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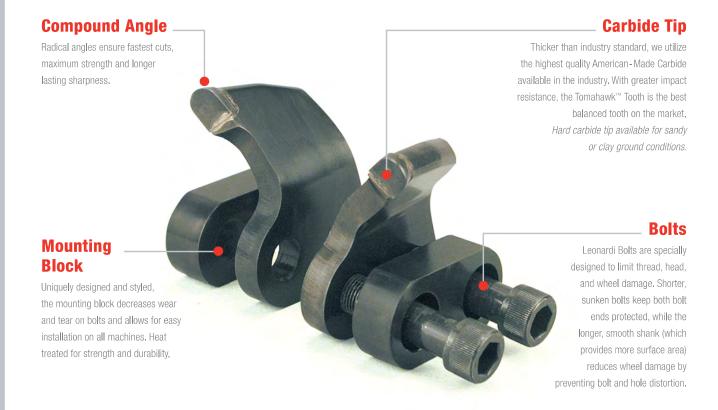
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Tomahawk[™] Teeth: Features

Tomahawk[™] Teeth are the fastest cutting teeth on the market. They have been proven effective on machines exceeding 180 HP. Tomahawk[™] Teeth are recommended for customers who are looking for convenience, increased strength and speed. Also, beneficial on smaller machines (25 HP) by increasing the cutting efficiency.







Tomahawk[™] **Teeth:** Benefits

Cutting Rate and Strength

Tomahawk™ Teeth boast the highest performance both in cutting rate and strength.



Why? The Tomahawk[™] Teeth's uniquely designed double cutting angle provides strength and durability by slicing through stumps rather than pounding your equipment.

Installation

Tomahawk™ Teeth install in under one minute.



Why? The simple construction of Tomahawk[™] Teeth and mounting block eliminate the need for gauging and teeth set-up, which saves time on the job.

Cross-Over Configurations

Tomahawk™ Teeth come in interchangeable Left, Straight and Right teeth, allowing for Cross-Over Configurations, which are recommended in all wheel set-ups. There are no special teeth or set-ups required with Leonardi teeth.



Why? Cross-Over Configurations allow for plunge cutting, which is optimal for efficient stump removal in difficult or confined job environments (buildings, sidewalks, sheds, curbs, etc.).

The Mounting Block

The Tomahawk™ Tooth has reversible mounting blocks which enables installation on either side of the wheel.



Why? This allows for quick and easy interchangeability of hardware, enabling faster replacement of teeth in the field, and greater efficiency on the job — bolts can be installed from either side of the wheel, wherever there are minimal obstructions (drive unit, guards, pulleys, etc.).

Tomahawk[™] **Teeth: vs. The Competition**

On: Pocket Replacement and/or Removal

Other brands do not fit in many wheel locations because they are oversized and overlap consecutive teeth locations. In many locations, removal of the pocket is required to change the tooth.



Why? The compact design of the mounting block avoids teeth overlaps in consecutive locations in all machine configurations.

On: Torque

Other brands need large amounts of torque to install teeth because they utilize rough and mismatched forgings (275 ft. lbs for competition vs. 150 ft. lbs for Tomahawk).



Why? Our teeth require less torque to remove because we utilize precise manufacturing processes, which means better fitting parts. This makes field changes faster and easier.

On: Tooth Chipping

In indexed teeth, one impact can result in losing all other indexes, can crack or chip teeth and prevent usage.



Why? Non-Indexed, the Tomahawk's[™] angled design and carbide tip allow for increased durability and strength, combined with faster and sharper cuts.

On: Pounding

With very little wear an index is required or the grinder will pound instead of cut.



Why? One Tomahawk™ lasts longer than all 3 indexes of the other brand's tooth combined, without the added labor and time to index the other tooth 3 times. Also, the Tomahawk™ cutting rate is 1/3 faster than the competition.

Leonardi Tomahawk[™]: vs. The Competition

On: Crossovers



Tomahawk bolts can be installed from whichever side of the wheel you have better access to.

The teeth can also be installed from either side to create a crossover by simply installing a tooth on the opposite side of the wheel. Crossovers are used for plunge cutting.



This other brand will not allow for plunging or use of crossovers as they only install one way.

On: Bolt Issues



Tomahawk bolts are recessed and protected within the mounting block which allows teeth to be removed and changed faster and with less effort.



Another problem with this other brand is that the bolts are sticking out of the tooth which will allow them to become damaged or mushroomed over and prevent or delay tooth removal.

Leonardi Tomahawk[™]: vs. The Competition

On: Impact Survival



Broken Bolt

If solid debris is struck the other brands teeth will spin and ruin not only the tooth but the pocket and bolts.

Pocket and tooth damaged and unusable.

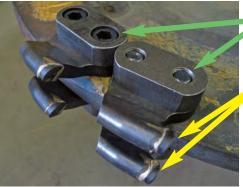


Tomahawk teeth boast the highest performance both in cutting speed and strength. Up to 50% faster cutting; with integrated carbide tip and tooth which prevents spinning.

On: Installation Access



This brand requires you to have access to both sides of the wheel all of the time in order to install the teeth. This requires you to jump back and forth from one side of the wheel to the other in order to take a pocket off.



Tomahawks can be installed from either side of the wheel which simplifies installation as you can install from whichever side you have better access to.

Both mounting blocks and teeth can be installed from either side allowing for crossovers used for plunge cutting.



Tomahawk[™] **Teeth:** Order Information



TOMAHAWK™ TEETH (Patent #6138725):

PART

T98 Kit (2 teeth, 2 bolts, 2 mounting blocks)

T98L (Left)

T98R (Right)

T98S (Straight)

T98 Kit HC (Hard Carbide Version - 2 teeth, 2 bolts, 2 mounting blocks)

T98L-HC (Left - Hard Carbide Version)

T98R-HC (Right - Hard Carbide Version)

T98S-HC (Straight - Hard Carbide Version)

T98CL (Carlton left to be used on the Carlton inner row)

T98CR (Carlton right to be used on the Carlton inner row)

TOMAHAWK™ MOUNTING BLOCKS:

PART

T98C (Counterbored)

T98T (Threaded)

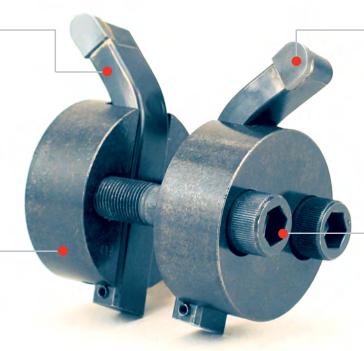
BOLTS:

PART	LENGTH	WHEEL THICKNESS
B225	2-1/4"	3/8" or 1/2"
B250	2-1/2"	3/4"
B275	2-3/4"	1"
B325	3-1/4"	1-1/2"

Tuff Teeth[™]: **Features**

Shank_

The Tuff Tooth TM shank has a 3/4" width for maximum strength giving up to 200% more strength than the 1/2" teeth.



Carbide

We utilize the highest quality,
American-Made carbide available
in the industry which results
in the highest quality cut, with
minimum cracking and chipping.
Hard carbide tip available for sandy
or clay ground conditions.

Tuff Pocket™

The Tuff Pocket™ has an extra thick cross-section and is heat treated which helps to eliminate slot damage if the tooth is severely impacted.

Torque

Less torque is required to achieve secure clamping and makes tooth removal easier.









Tuff Teeth[™]: Benefits

Strength

Tuff Teeth™ possesses the highest strength in a 3/4" tooth.



Why? This strength comes from the 3/4" shank and its precision fit to its heat treated pocket; the combination of the two give it its superior strength.

Easy Removal

Tuff Teeth™ with the Speed Wrench, can be installed in less than a minute.



Why? Due to the heat treated pocket which allows the pocket to clamp the tooth when tightened and then when loosened it springs open to allow the tooth to easily slide out for removal.

Cross-Over Configurations

3/4" Tuff Teeth™ come in interchangeable Left, Straight and Right teeth, allowing for cross-over configurations, which are recommended in all wheel set-ups. There are no special teeth or set-ups required with Leonardi teeth.



Why? Cross-over configurations allow for plunge cutting, which is optimal for efficient stump removal in difficult or confined job environments (buildings, sidewalks, sheds, curbs, etc.).

Pocket Configurations

Tuff PocketTM is round and has an extra thick cross-section with a slot that has exact matching square sides and radiused corners and is heat treated.

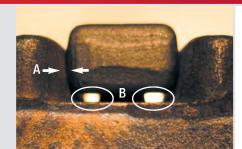


Why? This gives the pocket secure clamping without sticking as well as making it reversible and the heat treating gives it maximum strength and wear resistance.

Tuff Teeth[™]: vs. The Competition

On: The Pocket

Other brand pockets have slots with tapered sides which come in contact with the sides of the tooth (see A), rather than the bottom (see B), which results in jammed teeth.



Why? We do not use forgings which require a draft angle that when tightened, wedge together and require hammering to separate the pieces.

On: Torque

Other brands need large amounts of torque to install teeth because they utilize rough and mismatched forgings (275 ft. lbs for competition vs. 180 ft. lbs for Tuff Teeth™).



Why? Our teeth require less torque to remove because we utilize precise manufacturing processes, which means better fitting parts. This makes field changes faster and easier.

On: Forging

Other brands use shorter forgings which are not as flat and which causes more wheel damage. Furthermore, embossing reduces surface area resulting in more wheel damage.



Why? Our tooth has more surface area and is smooth, combined with less torque does less wheel damage.

On: One-Sided vs. Reversible

Other brands are one-sided which results in wear on only one side of the pocket. This means pocket life is reduced dramatically.



Why? Leonardi pockets are reversible. With a flip of the pocket, even wear is achieved resulting in longer life.

Tuff Teeth[™]: Order Information



TUFF TEETH™ (Patent #5819827):

PART

with **Pin Ooth** technology

750 Kit (2 teeth, 2 bolts, 2 pockets)

LTTP-750 (Left)

RTTP-750 (Right)

STTP-750 (Straight)

750 Kit HC (Hard Carbide Kit - 2 teeth, 2 bolts, 2 pockets)

LTTP-HC-750 (Left - Hard Carbide Version)

RTTP-HC-750 (Right - Hard Carbide Version)

STTP-HC-750 (Straight - Hard Carbide Version)

TUFF TEETH™: HEAT TREATED POCKETS, COUNTERBORED AND THREADED:

PART

750C (Counterbored)

750T (Threaded)

BOLTS:

PART	LENGTH	WHEEL THICKNESS
B200	2"	3/8" or 1/2"
B225	2-1/4"	3/4"
B250	2-1/2"	1"
B300	3"	1-1/2"

NOTE: WHEN USING WHEEL SAVERS $^{\circ}$, INCREASE BOLT LENGTH ONE SIZE.

Regular Teeth & Pinteeth™: Features

1/2" Regular teeth or Pinteeth[™] are ideal for 50 HP diesel (65 HP gas) stump grinding machines or less. These teeth are a great value. They provide reliable strength at a low replacement cost.

Carbide

We utilize the highest quality, American-Made carbide available in the industry which results in the highest quality cut, with minimum cracking and chipping. *Hard carbide tip available for sandy or clay around conditions.*



Ultimate Pocket™

The Ultimate Pocket™ is heat-treated for strength, longer wear and easier tooth removal. Further, the Ultimate Pocket™ boasts an extension behind the tooth, allowing for maximum support.

Pin

The Leonardi patented "pin" ensures proper gauging of the tooth (eliminates the need for any gauging during tooth installation) and serves as a key safety feature (teeth do not come loose and slip from the pocket).

Bolts

Leonardi bolts are specially designed to limit thread, head, and wheel damage. Shorter, sunken bolts keep both bolt ends protected, while the longer, smooth shank (which provides more surface area) reduces wheel damage by preventing bolt and hole distortion.









Regular Teeth & PinteethTM: Benefits

Style Options

Leonardi Regular Teeth are available in both pin and classic designs.



Why? To accommodate all styles and preferences, both products offer the best in technology, performance and price.

Easy Removal

The pocket does not need to be removed to change the teeth, just loosen the bolt 3/8" and the pin will slide out between the pocket and the wheel.



Why? This allows for quick replacement and less "down-time" when in the field on the job. This provides more efficient use of time and resources.

Cross-Over Configurations

1/2" Regular and Pinteeth™ come in interchangeable Left, Straight and Right teeth, allowing for cross-over configurations, which are recommended in all wheel set-ups. There are no special teeth or set-ups required with Leonardi teeth.



Why? Cross-over configurations allow for plunge cutting, which is optimal for efficient stump removal in difficult or confined job environments (buildings, sidewalks, sheds, curbs, etc.).

Pocket Configurations

1/2" Regular and Pinteeth™ are reinforced with the preferred configuration of the Ultimate Pocket™. (Regular Round Heat Treated pocket also available.)



Why? When combined with Leonardi Pinteeth™, it is the strongest 1/2" tooth and pocket combination on the market.

Regular Teeth & PinteethTM: vs. The Competition

On: Heat Treating

The competition uses 1/2" teeth with 1/2" round pockets that are not heat treated. All Leonardi pocket configurations are heat treated.



Other brand's typical stuck pocket

why? Heat treated pockets allow for easier tooth removal because the pocket does not collapse around the tooth (which causes the tooth to stick) when you tighten the bolts. The heat treated pockets hold the tooth securely when tightened but spring open when loosened for easy tooth removal. Heat treating makes a pocket stronger, increases slot strength and durability and allows it to wear longer than a non-heat treated pocket.

On: Bolt Shank

Our bolts are specifically engineered to work with our pockets. The photo to the right shows the difference in bolt shanks.

Leonardi

 Long, smooth Shank



Competiton

Shorter
 Shank

Why? Our Bolts have only 1" of thread which increases the surface area of the bolt and reduces hole and wheel damage. This increases overall strength.

On: Bolt Head Comparison

Other brands bolt heads are so tall that they protrude from the top of the pocket. (See A.) As soon as they are used the heads get beat shut. In addition, the larger diameter head creates a weak spot in the pocket. (See B.)



Why? Shorter Head height creates the added recess in the pocket and this protects the bolt head from being damaged when the pocket begins to wear. The smaller diameter to create a smaller counterbored hole so we can make the pocket walls thicker.

On: Cracking

Other brands exhibit cracking of the pocket when severely impacted due to the weak spot noted previously.



Other brand's typical cracked pocket

Why? Due to the heat treated properties of Leonardi pockets, our pockets can take repeated impacts and long-term use without damage to the pocket.

Regular Teeth & PinteethTM: Order Information

Regular Teeth



Pinteeth



Bolts



REGULAR TEETH:

S-500 Kit (2 teeth, 2 bolts, 2 pockets)

PART

LSTS-500 (Left)

RSTS-500 (Right) SSTS-500 (Straight) **Heat Treated Pocket**



Ultimate Pocket™



Pin eeth

PART

500 Kit (2 teeth, 2 bolts, 2 pockets) LSTP-500 (Left)

RSTP-500 (Right) SSTP-500 (Straight)

500 Kit HC (Hard Carbide Version - 2 teeth, 2 bolts, 2 pockets)

LSTP-HC-500 (Left - Hard Carbide Version)

RSTP-HC-500 (Right - Hard Carbide Version)

SSTP-HC-500 (Straight - Hard Carbide Version)

REGULAR HEAT TREATED POCKETS, COUNTERBORED AND THREADED:

PART

500C (Counterbored)

500T (Threaded)

ULTIMATE POCKETS,™HEAT TREATED, COUNTERBORED AND THREADED (Patent #5279345):

Part

509 Kit (2 Pinteeth™, 2 bolts, 2 pockets)

509 Kit HC (Hard Carbide Version - 2 Pinteeth™, 2 bolts, 2 pockets)

509C (Counterbored)

509T (Threaded)

BOLTS:

PART	LENGTH	WHEEL THICKNESS
B150	1-1/2"	3/8" or 1/2"
B175	1-3/4"	3/4"
B200	2"	1"
B250	2-1/2"	1-1/2"

Note: when using wheel savers $\ensuremath{^{\circ}}$, increase bolt length one size.

Now Order on-line at www.leonarditeeth.com

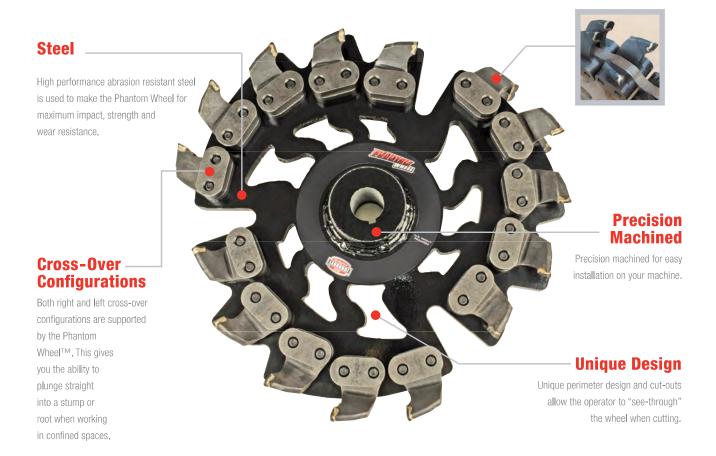


For the latest in tree care innovation, information on purchasing Leonardi Tree Care products, or becoming a dealer, visit **leonarditreecare.com** today!



Phantom Wheel™: Features

The Phantom Wheel[™] is one of many innovative Leonardi wheel options. The Phantom Wheel[™] is perfect for situations where a stump has grown around a permanent object such as a fire hydrant, building, curb, sidewalk, or tombstone. Chasing wandering roots that rest on the blind side of the machine is now easier than ever.





Phantom Wheel[™]: Benefits

Unique Design

The Phantom Wheel[™] has a unique, patented design.



Why? The Phantom Wheel™ is symmetrically contoured with overlapping slots. When spinning, it is balanced, smooth and "see-through".

See Your Cut

The Phantom Wheel[™] allows the operator to "see-through" the wheel to view their cut.



Why? The Phantom Wheel'sTM "see-through" capability allows the operator to actually see their cut, gauge depth and gain accuracy on every "away" sweep, removing the guesswork.

More Productive

The Phantom Wheel™ saves the operator time and money.



Why? The exact location of obstacles is easy to determine when using the Phantom Wheel™. This saves the operator time and money because contact with obstacles is avoided, lessening tooth damage and destruction of property.

Ideal for Tight Spots

The Phantom Wheel[™] is ideal for usage in tight spots.



Why? The Phantom Wheel'sTM "see-through" capability allows the operator to spot gravestones wandering roots, curbs, driveways, sidewalks and fire hydrants.



Phantom Wheel[™]: vs. The Competition

On: "Blind" Cutting

Using a standard wheel, the operator cannot determine if they are taking a 1", or 3" cut. (See A.)



Why? The "see-through" capability of the Phantom Wheel allows the operator to see exactly how much cut they are taking.

On: Obstacles

When faced with common obstacles, the standard wheel forces the operator to move very slowly to ensure avoiding contact. (See A.)



Why? The Phantom Wheel™ allows the operator to see where they are cutting, which saves time and money by successfully avoiding contact with obstacles.

On: Cross-Overs

Some standard wheels do not allow cross-overs which means that they do not allow plunging when the operator gets into tight spots. (A—Shows that the wheel will rub.)



Why? The Phantom Wheel[™] fully supports cross-over configurations which allows the operator to plunge whenever necessary.

On: Wheel Damage

Most standard wheels are made of lower quality steel which is more susceptible to wheel damage.



Why? Leonardi uses high performance steel that gives lasting durability and higher impact resistance.

Phantom Wheel[™]: Order Information



Bandit™:				
Dalluit .	Model	Phantom Wheel Diameter	Wheel Thickness	Number of Teeth
Self Propelled	2100/2800	21"	3/4"	24
Tow Behind	2800	26"	3/4"	36
	3200	31"	3/4"	44
Tracked	2900	26"	3/4"	36
	3200	31"	3/4"	44

Bobcat™:		5		
	Model	Phantom Wheel Diameter	Wheel Thickness	Number of Teeth
Attachment	SG60/SGX60	26"	3/4"	36

Model	Phantom Wheel Diameter	Wheel Thickness	Number of Teeth
2400-4/2500-4/2700-4/SP4012	21"	3/4"	36
3500-4/4400-4/SP7015	26"	3/4"	36
3500D/3700/4100/4400/3500	26"	3/4"	36
5400/6500/6800/7500	31"	3/4"	44
SP 7015 TRX	26"	3/4"	36
SP 8018 TRX	31"	3/4"	44
	2400-4/2500-4/2700-4/SP4012 3500-4/4400-4/SP7015 3500D/3700/4100/4400/3500 5400/6500/6800/7500 SP 7015 TRX	Model Wheel Diameter 2400-4/2500-4/2700-4/SP4012 21" 3500-4/4400-4/SP7015 26" 3500D/3700/4100/4400/3500 26" 5400/6500/6800/7500 31" SP 7015 TRX 26"	Model Wheel Diameter Wheel Thickness 2400-4/2500-4/2700-4/SP4012 21" 3/4" 3500-4/4400-4/SP7015 26" 3/4" 3500D/3700/4100/4400/3500 26" 3/4" 5400/6500/6800/7500 31" 3/4" SP 7015 TRX 26" 3/4"

Morbark™:				
	Model	Phantom Wheel Diameter	Wheel Thickness	Number of Teeth
Self Propelled	G52SP/D52SPH	21"	3/4"	24
	D76 SP 4x4	23"	3/4"	36
Tracked	D76 Track	23"	3/4"	36
	D86 Track	28"	3/4"	44

Rayco™:				
yoo .	Model	Phantom Wheel Diameter	Wheel Thickness	Number of Teeth
Self Propelled	RG 1625A Super Jr	21"	3/4"	24
	RG 1631/1635 Super Jr/RG 50	21"	3/4"	24
	Super RG 50/RG 85/RG 90	26"	3/4"	32
Tow Behind	RG 1635 D/RG 1642/RG 1660M	26"	3/4"	32
	RG 1672 M/RG 1672DXH	26"	3/4"	32
	RG 120 DXH	31"	3/4"	44

Vermeer™:				
	Model	Phantom Wheel Diameter	Wheel Thickness	Number of Teeth
Self Propelled	222/252/352	21"	3/4"	24
	852	26"	3/4"	36
Tow Behind	502/602	26"	3/4"	36
	752/802	31"	3/4"	44
	1102	34"	3/4"	44
Tracked	50TX/60TX/505	26"	3/4"	36

Additional models may be available – please inquire for more information

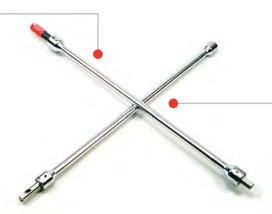


Speedwrench™: Features & Benefits

The Speedwrench[™] enables the rapid installation and/or removal of stump grinder teeth. Installation/removal of a set of 1/2[™] pin teeth can be accomplished in under one minute, while Tomahawk[™] Teeth can be installed or removed in under 45 seconds.

Composition _

High-quality, chrome-plated alloy steel.



Multi-Use

The Leonardi Speedwrench™
combines three tools into a
single device. This all-in-one
tool was designed to make it
quick and easy to change teeth
on a stump grinder.

Cleaner Bit

The Speedwrench's[™] first arm is a Cleaner Bit.



Why? The Speedwrench[™] Cleaner Bit is used to clean debris from the bolt heads. This clever design puts all of the tools you need for efficient maintenance of your equipment on the job.

Hex (1/2") Bit

The Speedwrench's[™] second arm is a Hex (1/2") Bit.



Why? The Speedwrench[™] Hex (1/2") Bit is used for bolt removal and installation.

Thread Cleaner

The Speedwrench's[™] third arm is a Thread-Cleaner.



Why? The Speedwrench[™] Thread-Cleaner is used to clean threaded pockets.



Accessories: Order Information

ACCESSORIES:

PART

HW-500: Hex Allen Wrench

HS-500: Hex Socket Wrench

GW6: 6" Green Wheel

GW8: 8" Green Wheel

09128: Anti Seize

CAR R: Round Carbide

CAR TL: Tomahawk™ Left Carbide

CAR TR: Tomahawk™ Right Carbide

PN#: Wheel Saver®

1405-3: Socket Adapter



