



Ceres Turf, Inc.

## CTI Sales Bulletin

September 2, 2011

### Debunking the R&R Myth

Over the past few weeks we have received a number of calls regarding how CTI tines compare with the R&R offering. I'd like to debunk a myth we keep hearing → *that R&R tines always cost less*. First, you have to understand a few technical issues. The first is that *how* a tine is made and has a direct impact on how it will *perform* (read this as longevity). R&R has several grades of tines in their offering at vastly differing prices...this has little to do with their design or the quality of workmanship. But it has everything to do with *what it is made of* and the *manufacturing process*.

The first grade, and least expensive, is their 'Standard' tine. It is made of a hollow tube, low carbon steel (whether it is a side-eject or top-eject) and costs in the \$2.40-2.80 range. It has thin walls (~0.045"), is made of 1005 or 1010 level steel and will typically only last about 3 greens. This was the type of tine everyone used prior to 1998; before carbide tips were introduced. The tapered nose is made by 'swedging'. This is a process of driving the nose into a 'dye' that crimps it into the tapered shape. This imparts a stress into the metal that can weaken it *and* cause it to wear out prematurely.

The second type of tine is their "Hollow Alloy" (both top-eject and side-eject). This is made of 'tubular' alloy steel. However not all alloys are the same. 'Hollow' (tines with a hole all the way though) are of 4130 alloy and are 'swedged', with all the imparted issues listed above. 4130 steel which has 25% less carbon which limits the tempering process. All things being equal, a tine made of 4140 will outlast one made of 4130. These typically cost \$5-5.85 each. We do not make tines like this.

The third type is their "Machined Alloy" tines. These are solid rod 4140 steel...just like all of our tines. They last longer than the hollow alloy tines and cost more to make. Since we 'mill' our tines out of solid rods, we can control all dimensions and intentionally add additional material where needed. Hollow tube tines will always have the same wall thickness throughout.

So, how do these tine stack up against similar CTI tines in cost?

CTI **1S-626075** [5/8 X 6" / 3/4" Mt., 0.65" wall] cost **\$7.75** each → solid 4140 alloy steel.

R&R **R201537** [5/8 X 5.5" / 3/4" Mt., 0.65" wall] cost **\$8.20** each.\*

\*see the R&R page scans that are attached

The CTI tine is 1/2 longer and cost \$ .45 less! So R&R's always costing less is a myth. You can do your own comparison with the 3/8" & 1/2" coring tines...ours costs less as well. I've included the tine offering for the Toro 648 here but the same differential is exists across the entire R&R line.



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## Replaces Toro ProCore 648 Parts Aerating Tines

### Standard Hollow Tines

Designed to remove a soil core, R&R Standard Hollow Tines are constructed from case hardened tubular steel and are the most economical tines available. Case hardening hardens the inner and outer surfaces of the tine wall to over RC55 for added wear.

R&R Part No.	Tine Description	Mount	Length	Tip O.D.	Tip I.D.	Wall Thickness	Discounted Price Each
R104-0984	Hollow, Standard	.750"	5.750"	.660"	.500"	.062"	2.20
R105-1180	Hollow, Standard	.750"	6.500"	.520"	.350"	.062"	2.10
R106-8943	Hollow, Standard	.750"	6.500"	.650"	.500"	.062"	2.05

### Alloy Hollow Tines

Like Standard Hollow Tines, this line is also tubular and designed to remove a soil core, but they are constructed from a special high carbon alloy steel. The steel tubing is specially manufactured for R&R to achieve uniform hardness of RC45-48 throughout the tine for excellent wear and toughness. These tines are much tougher and resist bending in extremely hard or rocky soils and you can expect 3-4 times longer life than from the Standard Hollow Tines.

R&R Part No.	Tine Description	Mount	Length	Tip O.D.	Tip I.D.	Wall Thickness	Discounted Price Each
R108-9128	Hollow, Alloy	.750"	4.750"	.470"	.300"	.058"	3.70
R201640	Hollow, Alloy	.750"	4.750"	.515"	.300"	.072"	4.25
R201591	Hollow, Alloy	.750"	4.750"	.530"	.400"	.049"	4.15
R108-9129	Hollow, Alloy	.750"	4.750"	.570"	.400"	.058"	3.65
R201642	Hollow, Alloy	.750"	4.750"	.600"	.400"	.072"	4.25
R108-9130	Hollow, Alloy	.750"	4.750"	.660"	.500"	.058"	3.70
R201644	Hollow, Alloy	.750"	4.750"	.670"	.500"	.072"	4.25
R201592	Hollow, Alloy	.750"	4.750"	.680"	.550"	.049"	4.15
R108-9132	Hollow, Alloy	.750"	5.750"	.470"	.300"	.058"	3.80
R201648	Hollow, Alloy	.750"	5.750"	.515"	.300"	.072"	4.45
R108-9133	Hollow, Alloy	.750"	5.750"	.570"	.400"	.058"	3.90
R201650	Hollow, Alloy	.750"	5.750"	.600"	.400"	.072"	4.45
R108-9134	Hollow, Alloy	.750"	5.750"	.660"	.500"	.058"	3.90
R201652	Hollow, Alloy	.750"	5.750"	.670"	.500"	.072"	4.45
R108-9138	Hollow, Alloy	.750"	6.500"	.470"	.300"	.058"	4.05
R201656	Hollow, Alloy	.750"	6.500"	.515"	.300"	.072"	4.65
R108-9136	Hollow, Alloy	.750"	6.500"	.570"	.400"	.058"	4.05
R201658	Hollow, Alloy	.750"	6.500"	.600"	.400"	.072"	4.65
R108-9137	Hollow, Alloy	.750"	6.500"	.660"	.500"	.058"	4.15
R201660	Hollow, Alloy	.750"	6.500"	.670"	.500"	.072"	4.65



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### Magnum Nozzle

Solid Metal Industrial Nozzle • See page 246





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- Athletic Field
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- Work Wear
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- Tools

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## Replaces Toro ProCore 648 Parts Aerating Tines

### Carbide-Tipped Machined Alloy Side Eject Tines



These alloy tines remove a soil core which quickly exits the side of the tine through a precision machined slot. This slot is designed to avoid "plugging" that can occur using hollow tubular tines (especially the smaller diameters) in heavy soil conditions. R&R manufactures a wide selection of these side-eject tines machined from special high-carbon alloy steel solid bar and heat treated to RC45-48 in our own heat treating facility. A carbide tip is then added for even longer life. The advantage of using carbide tipped tines is the ability to maintain your maximum aerating depth consistently over the life of the tines.

R&R Part No.	Tine Description	Mount	Length	Tip O.D.	Tip I.D.	Wall Thickness	Discounted Price Each
R201665	Side Eject, Machined Alloy - Carbide Tipped	.375"	3.500"	.400"	.300"	.049"	9.85
R201667	Side Eject, Machined Alloy - Carbide Tipped	.375"	3.500"	.545"	.400"	.062"	9.85
R201669	Side Eject, Machined Alloy - Carbide Tipped	.375"	3.500"	.645"	.500"	.062"	9.85
R201666	Side Eject, Machined Alloy - Carbide Tipped	.375"	4.500"	.400"	.300"	.049"	10.05
R201668	Side Eject, Machined Alloy - Carbide Tipped	.375"	4.500"	.545"	.400"	.062"	10.05
R201670	Side Eject, Machined Alloy - Carbide Tipped	.375"	4.500"	.645"	.500"	.062"	10.05
R201695	Side Eject, Machined Alloy - Carbide Tipped	.750"	3.500"	.645"	.500"	.062"	10.05
R201696	Side Eject, Machined Alloy - Carbide Tipped	.750"	4.500"	.645"	.500"	.062"	10.05

### Machined Alloy Side-Eject Tines



These alloy tines remove a soil core which quickly exits the side of the tine through a precision machined slot. This slot is designed to avoid "plugging" that can occur using hollow tubular tines (especially the smaller diameters) in heavy soil conditions. R&R manufactures a wide selection of these side-eject tines machined from special high-carbon alloy steel solid bar and heat treated to RC45-48 in our own heat treating facility. These side eject tines are very popular for the multiple tine holders which fit all greens aerators.

R&R Part No.	Tine Description	Mount	Length	Tip O.D.	Tip I.D.	Wall Thickness	Discounted Price Each
R100-3625	Side Eject, Machined Alloy	.375"	4.000"	.360"	.236"	.062"	4.65
RMT4940	Side Eject, Machined Alloy	.375"	4.500"	.320"	.200"	.049"	5.10
R201632	Side Eject, Machined Alloy	.375"	4.500"	.450"	.315"	.065"	5.10
R201633	Side Eject, Machined Alloy	.375"	4.500"	.565"	.435"	.065"	5.10
R201521	Side Eject, Machined Alloy	.750"	4.500"	.350"	.250"	.049"	5.40
R201522	Side Eject, Machined Alloy	.750"	4.750"	.350"	.250"	.049"	5.40
R201535	Side Eject, Machined Alloy	.750"	5.500"	.450"	.300"	.065"	8.20
R201536	Side Eject, Machined Alloy	.750"	5.500"	.550"	.400"	.065"	8.20
R201537	Side Eject, Machined Alloy	.750"	5.500"	.650"	.500"	.065"	8.20

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