The MT Series Multi-Tool is available in tool weights ranging from 700 to 40,000 pounds.

