

Making The Cut

Comparing Genuine Toro® Parts To Will-Fit Parts

We've all had to replace something at one time or another, maybe as simple as a standard light bulb or a plumbing fixture. And in every case, we counted on these standard parts being the exact size and shape.

Users of Toro equipment are familiar with such a situation. Inevitably, moving parts and cutting blades eventually need to be replaced, so Toro offers a complete line of top-quality aftermarket components. All Toro parts are carefully manufactured with the same rigid specifications and superior materials as our original equipment, assuring you of continued reliable performance with every Toro machine.

However, other companies have tried to copy Toro replacement parts and promote them as being equally good. That might be tempting to an unsuspecting superintendent who thinks he can save a buck or two up front, but it could cost him a lot more in the long run.

"Frankly, those parts would have ended up in our scrap tub had they been produced here at Toro," says Rick Olson, describing the knockoffs. And that's not just a casual opinion, either.

Comparison Testing

Olson is Director of Operations at Toro's manufacturing plant in Shakopee, Minnesota. Shakopee is where Toro's cutting components and many other elements are made, and Olson recently oversaw a number of studies comparing genuine Toro parts to those of other companies.

For example, Olson and his team conducted thorough quantitative evaluations of the copycat parts, including studies by independent laboratories. The specific items examined were bed

knives for Toro® Reelmaster® and Greensmaster® riding mowers. "We took the copied knives and ran them through our quality control system as though we had manufactured them, and then saw what the results were,"

Olson explains. "From a geometric standpoint, there were quite a number of features that were not to Toro's specs. In total, we came up with 12 criteria that the parts would have been rejected on, had they been built here in Shakopee," he says. "12 different features. There's no question about it, they never would have made it out of our building."

The comparative testing covered specific physical properties and geometric dimensions of the parts as well as metallurgical evaluations of the material used to make the knives.

"There were actually about 50 characteristics, if you add them all together, that we looked at," says Olson.

"The physical characteristics of every part feature were examined—for example, flatness of the knife, true position of the mounting holes and the characteristics of the chambers on those mounting holes. Features that interact with mating parts are particularly critical," he says.

A Precision System

"With Toro equipment and parts, everything is designed to go precisely together. A cutting unit is a precision instrument," Olson adds emphatically. "It is designed as a system."

Naturally, with any carefully designed mechanism, if one part is slightly off it can mess up everything else in that piece of equipment.

"It is really specific for each of those features," continues Olson. "For example, If the chamfered mounting holes are not located correctly, you may not be able to mount the knife without some interference of the hole. If you were able to successfully tighten the knife to the bed bar, it would cause distortion in the knife and that leads to distortion in the cutting edge and that leads to a very difficult adjustment between the bed knife and the reel. That would affect the quality of cut," Olson sums up. "It would also make it more difficult to adjust and could affect the life of the reel or the knife."



Rick Olson, Director of Operations at Toro's Shakopee, Minnesota plant, carefully inspects a part for defects.

In the turf industry, each manufacturer makes customized parts designed explicitly for the performance of each machine. Only original equipment manufacturers understand all the elements of form, fit and function of customized parts.



Toro uses advanced techniques to test the quality of equipment parts.

Manufacturing Quality

On many occasions during the tests, evaluators found discrepancies or shortcomings in the specifications of the copied bed knives. Obviously, in an attempt to offer a cheaper-priced substitute, the other companies had to sacrifice quality in their manufacturing process.

“Here’s a pretty good example,” Olson offers. “Toro spends a lot of effort to get straight knives. As a part of the heat treating, there is an almost unavoidable

“Will-fit parts manufacturers clearly don’t understand how our part is made.”
– Rick Olson

warpage that will occur, because the heat treating process heats them up and quenches them in a cold bath afterwards. That shock to the material causes warpage that’s really difficult to avoid, if not impossible. Toro puts forth the time, effort and cost to recover that straight edge. In contrast, we found that the other knives had the warpage still in them from their heat treatment. The manufacturer includes a note in their package that says, ‘... any inconsistency

in the straightness of the bed knife will be removed when mounted on the bed bar.’ They are essentially saying that this may be a curved knife now, but once you get it mounted up to the bed bar, don’t worry about it.

“That is a completely different approach than we take,” adds Olson. “We expect our knives to be straight before they are mounted to the bed bar. As you can imagine, there is a big difference in the cost incurred with those two methods,” he says.

Overlooking the Details

“Another example would be the problems with chamfered diameters. If they are even slightly undersized, the mounting screws will not be flush with the bed knife when tightened. The screw head sticking out a little bit can cause turf damage or quality of cut issues,” Olson adds.

Part of the basic problem with the copied parts is simply that: they’re just copies. In other words, they were developed without any knowledge of the original design intent, including the correct dimensions and tolerances.

“Will fit parts manufacturers clearly don’t understand how our part is made,” Olson says, referring to one of the bed knives. “They simply tried to copy it geometrically. For example, there is a scallop that is designed into our knives. They mislocated it, not understanding what the purpose of it was. By just copying the part, they really missed what the purpose of the feature was.

“We put a great deal of effort into qualifying a particular knife and reel combination,” continues Olson. “If you install these copied knives, the results will be unpredictable.”

More Key Differences

In addition to problems with physical dimensions and specifications, the studies showed metallurgical differences between Toro knives and their copied versions.

“The metallurgical study looked at the



Toro performs exhaustive tests on bedknives and has found that genuine Toro parts are superior.

material make-up, micro-structure, micro-hardness and other characteristics,” Olson says, “We again found that the imitation knives did not meet design specs. It is not material that was designed and qualified for that system.”

What’s more, a number of the non-genuine parts were imitations of parts which Toro no longer even makes. By the time the knockoff item got to market, Toro engineers had already come out with a better one.

“Some of their knives were copies of obsolete Toro designs,” Olson says. “They were several years behind.”

Imitations Not Worth the Risk

Of course, there’s no way to examine every imitated Toro part, but based on the conclusions of these tests, the copied bed knives did not meet the standards Toro sets for its equipment and components.

To keep your Toro equipment operating at peak efficiency with long-term dependability, always install genuine Toro parts. It’s definitely worth it, both for the machines and for the quality of your golf course. Why take a chance on turfgrass damage or equipment downtime?

“Maybe you can save a few bucks up front, but you’re putting your cutting unit at risk,” Olson concludes. “The right things happen with the right parts.”