

KÜPER[®]

Premium Snowplow Blades





For over 50 years the Kueper name has been synonymous with the highest quality, advanced snowplow cutting edges. Kueper was the first to embed special wear components into rubber plow blades. Today we offer the best in flexible carbide plow blades, rubber ceramic plow blades and other specialty wear items.

KUEPER: proudly serving 45 States, 8 Canadian Provinces, and 75 airports across North America with the highest quality, advanced snowplow cutting edges.

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HIGH-QUALITY SNOWPLOW BLADES TO PROTECT THE ROADWAY

GK5: THE LONG-LASTING AND ABRASION-RESISTANT RUBBER-CERAMIC BLADE.

No jumping on dry paved road surfaces!

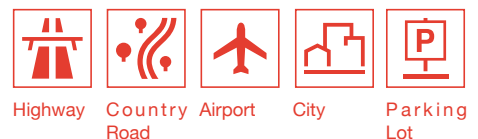
The low-noise GK5 blade is made of rubber with ceramic inserts. Thanks to the blade's elastic materials and clever design, the GK5 adapts perfectly to every paved surface. It is the ideal solution for removing snow in areas that require pavement and plow protection. This is the only rubber blade that won't jump when used on dry surfaces — an absolute must for operations. The highly elastic materials, embedded ceramic inlays and specially curved steel fastening neck ensure excellent results while protecting the surface of the road and cleaning very well.

GK5 features

- ✓ Long service life
- ✓ Good scraping/cleaning properties

- ✓ Protects the road surfaces (markings, paint, etc.)
- ✓ For all road surfaces, including raised markers, man-hole covers, expansion joints, etc.
- ✓ City and community paths
- ✓ Very quiet plowing
- ✓ No additional maintenance or adjusting after installation
- ✓ Standard 3' and 4' sections punched 12" on center. (Custom sizes and punches available.)

AREAS OF USE



*** Not for use on gravel or dirt roads.**



MATERIALS

Steel

Rubber

Ceramic



Ceramic

The second-hardest mineral in the oxide category. It is especially suited for use as an inlay in highly abrasion-resistant snowplow blades. Ceramic-molded parts are produced specifically for our various types of blades.

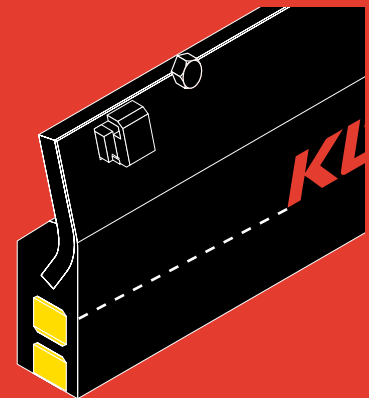
Rubber

These grades of rubber were developed specifically to meet demanding road conditions. This extremely wear-resistant, flexible and elastic material effectively adapts to changes in the road surface.

TECHNOLOGY

The construction, which features a core of flexible ceramic inlays, makes the blades more elastic and keeps them from jumping and rattling. The steel fastening neck keeps this easy-to-mount blade from flipping under the plow.

Logo as wear indicator.



MOUNTING AND OPERATING INSTRUCTIONS



- Optimal angle is 90 degrees to the road surface
- A small negative angle is OK
- No positive angle
- Mount with grade 8 carriage bolt, ny-loc locknut, torque not to exceed 150 lbs.
- Do not mount this blade on a polyurethane skid

WEAR TECHNOLOGY

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HIGH-QUALITY FLEXIBLE CARBIDE SNOWPLOW BLADES: TUCA SX WAVE

THE SUPER COMBINATION BLADE FOR ALL TYPES OF SNOWPLOWS AND MULTIPLE ROAD SURFACES*.

New standards in snow removal!

A state-of-the-art, high performance blade designed for long-term use. Once again, Küper is setting new standards in snow removal with the Tuca SX Wave. Detailed requirements analysis and constant advances in blade development lead to trailblazing product innovations like the patented Küper Wave Technology which uses a curved profile to remove snow without resistance. Separate tungsten holders embedded in rubber and vulcanized between front and rear Hardox 400 steel plate make the TUCA SX incredibly durable. The result is a combination blade with carbide which can stand up to multiple road surfaces encountered while plowing, effectively clearing even the most extreme roads without damaging the surface.

Tuca SX Features

- ✓ Wave Technology
- ✓ Extremely durable
- ✓ Tungsten carbide inlays
- ✓ For the toughest jobs
- ✓ Excellent scraping properties
- ✓ Stands up to obstacles and uneven roads
- ✓ No damage to the road surface
- ✓ Can be used on all road surfaces except dirt and gravel.

+600 %

Conventional Carbide Blade

TUCA SX Wave

AREAS OF USE

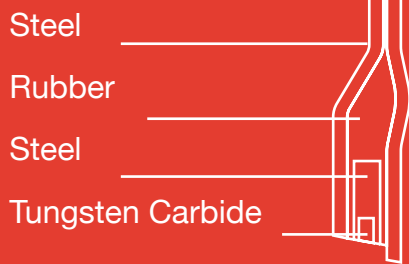


Highway Country City
Road

* Not for use on gravel or dirt roads.



MATERIALS



Tungsten Carbide

A chemical compound consisting of equal parts tungsten and carbon. It is characterized by its extreme hardness, which is nearly as high as that of diamonds. This material stands up to the toughest loads.

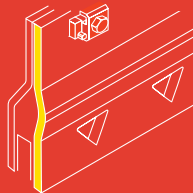
Rubber

These grades of rubber were developed specifically to meet demanding road conditions. This extremely wear-resistant, flexible and elastic material effectively adapts to changes in the road surface.

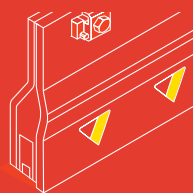
Steel

This special wear-resistant 1045 steel is water-hardened to 400 Brinell and has a tensile strength of approx. 195,000 psi. It stands up to the toughest jobs.

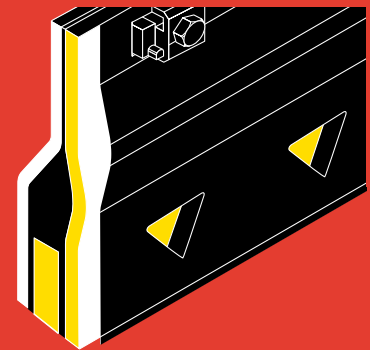
TECHNOLOGY



The Küper Wave Technology diverts snow across a curved profile for optimal removal. The snow is moved over the mounting elements without resistance.



The Küper Cooling System features special openings to keep the blade from heating up.



MOUNTING AND OPERATING INSTRUCTIONS



DRIVING DIRECTION

- Use only grade 8 mushroom head carriage bolts and appropriate grade 8 locking hardware
- Torque to 150 foot pounds maximum
- May be used at any angle of operation between 0 and 35 degrees
- Sections are standard 12" punch in 3' & 4' (custom and unique punches and sizes available)
- Sections bolt directly to moldboard – no adapters or accessories required

WEAR TECHNOLOGY

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HIGH-QUALITY BLADES FOR TOP PERFORMANCE ON UNDERBODY STYLE PLOWS

THE STANDARD COMBINATION BLADE FOR OVER 20 YEARS

Combination Underbody Blades

The Tuca SX Underbody employs similar components and construction as our Tuca SX front style plow blades incorporating tungsten carbide wear components within flexible rubber and wear resistant plates in a size and format suited for all underbody style plows. Proven for over 20 years across the world, these combinations provide extreme longevity and superb cleaning of the road surface in addition to the significant reduction in vibration and noise that operators have come to expect from Kueper Plow Blades. Our proven products are subject to constant quality monitoring allowing us to maintain the highest standards when it comes to the development and optimization of our products.

Tuca SX Underbody Features

- ✓ Extremely durable
- ✓ For the toughest jobs
- ✓ Excellent scraping properties
- ✓ No damage to the road surface
- ✓ For underbody snow plows
- ✓ Can be used on all paved road surfaces.

+600 %

Conventional Carbide Blade

Tuca SX Underbody

AREAS OF USE



Highway

Country
Road

City

* Not for use on gravel or dirt roads.



MATERIALS

Steel

Rubber

Steel

Tungsten Carbide



Tungsten Carbide

A chemical compound consisting of equal parts tungsten and carbon. It is characterized by its extreme hardness, which is nearly as high as that of diamonds. This material stands up to the toughest loads

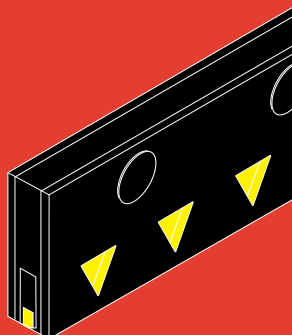
Rubber

This grade of rubber was developed specifically to meet demanding road conditions. This extremely wear-resistant, flexible and elastic material effectively adapts to changes in the road surface.

Steel

This special wear-resistant steel is water-hardened to 400 Brinell and has a tensile strength of approx. 195,000 psi. It stands up to the toughest jobs.

TECHNOLOGY



The construction of the blades features a core of carbide inlays embedded in rubber, keeping the blades more elastic and flexible. This greatly reduces vibration and noise and helps keep the blades from jumping or “chattering.”

MOUNTING AND OPERATING INSTRUCTIONS



0°

Best Scraping



15°



25°

Maximum

DRIVING DIRECTION



- Use only grade 8 mushroom head carriage bolts and appropriate grade 8 locking hardware
- Torque to 150 foot pounds maximum
- May be used at any angle of operation between 0° and 25° angled backward.
- Sections are standard 12” punch in 3’ & 4’ (custom and unique punches and sizes available)
- Sections bolt directly to moldboard – no adapters or accessories required
- Down pressure 300-500 lbs maximum

WEAR TECHNOLOGY

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OUTSTANDING PERFORMANCE AND DURABILITY THROUGH INCREASED FLEXIBILITY

THE NEXT GENERATION OF FLEXIBLE CERAMIC SNOWPLOW BLADES: CECO SF WAVE FROM KÜPER.

Better wear through innovative technology

The new CECO^{SF} Wave (ceramic core) snowplow blade takes the KOMBI S Wave technology to a new level. This newly patented, innovative blade from Kueper results in a snowplow blade which distinguishes itself through increased flexibility of the elastic materials, thus ensuring greater vertical mobility of the embedded ceramic parts. This innovation, in combination with the familiar, positive characteristics of the Kueper KOMBI S Wave blade, enabled us to increase the life more than two-fold. The new CECO^{SF} blade can be deployed on all snowplows on country roads, highways and in cities.

Durability CECO SF Wave

High quality tungsten carbide and consistent brazing technology ensures top performance and longevity up to two times that of normal carbide blades.

+100%

KOMBI S 50 Wave

CECO SF Wave

+700%

Steel Blade

CECO SF Wave

Features

- ✓ Very high durability
- ✓ Wave Technology
- ✓ Increased flexibility for the ceramic wear core parts
- ✓ Good gliding/reduced surface friction
- ✓ Smooth and quiet plowing
- ✓ Works with Kueper Bladesaver Systems.
- ✓ Can be used on chipseal, microseal, concrete, and other highly abrasive surface coatings.

AREAS OF USE



Highway

Country
Road

City

* Not for constant use on gravel or dirt roads.



MATERIALS

Steel

Rubber

Ceramic



Ceramic

The second-hardest mineral in the oxide category. It is especially suited for use as an insert in highly abrasion-resistant snowplow blades

Ceramic-moulded parts are produced specifically for our various types of blades.

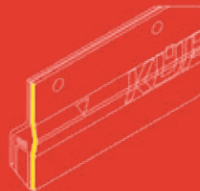
Rubber

These grades of rubber were developed specifically to meet demanding road conditions. This extremely wear-resistant, flexible and elastic material effectively adapts to changes in the road surface.

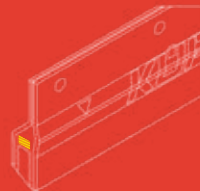
Steel

This special wear-resistant steel is water-hardened to 400 Brinell and has a tensile strength of approx. 195,000 psi. It stands up to the toughest jobs.

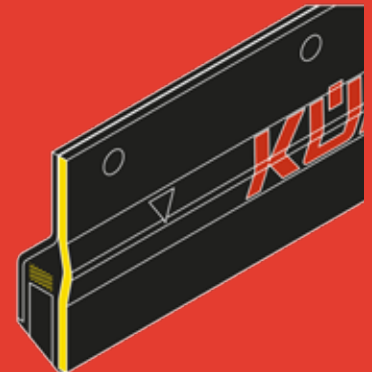
TECHNOLOGY



The Kueper Wave Technology diverts snow across a curved profile for optimal removal. The snow is moved directly over the mounting hardware and into the plow expediting the discharge process.



The improved dynamics in the flexibility of the CECO^{SF} Wave cause an increase in movement of the ceramic based parts. This insures greater durability.



MOUNTING AND OPERATING INSTRUCTIONS



DRIVING DIRECTION



- Optimal angle is 0 – 30° to the road surface
- Mount with grade 8 carriage bolt, ny-loc locknut, torque not to exceed 150 lbs.
- May also be mounted on a polyurethane skid
- Slow down drop of plow to a 1, 2, 3 count.

WEAR TECHNOLOGY

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WEAR SYSTEMS AND PROTECTION FOR TUCA SX WAVE BLADE SAVER XC PLATE AND BLADE SAVER XC PLUS



INNOVATION IN MOTION: TUCA SX WEAR PROTECTION

A SUPERB COMBINATION OF PROTECTION AND ENHANCED WEAR LIFE FOR ALL TYPES OF SNOWPLOWS AND ROAD SURFACES – WITH “XTREME” CAST COMPOSITION

New standards in blade protection!

A state-of-the-art, high performance blade protection system designed for extreme use exclusively for the Kueper TUCA SX Wave Flexible Carbide System. Use the Kueper Blade Saver XC Plus system to guard either blade end against side impact or in higher speed applications for crossing expansion joints, etc. The Kueper Blade Saver XC Plate may be used in conjunction with the “Plus” system or on its own, either on the ends of the blade, in the middle straddling section seams, or both. (NOTE: Due to plow configuration, the “XC plus” system may only be fitted to power angle or reversible plows. The “XC plate” version may be used on both fixed and reversible plows.) As with the “Plus” system, the benefits are the same; enhanced longevity, protection against obstacles and uneven wear and added strength.

Durability
TUCA SX Wave +
Blade Saver XC Plate
/ XC Plus

Top performance in combination: Kueper
TUCA SX Wave lasts up to 30% longer in
combination with Blade Saver XC Plate
and XC Plus

+30%

TUCA SX Wave

TUCA SX Wave with Blade Saver XC Plate/XC Plus

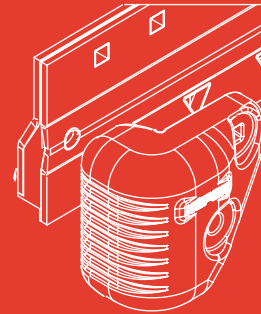
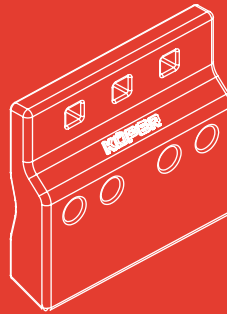
Features and Benefits:

- ✓ Extends life of Tuca SX system 20–30%
- ✓ Guards against curb / edge impacts
- ✓ Acts as integrated wear shoe
- ✓ Assists in gliding over expansion joints
- ✓ Adds strength to section seams
- ✓ May be used to help counter uneven blade wear (leading / trailing edge, crown, etc.)
- ✓ One-way / High Discharge plows: Blade Saver XC Plate
- ✓ Reversible / Power Angle plows: Blades Saver XC Plate and XC Plus



MATERIALS

- Steel
- Rubber
- Steel
- Tungsten carbide
- Extreme cast



TECHNOLOGY

- Extreme Cast Material
- Conforms to fit TUCA SX Wave
- Combination wear products:
 - ✓ Protects end of blades
 - ✓ Protects against odd wear patterns
 - ✓ Adds to the life of the blade system

MOUNTING AND OPERATING INSTRUCTIONS

- Install when blades are new or if uneven wear occurs due to conditions
- Detailed mounting and installation instructions supplied with every kit
- Do not mount if blades are already too worn as could bridge the plow, preventing scraping

WEAR TECHNOLOGY

AREAS OF USE



Motorway



Country road



City

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CUSTOMIZED REINFORCED RUBBER MATTING FOR BETTER TRACTION AND MORE SECURE LOADS

TRAILER ACCESS RAMPS AND SURFACES

KÜPER Wear Technology, an international market leader in rubber snow plow blades and screen panels, has been an expert in the production of extremely wear-resistant rubber for over 60 years.

Manufactured to meet individual customer needs, converting from traditional wood or metal decking to KÜPER rubber components substantially increases the **safety** and **durability** of the access ramps and trailer surfaces.

Using abrasion and weather-resistant, hot vulcanized rubber with a hardness of 60 Shore A and a special diamond profile results in high quality wear characteristics and enhanced gripping. All rubber is bonded to a 3mm sheet of galvanized steel, providing further structural support to the rubber and greater rigidity for mounting.

This provides better secured loads and cost-effective securing and **safety** of your trailered equipment.


A comparison of load safety relative to friction

Metal on KÜPER rubber matting – Metal on wood

+ 140 %

With hot vulcanized rubber matting, the load securing effectiveness is significantly greater than wood or metal surfaces.

Features

- ✓ Rubber material bonded to galvanized steel reinforcing plate.
- ✓ Special diamond profile surface increases gripping and traction performance
- ✓ Improved access ramp traction and wear
- ✓ Customized production and sizes
- ✓ Can be retrofited on all trailer types
- ✓ Outlasts wood decking and safer than metal
- ✓ Improved weather resistance
- ✓ Increases **safety** 

Metal on a KÜPER rubber component = coefficients of sliding friction 0,7 μ

Metal on wood = coefficients of sliding friction 0,3 μ



Length	102.63" max. (2600 mm)
Width	57.08" max.(1450 mm)
Rubber thickness	.4"-2" (10-50 mm)
Sheet thickness	.12"-.8" (3-20 mm)
Surface	diagonally grooved surface with a diamond dimensions of 1.6" x .8" (40 x 20 mm)
Material	GIGANT rubber
Rubber type	Mixture of styrene-butadiene rubber

Total Thickness	Steel Thickness	Rubber Thickness	Weight Per Square Foot
.50" (12 mm)	.12" (3 mm)	.35" (9 mm)	6.94 lbs. (3.147931 kg)
.60" (15 mm)	.12" (3 mm)	.50" (12 mm)	7.63 lbs. (3.46091 kg)
.80" (20 mm)	.12" (3mm)	.70 (17 mm)	8.0 lbs. (3.99161 kg)
1.0" (25 mm)	.12" (3mm)	.90" (22 mm)	9.96 lbs. (4.51778 kg)
1.2" (30 mm)	.12" (3mm)	1.1" (27 mm)	11.13 lbs. (5.0484831 kg)

Calculated μ values (coefficients of sliding friction) with 4 chain links of an excavator and KÜPER rubber component

Condition of the contact surfaces	Minimum value μ value	Maximum value μ value	Average value μ value
Dry	0.68	0.71	0.70
Wet	0.59	0.61	0.60
Dry and sandy	0.50	0.54	0.53
Wet and Sandy	0.41	0.43	0.43

APPLICATION AREAS



Trailer
manufacturers



Construction
companies



Freight
forwarder



Specialty OEM

WEAR TECHNOLOGY

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MOTOR GRADER AND UNDERBODY BLADES FOR SNOW AND DIRT APPLICATIONS

PAIRED CARBIDE



THE ORIGINAL PAIRED CARBIDE BLADE

IMPROVED BRAZE, MORE WEAR-RESISTANT STEEL BODY

Paired carbide blades — available exclusively through Kueper, North America,— outlast embedded carbide granule-style blades, as well as conventional steel grader blades. Paired carbide blades feature a universal bolt-hole and a variety of available lengths for maximum compatibility. Paired carbide tungsten insert blades are specifically designed for high-abrasion and low-impact applications to stay straight; maintain a sharp, clean edge; and stop crowning: The first insert is formulated with proprietary macrocrystalline carbide grade for toughness and impact resistance, and mounts on the front of blade. The second insert is made from a wear-resistant carbide grade, and mounts directly behind the first insert to resist wear caused by blade down pressure and abrasion. Face insert provides wear and protection when moldboard is rolled forward. Steel will wear out with single insert blades and the insert will be exposed to impact that will prematurely destroy the edge.

Backed by a comprehensive warranty program.

Features

- ✓ Provides maximum wear resistance
- ✓ Features two tungsten carbide inserts, specifically designed for high-abrasion and low to moderate impact applications.
- ✓ Outlasts embedded carbide granule-style blades.
- ✓ Offers the longest lasting blade life span in the industry.
- ✓ Reduces costs associated with replacement parts, inventory, downtime, labor, and overall operations.
- ✓ Resists “crowning” and maintains a straighter cutting edge

Conventional Steel Blade	15 – 20X
Conventional Carbide Blade	5X
Original Paired Carbide Blade	

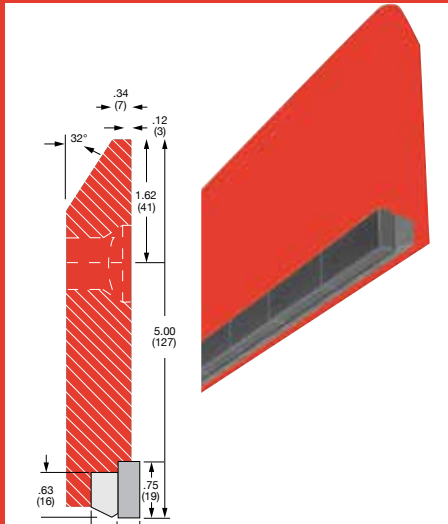
AREAS OF USE



Highway

Country
Road

Dirt

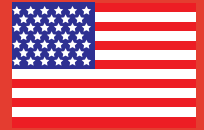


Tungsten Carbide

A chemical compound consisting of equal parts tungsten and carbon. It is characterized by its extreme hardness, which is nearly as high as that of diamonds. This material stands up to the toughest loads.

Steel

Improved braze, more wear-resistant steel body. This special wear-resistant steel is water-hardened. It stands up to the toughest jobs.



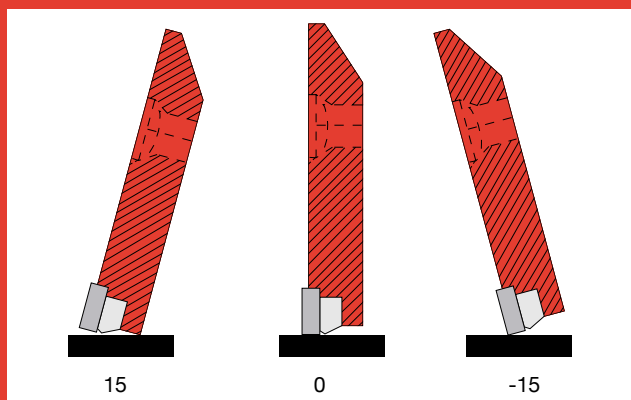
Made in the USA

TECHNOLOGY

Impact resistant carbide insert on face resists impact and erosion.

Carbide insert resists deterioration caused by blade down pressure and abrasion

MOUNTING AND OPERATING INSTRUCTIONS



DRIVING DIRECTION



WEAR TECHNOLOGY

- Use only grade 8 carriage bolts and appropriate grade 8 locking hardware.
- Never roll back moldboard more than 5-10 degrees and never for prolonged use.
- Avoid any wear of the support steel behind the center insert. If worn it will increase breakage potential.
- Perpendicular to road surface is optimum operating angle. Both cutting and wear are improved at 90°.
- Standard heavy duty punch 6 inch on center (custom and unique punches and sizes available).
- Sections bolt directly to moldboard – no adapters or accessories required.
- For use on motorgraders and underbodies for gravel maintenance and snow and ice removal.

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Wear Indicator

KUEPER NORTH AMERICA ENHANCED CARBIDE™ INSERT SNOWPLOW BLADES.

Kueper North America Enhanced Carbide™ snowplow blades are constructed of superior steel with custom formulated carbide inserts “Enhanced Carbide” designed to far exceed the wear life of standard carbide blades in the most extreme plowing applications. Available in 3’, 4’ and 5’ lengths for all types of snowplows and road surfaces.

Snowplow blades with Enhanced Carbide™ Inserts

KNA Enhanced Carbide™ blades were specifically designed and tested for the most strenuous of plowing applications.

KNA Enhanced Carbide™ blades use unique carbide powder blends formulated to better resist heat and fracture while providing far greater wear life over standard carbide edges. These new carbides blades, only from Kueper North America, are an excellent match for the most extreme plowing applications.

A high degree of efficiency is guaranteed through a blend of heat resistant additives in the carbide matrix, resulting in extreme wear life, toughness and durability.

Resulting in quality, time and cost advantages.

Durability

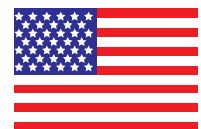
Kueper North America high quality enhanced carbide snowplow blades.

High quality Enhanced Tungsten Carbide and consistent brazing technology ensures top performance and longevity of nearly three times that of standard or low cost carbide blades.

Basic facts:

- ✓ Tungsten carbide enhanced grade tested for over two years with 6 State DOTs across all conditions.
- ✓ One of the only plow blades made 100% in the USA: Carbide Pressed and Sintered, Brazing and Construction

+250 - 300%



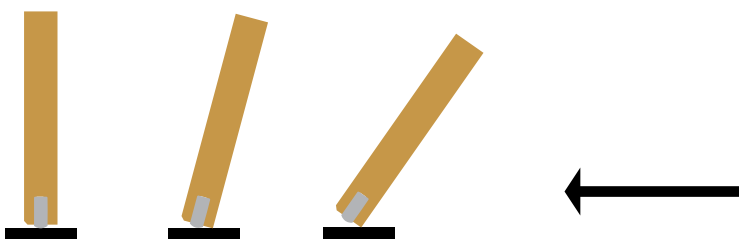
Made in the USA



Kueper North America Enhanced Carbide™
Proudly made in the U.S.A.

www.kueperblades.com

KNA © KUEPER NORTH AMERICA

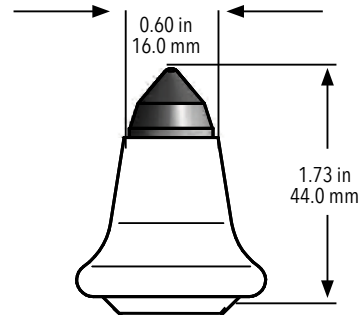


Proudly made in the U.S.A.

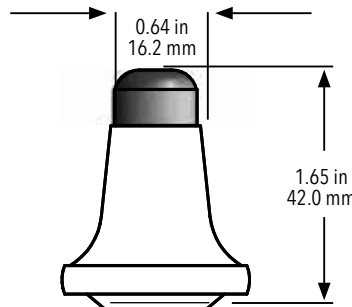
www.kueperblades.com

KNA® KUEPER
NORTH
AMERICA

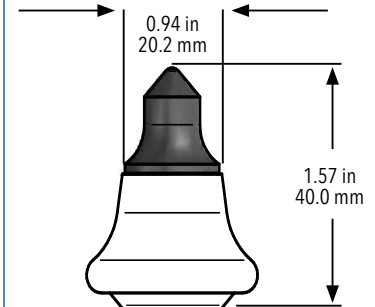
Grading



G01



G28



G27

Features:

- “Gear Tooth” washer protects board mating face
- Retainer compressed for easy installation
- Multiple tip options for different applications

Part Number	Shank (in, mm)	Tip Diameter (in, mm)	Base Diameter (in, mm)	Gauge (in, mm)	Pieces per Box	Pieces per Pallet
G01	0.87 in 22 mm	1.11 in 12.8 mm	0.60 in 16.0 mm	1.73 in 44.0 mm	65	3900
G28	0.87 in 22 mm	0.64 in 16.2 mm	0.64 in 16.2 mm	1.65 in 42.0 mm	65	3900
G27	0.87 in 22 mm	0.40 in 10.1 mm	0.94 in 20.2 mm	1.57 in 40.0 mm	65	3900



Part Number	Length (ft, m)	Bolt Size (in, mm)	Tool Capacity
GB223658	3 ft .914 m	0.625 in 15.875 mm	24
GB224858	4 ft 1.219 m	0.625 in 15.875 mm	32
GB223634	3 ft .914 m	0.75 in 19.05 mm	24
GB224834	4 ft 1.219 m	0.75 in 19.05 mm	32

Features:

- Tool bores feature internal clip groove for use with any style retainer
- Multi-piece assembly allows for manageable installation

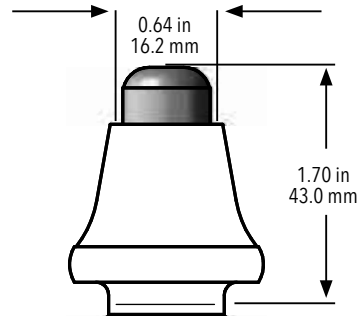


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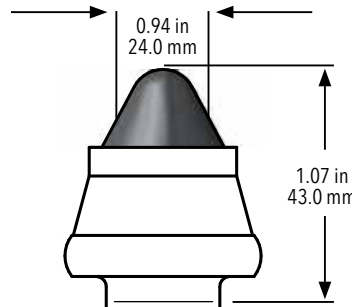
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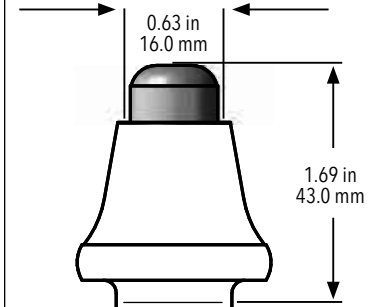
Grading



GW28



GW70



GWX28

Features:

- Square washer eliminates washer rotation, preventing wear between washer and mating surface.
- Provides support and stability to the tool with an extruded cone that fits neatly into the bore of the adaptor board.

Part Number	Shank (in, mm)	Tip Diameter (in, mm)	Base Diameter (in, mm)	Gauge (in, mm)	Pieces per Box	Pieces per Pallet
GW28	0.87 in 22 mm	0.64 in 16.2 mm	0.64 in 16.2 mm	1.70 in 43.0 mm	50	3000
GW70	0.87 in 22 mm	N/A	0.94 in 24.0 mm	1.07 in 43.0 mm	40	2400
GWX28	0.87 in 22 mm	0.64 in 16.2 mm	0.63 in hex 16.0 mm hex	1.69 in 43.0 mm	50	3000



Part Number	Length (ft, m)	Bolt Size (in, mm)	Tool Capacity
GB223658G	3 ft .914 m	0.625 in 15.875 mm	21
GB224858G	4 ft 1.219 m	0.625 in 15.875 mm	28
GB223634G	3 ft .914 m	0.75 in 19.05 mm	21
GB224834G	4 ft 1.219 m	0.75 in 19.05 mm	28

Features:

- Tool bores feature internal clip groove for use with any style retainer
- Multi-piece assembly allows for manageable installation

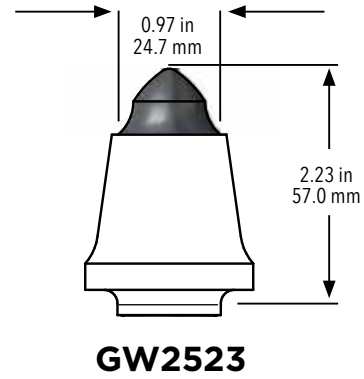


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Grading



Features:

- “Gear Tooth” washer protects board mating face
- Pre-compressed retainer for easy installation
- Multiple tip options for different applications

Part Number	Shank (in, mm)	Tip Diameter (in, mm)	Base Diameter (in, mm)	Gauge (in, mm)	Pieces per Box	Pieces per Pallet
GW2523	0.98 in 25 mm	0.68 in 17.3 mm	0.97 in 24.7 mm	2.23 in 57.0 mm	30	1800



Part Number	Length (ft, m)	Bolt Size (in, mm)	Tool Capacity
GB2536	3 ft .914 m	0.75 in 19.05 mm	21
GB2548	4 ft 1.219 m	0.75 in 19.05 mm	28

Features:

- Tool bores feature internal clip groove for use with any style retainer
- Multi-piece assembly allows for manageable installation

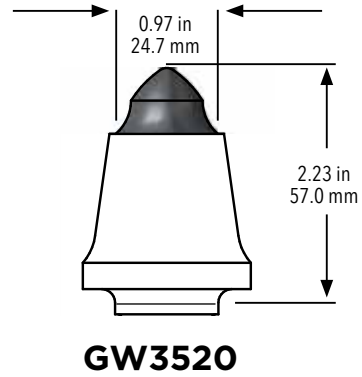


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Grading



Features:

- Heavy Duty Body
- Square washer enhances tool rotation
- Serves as a replaceable “armor plate” wear surface

Part Number	Shank (in, mm)	Tip Diameter (in, mm)	Base Diameter (in, mm)	Gauge (in, mm)	Pieces per Box	Pieces per Pallet
GW3520	0.98 in 25 mm	0.68 in 17.3 mm	0.97 in 24.7 mm	2.23 in 57.0 mm	30	1800



Part Number	Length (ft, m)	Bolt Size (in, mm)	Tool Capacity
GB3548	4 ft 1.219 m	1 in 25.4 mm	19

Features:

- Tool bores feature internal clip groove for use with any style retainer
- Multi-piece assembly allows for manageable installation



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S-2000 Square Washers

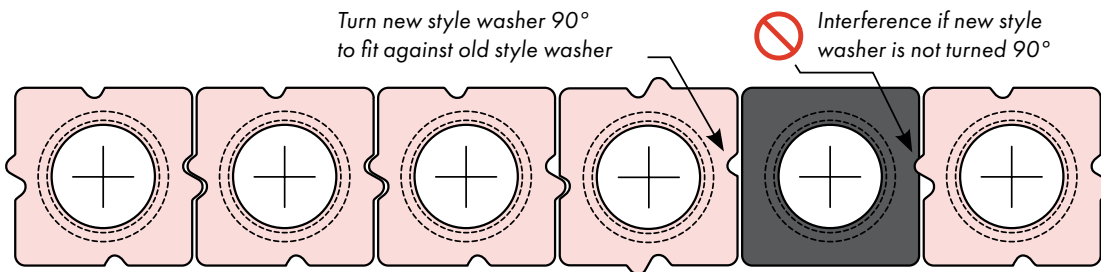
Benefits:

- New "gear tooth" arrangement prevents washers from sliding and opening a gap between the tools.
- Compatible with old-style square washer and end protectors.
- Pre-compressed retainer for easy installation.
- Enhances tool rotation eliminating premature wear of carbide tips.
- Eliminates washer rotation, preventing wear between washer and mating surface.
- Provides support and stability to the tool with an extruded cone that fits neatly into the bore of the adapter board.
- The S-2000 square washers act as a replaceable "armor



Hexagon design makes install and removal **QUICK & EASY!**

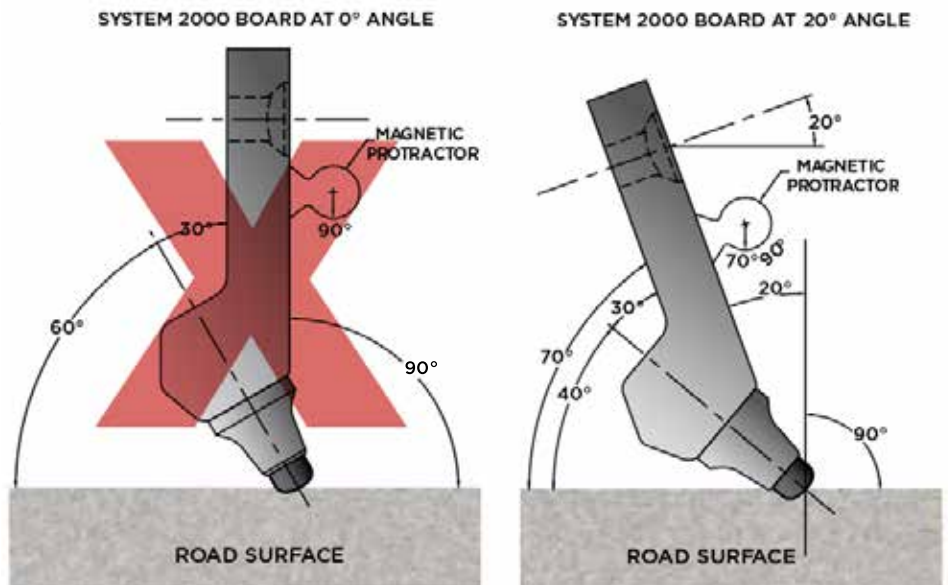
plate" wear surface preventing material buildup to allow the tool to rotate freely for improved cutting ability. The square design eliminates washer rotation preventing wear between the washer and the adapter board.



S-2000 Square Washers With Interlocking Feature (For 22 mm And 25 mm Tools) *Patent-Protected Square Washer

Why the angle makes a difference:

The unique operating angle of the board, that is 20° back from vertical, creates a mixing action that produces a homogeneous blend of material. This can significantly reduce the need to add new gravel.



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Grader Blades

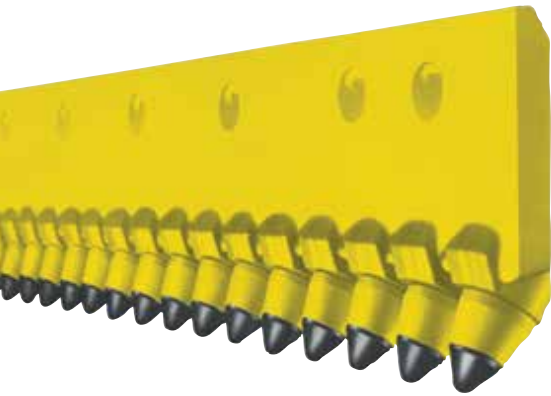
Kennametal offers the widest selection and the most innovative designs of road maintenance tools available in the industry, including carbide blades, grader blades, snowplow blades, and accessories. With our expertise in highly complex metallurgy and materials science, we optimize performance and significantly decrease production costs.

To learn more about our road maintenance offerings and find a solution that best meets your needs, contact your local Kennametal Representative or Authorized Distributor.

MISSION Kennametal delivers productivity to customers seeking peak performance in demanding environments by providing innovative custom and standard wear-resistant solutions, enabled through our advanced materials sciences, application knowledge, and commitment to a sustainable environment.



Grader Blades

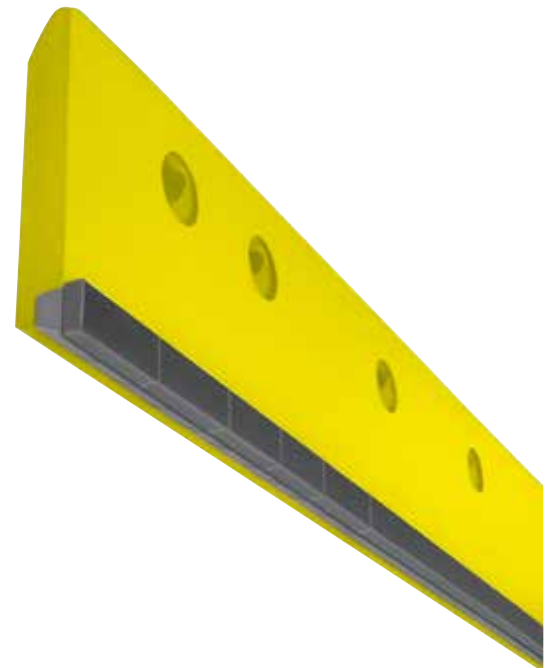


Scarifier Blades

- Penetrates hard-packed gravel and frozen surfaces easily with less down pressure and horsepower.
- Eliminates “washboarding” and pot holes with fewer passes than standard blades.
- Decreases the number of passes necessary to properly maintain a road surface.
- Features replaceable, rotating, self-sharpening, solid carbide-tipped cutting tools that wear uniformly and last longer than all-steel blades.
- Reduces machine and operator downtime significantly by eliminating the need to replace entire blade sections and instead, allowing for the quick change of individual tools.

Dual-Carbide Blades

- Provides maximum wear resistance.
- Features two tungsten carbide inserts, specifically designed for high-abrasion and low-impact applications.
- Outlasts imbedded carbide granule-style blades.
- Offers the longest lasting blade life span in the industry.
- Reduces costs associated with replacement part inventory, downtime, labor, and overall operations.
- Resists “crowning” and maintains a straighter cutting edge throughout the life of the blade.

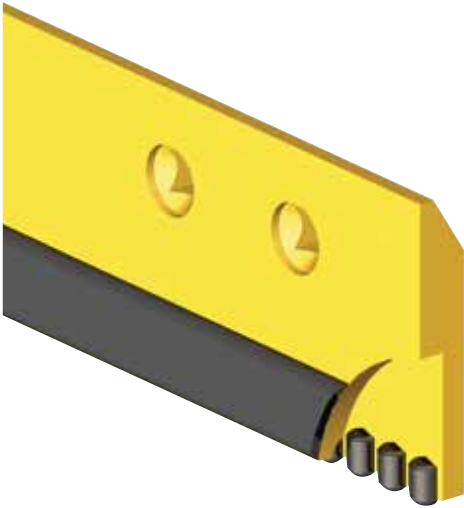


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Grader Blades



I.C.E.™/KenCoat™ Blades

Combining Isolated Carbide-Edge (I.C.E.) Blades and Kennametal Carbide Overlay Application Technology (KenCoat)

- Combines durable, individually mounted bullet-shaped inserts with wear-resistant carbide granules embedded in a tough, abrasion-resistant, steel-weld material in one blade.
- Features optimal levels of blade wear, impact, and fracture resistance.
- Designed specifically for maximum performance and blade longevity.
- Performs effectively in snow removal operations on roads with embedded lane markers and rumble strips.
- Withstands high-speed plowing over excessive joints, major cracks, and uneven road surfaces.

KenCoat™ Blades

Kennametal Carbide Overlay Application Technology

- Economical choices for moderate-impact applications.
- Resists wear from down pressure.
- Provides wear life 3–5x greater than standard carbide blades.
- Features wear-resistant carbide granules embedded in an abrasion-resistant, steel-weld material that offers better protection of the solid carbide insert in the blade.
- Available in both 1" (25mm) and 1.50" (38mm) wide KenCoat protection.

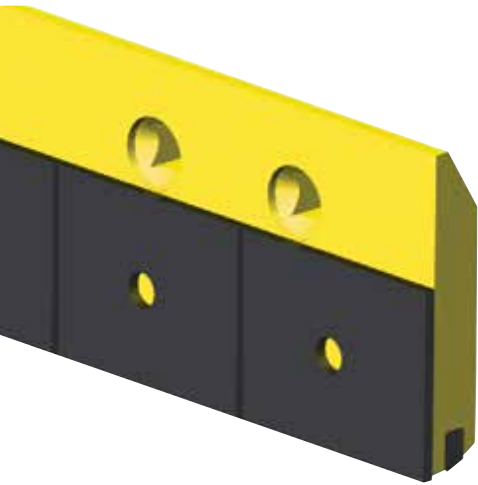


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Grader Blades

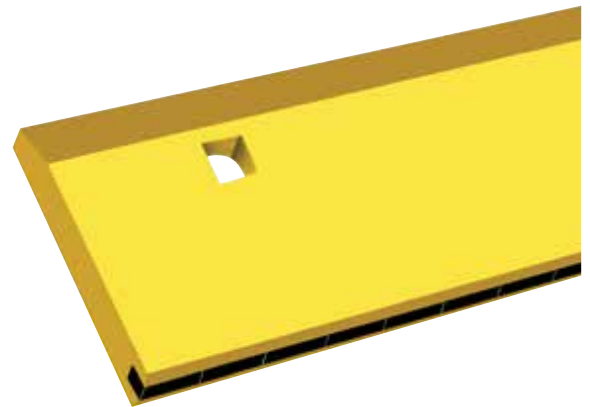


Armored Blades

- Economical choices for higher-impact applications.
- Offers wear life 3–5x greater than standard carbide blades.
- Protects carbide insert by reinforcing the mild steel face with a securely welded hardened-steel plate.
- Available in 3ft (914mm), 4ft (1219mm), and 5ft (1524mm) lengths.

Grader Blades for Plowing Snow

- Offers unparalleled combination of fracture and wear resistance.
- Our brazing expertise ensures that inserts stay firmly in place, without residual stress, resulting in a more durable blade.
- Available in an unmatched variety of styles and sizes — each backed by the road maintenance industry's best quality assurance program.
- Sold in combinations of 3ft (914mm) and 4ft (1219mm) lengths for more versatility, safety, and ease of use.



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FOR THE MOST DEMANDING APPLICATIONS

To learn more about our wear and tooling solutions for grader blades contact your Kennametal Representative or Authorized Kennametal Distributor today.



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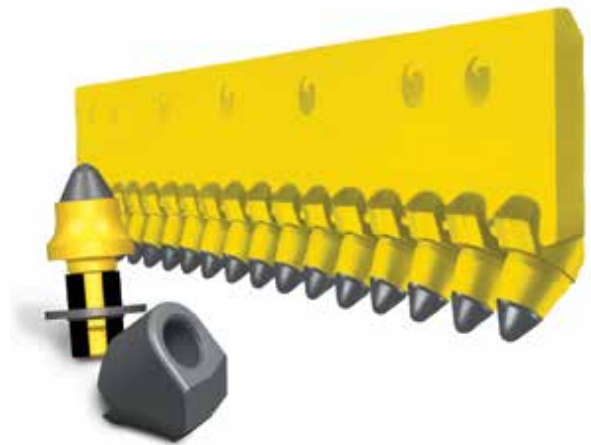


Scarifier Blades

Carbide-Tipped Cutting Tools, Blocks, and Accessories for Scarifier Blade Systems

Kennametal's exclusive tungsten carbide-tipped cutting tools outlast all steel blades. Featuring rotating, self-sharpening cutting tools for more uniform wear and longer tool life, Kennametal blades provide exceptional cutting action in demanding, tough surfaces, including hard-packed gravel roads and frozen ground.

Blades maintain an even cutting height by enabling cutting tools to be rotated from position to position. This significantly reduces machine and operator downtime by enabling operators to individually change worn cutting tools without using special tools, and without replacing entire blade sections and bolts — within a matter of minutes.



Our cutting tools and blocks are proven in:

- Dirt and gravel road maintenance.
- Hard-packed snow and ice removal.
- Chip and seal road reclamation.
- Tar sand road reclamation.
- Spot asphalt milling.
- Spreading loose material.
- Mixing calcium chloride, magnesium chloride, or other dust suppressants.



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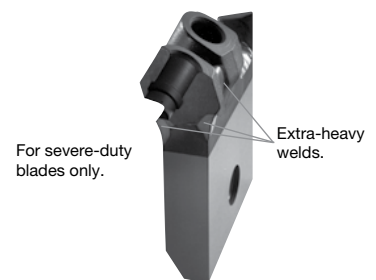
A Variety of Blade Styles to Match Your Conditions

Kennametal blades are easier to use and more versatile than competitive systems. The attack angle of the cutting tools is preset for ease of use, optimum tool rotation, and performance. Kennametal systems also accept a wider variety of cutting tool styles including both rotating and non-rotating type tools to handle a wider variety of conditions.

Kennametal's scarifier blade systems are designed so that just the cutting tools get replaced, not the blades. Partially worn cutting tools can be easily repositioned along the moldboard to maintain a straighter edge and achieve balanced cutting tool wear life. A single person can change an entire set of cutting tools in a matter of minutes, even in the field, with no special tools required!

Kennametal scarifier blades are available in three different styles, specifically designed to perform optimally in a range of ground conditions from light to the harshest of applications:

- **Standard-Duty Blades** — Ideal for light-use road grading in average conditions and applications.
- **Heavy-Duty Blades** — Generally ideal for road grading in most conditions and applications.
- **Severe-Duty Blades** — Ideal for grading in extreme road conditions and applications. Feature a 6" (152mm) blade width instead of the 5" (127mm) width of standard- and heavy-duty blades for more clearance between the toolholder blocks on the back of the blade and the "frog" of the moldboard. Include extra-heavy welds to reduce block breakout from the blade.



Weld chamfers around block pockets increase weld strength.



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Use the following table to determine the length and number of blades required to outfit your grader with a scarifier system. The length of your moldboard determines how many 3ft (914mm) or 4ft (1219mm) blade sections you will need.

■ Blade Selection Guide for Various Moldboards Lengths

length of moldboard	size and quantity of scarifier blade sections required for (1) moldboard assembly		number of cutting tools required
	3ft. (914mm) sections	4ft. (1219mm) sections	
12ft. [144" (3658mm)]	0	3	72
13ft. [156" (3962mm)]	3	1	78
14ft. [168" (4267mm)]	2	2	84
16ft. [192" (4877mm)]	0	4	96

NOTE: Kennametal recommends the use of Grade 8, Number 3 head-plov bolts and nuts when installing blades.

Upon determining the length and number of scarifier blades required, use the following specifications table to determine the specific style of scarifier blade — standard, heavy, and/or severe duty — that you need. This chart can also be used to determine the number of cutting tools required.

■ Scarifier Blade Sizes and Ordering Information

thickness		width		length		blade type	bolt diameter		new order number	quantity of cutting tools required	approximate weight	
in	mm	in	mm	in	mm		in	mm			kg	lbs
.875	22	5	127	36	914	standard duty	.625	16	1012359	18	23	50
.875	22	5	127	48	1219	standard duty	.625	16	1012360	24	32	70
.875	22	5	127	36	914	standard duty	.750	19	1012361	18	23	50
.875	22	5	127	48	1219	standard duty	.750	19	1012362	24	32	70
1.25	32	5	127	36	914	heavy duty	.625	16	1012351	18	29	65
1.25	32	5	127	48	1219	heavy duty	.625	16	1012352	24	39	86
1.25	32	5	127	36	914	heavy duty	.750	19	1012354	18	29	65
1.25	32	5	127	48	1219	heavy duty	.750	19	1012353	24	39	86
1.25	32	6	152	36	914	severe duty	.625	16	1083322	18	37	81
1.25	32	6	152	48	1219	severe duty	.625	16	1083323	24	49	109
1.25	32	6	152	36	914	severe duty	.750	19	1013086	18	37	81
1.25	32	6	152	48	1219	severe duty	.750	19	1013087	24	49	109

NOTE: The above blades feature conical toolholder blocks positioned on 2" (51mm) centers. All blades are punched in a heavy-duty standard highway punch pattern. This means that the last two holes of each blade are on 3" (76mm) centers with the rest of the holes on 6" (152mm) centers. Kennametal scarifier blades can be used in combination to fit virtually every make and model of motor grader manufactured.



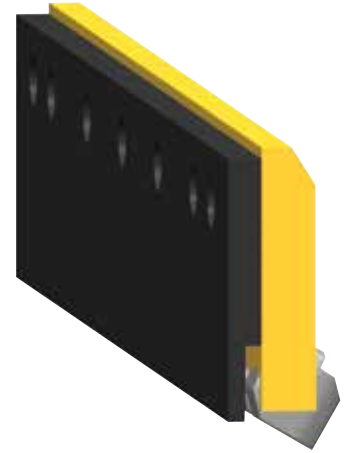
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Cover Blades

Kennametal's optional cover blades provide exceptional wear resistance and superior protection of the main blade body. We recommend using our wear-resistant steel cover blades when the scarifier system is operating in extremely abrasive conditions or when carrying heavy debris loads on the moldboard. The new, redesigned cover blade features an improved design that better protects the blocks and welds. Made of more wear-resistant steel and thicker than our previous models, these new cover blades attach easily through existing bolt holes on the blade using bolts that are .750" (19mm) longer than those used to attach the scarifier blade to the moldboard. Cover blade sections can be changed without changing the entire scarifier blade.



■ Cover Blades Ordering Information • Standard-Duty Blades

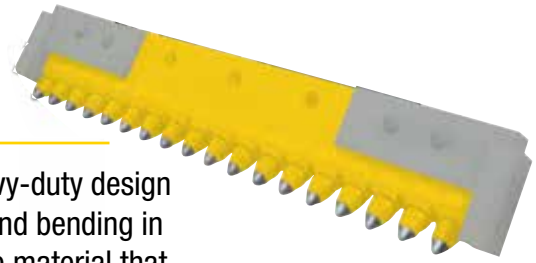
thickness		width		length		order number	bolt diameter	
in	mm	in	mm	in	mm		in	mm
.750	19	5	127	36	914	1810486	.625	16
.750	19	5	127	48	1219	1803906	.625	16
.750	19	5	127	36	914	1810484	.750	19
.750	19	5	127	48	1219	1810485	.750	19

■ Cover Blades Ordering Information • Severe-Duty Blades

thickness		width		length		order number	bolt diameter	
in	mm	in	mm	in	mm		in	mm
.750	19	6	152	36	914	1791493	.625	16
.750	19	6	152	48	1219	1791494	.625	16
.750	19	6	152	36	914	1799128	.750	19
.750	19	6	152	48	1219	1799131	.750	19

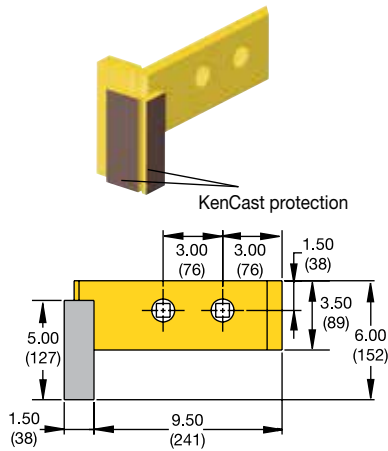


End Protectors

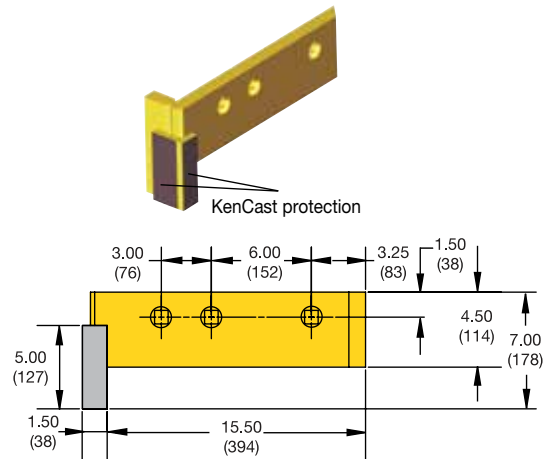


Kennametal carbide end protectors for scarifier blades feature a heavy-duty design and tough steel supports of the end protectors that resist breakage and bending in any road application. Our end protectors feature KenCast™ composite material that combines the wear resistance of Kennametal's exclusive tungsten carbide with the ductility of air-hardening steel.

For standard- and heavy-duty blades



For severe-duty blades



■ End Protectors Ordering Information • Standard-Duty Blades

bolt design	description	bolt diameter		order number	catalog number	approximate unit weight	
		in	mm			kg	lbs
2-bolt design for standard- and heavy-duty systems	right-hand end protector	.625	16	1012885	KCWB-0348	5	10
2-bolt design for standard- and heavy-duty systems	left-hand end protector	.625	16	1012884	KCWB-0349	5	10
2-bolt design for standard- and heavy-duty systems	right-hand end protector	.750	19	1012911	KCWB-0350	5	10
2-bolt design for standard- and heavy-duty systems	left-hand end protector	.750	19	1012912	KCWB-0351	5	10

■ End Protectors Ordering Information • Severe-Duty Blades

bolt design	description	bolt diameter		order number	catalog number	approximate unit weight	
		in	mm			kg	lbs
2-bolt design for severe-duty systems	right-hand end protector	.750	19	1718695	KCWB-0415	10	21
2-bolt design for severe-duty systems	left-hand end protector	.750	19	1718697	KCWB-0416	10	21
3-bolt design for severe-duty systems	right-hand end protector	.750	19	1821674	KCWB-0442	11	25
3-bolt design for severe-duty systems	left-hand end protector	.750	19	1821679	KCWB-0443	11	25

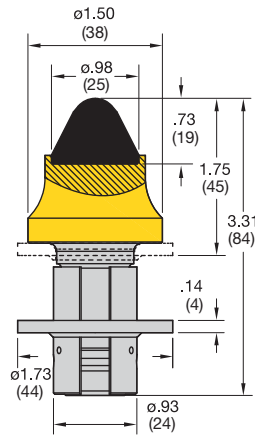


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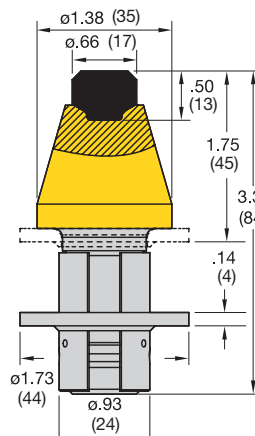
- Superior wear and rotation.
- Washer keeps out debris and improves rotation for longer bit life and less block wear.
- New full-sleeve retainer protects the inside of the bore to prevent uneven wear.
- Washer precompresses the retainer which makes it easier to install.
- Retainer grips tighter to prevent bit loss.



■ C87WFRKCSB

order number	catalog number
2041786	C87WFRKCSB

- Economy-sized carbide tip.
- Washer keeps out debris and improves rotation for longer bit life, less block wear.
- Full sleeve retainer protects inside of the bore to prevent uneven wear.
- Washer precompresses the retainer for easier installation.
- Retainer grips tighter to prevent bit loss.



■ C87HDRP

order number	catalog number
3837213	C87HDRP

■ Packaging Information

order number	catalog number	pieces per container	container weight (approximate)	
			kg	lbs
2041786	C87WFRKCSB	50	.38	.841
3837213	C87HDRP	50	.34	.756

Dimensions shown in millimeters and (inches).

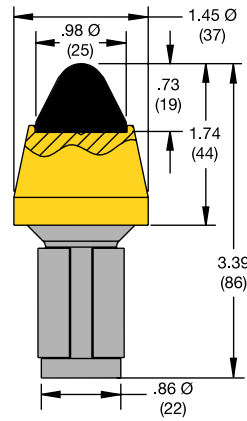


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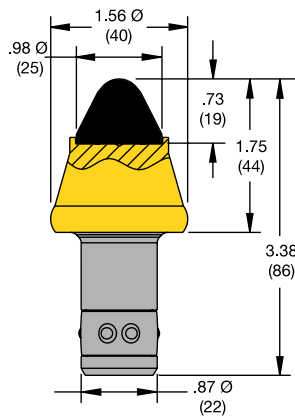
- Longest wearing carbide tip available.
- For use on all types of road surfaces.
- Specially designed carbide tip for extra-long tool life and added steel-wash protection.
- 1.45" (37mm) diameter cutting tool shoulder protects block face from excessive wear.



■ C858KCSB

order number	catalog number
1010880	C858KCSB

- Same design as C858KCSB with added “barbed” short retainer for improved cutting tool retention.



■ C87KCSBSR

order number	catalog number
1010937	C87KCSB SR

■ Packaging Information

order number	catalog number	pieces per container	container weight (approximate)	
			kg	lbs
1010880	C858KCSB	50	.38	.840
1010937	C87KCSB SR	50	.37	.815

Dimensions shown in millimeters and (inches).

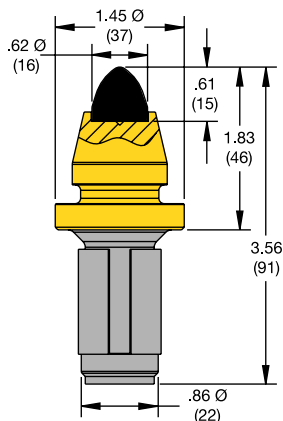


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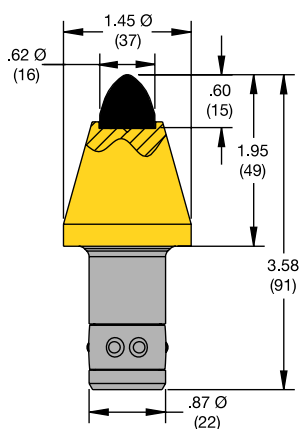
- Sharper carbide tip for increased penetration.
- Large carbide tip for long tool life in average cutting conditions.
- Specially designed flange protects block from excessive wear.
- Puller groove for easier tool extraction from front side of blade.



■ C387DS

order number	catalog number
1010906	C387DS

- Same tip design as C387DS but shank features “barbed” short retainer for improved retention in block.
- Larger steel body provides longer wear life.



■ C87DSSR

order number	catalog number
1010935	C87DS SR

■ Packaging Information

order number	catalog number	pieces per container	container weight (approximate)	
			kg	lbs
1010906	C387DS	50	.31	.674
1010935	C87DS SR	50	.35	.772

Dimensions shown in millimeters and (inches).

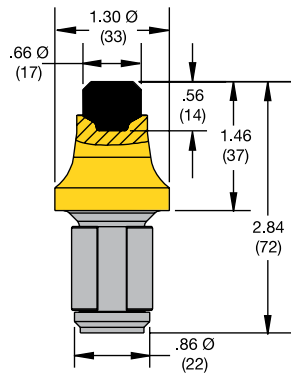


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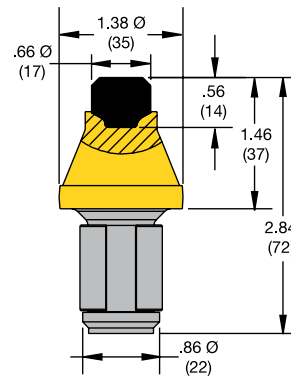
- Larger carbide tip than similar competitive tools.
- Improved with 30% stronger braze.
- Blunt-nose tip style.
- Fits competitive blade systems.



■ C855HD

order number	catalog number
1011208	C855HD

- Larger carbide tip than similar competitive tools.
- Improved with 30% stronger braze.
- Same body style as C855HD but with added steel for increased strength and wear life.
- Fits Kennametal and competitive blade systems.



■ C855HDX

order number	catalog number
1011206	C855HDX

■ Packaging Information

order number	catalog number	pieces per container	container weight (approximate)	
			kg	lbs
1011208	C855HD	50	.24	.540
1011206	C855HDX	50	.27	.597

Dimensions shown in millimeters and (inches).

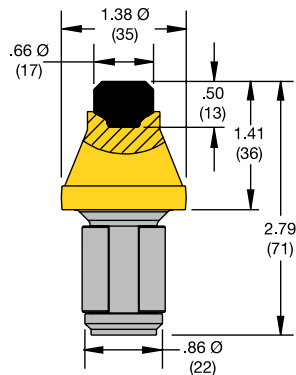


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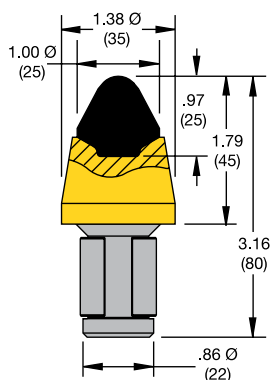
- Economy-sized carbide tip.
- Improved with 30% stronger braze.
- Additional steel in body style for added strength and wear life.
- Fits Kennametal and competitive blade systems.



■ C855HDX-4

order number	catalog number
3386038	C855HDX-4

- Designed for maximum wear life and durability like the C858KCSB but made to fit Kennametal and some competitive blade systems.
- Longer gage length for reduced wear on blades and blocks.
- Ideal for general-duty and heavy-impact applications.



■ C855KCSB

order number	catalog number
1855704	C855KCSB

■ Packaging Information

order number	catalog number	pieces per container	container weight (approximate)	
			kg	lbs
3386038	C855HDX-4	50	.26	.570
1855704	C855KCSB	50	.35	.780

Dimensions shown in millimeters and (inches).

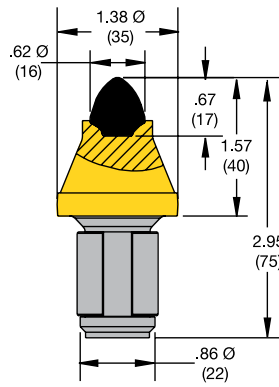


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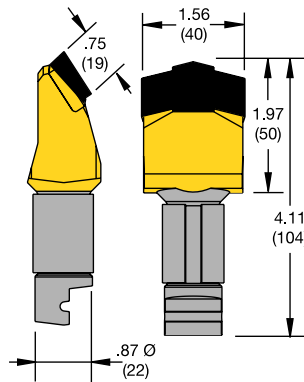
- Sharp carbide tip.
- Fits Kennametal and competitive blade systems.



■ C855LR

order number	catalog number
1011001	C855LR

- For fine grading or scarifying in soft to medium-hard conditions, or for scraping without penetrating road surface.
- 1-1/2" (38mm) cutting face width for better block protection.
- Swept-back carbide edge design provides exceptional tool life.
- Non-rotating tool (not self-sharpening).
- Wider tool face reduces gap between cutting tools for smooth, grooming applications.



■ AR15087

order number	catalog number
1012240	AR15087

■ Packaging Information

order number	catalog number	pieces per container	container weight (approximate)	
			kg	lbs
1011001	C855LR	50	.25	.544
1012240	AR15087	40	.45	1.000

Dimensions shown in millimeters and (inches).

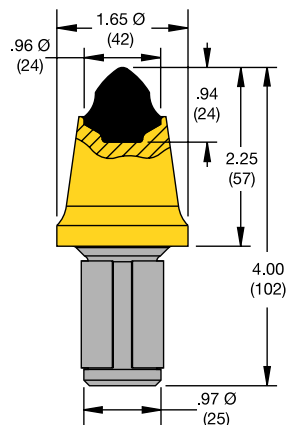


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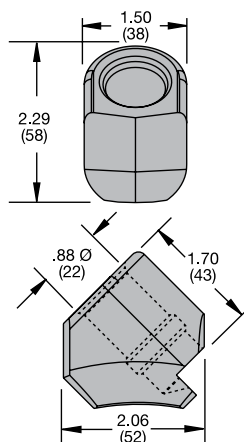
- Specially designed and manufactured for use in competitive “mining duty” systems. (This tool does NOT fit Kennametal blade systems.)
- Contains more carbide than similar competitive designs.



■ C100 24.43SB

order number	catalog number
1847237	C100 24.43SB

- Replacement toolholder for Kennametal blade systems.
- Easily welded with a 7018 or 8018 low-hydrogen rod with no pre-heating required.



■ C87GB Block

order number	catalog number
1012234	C87G BLOCK

■ Packaging Information

order number	catalog number	pieces per container	container weight (approximate)	
			kg	lbs
1847237	C100 24.43SB	25	.54	1.180
1012234	C87G BLOCK	30	.43	.950

Dimensions shown in millimeters and (inches).

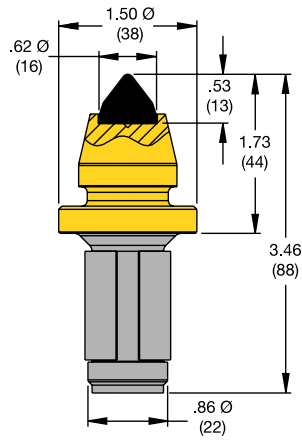


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- Sharp pointed tip for easy penetration of hard surfaces.
- Excellent in soft to medium-hard abrasive conditions.
- Specially designed flange protects block face from excessive wear.
- Ideal for removing high spots and washboard effect on asphalt-paved roads.



■ **C387BF**

order number	catalog number
1010817	C387BF

■ **Packaging Information**

order number	catalog number	pieces per container	container weight (approximate)	
			kg	lbs
1010817	C387BF	50	.30	.659

Dimensions shown in millimeters and (inches).



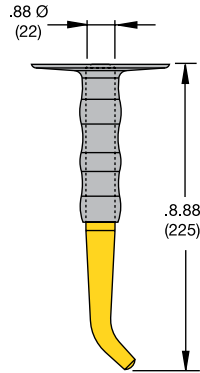
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■ KHP2 Hammer Punch

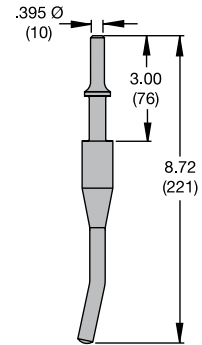
- For removing cutting tools from blocks.
- Hardened tip for longer life; used with a hammer.
- Plastic hand protector for added safety.



order number	catalog number
1012247	KHP2 Hammer Punch

■ KAHP1 Air-Hammer Punch

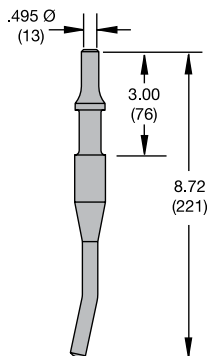
- For removing cutting tools from blocks.
- Hardened tip for durability.
- Fits all light-duty, air-hammer guns that have a .375" (10mm) chuck.



order number	catalog number
1012245	KAHP1 Air-Hammer Punch

■ KAHP 1D Air-Hammer Punch

- For removing cutting tools from blocks.
- Hardened tip for durability.
- Fits all heavy-duty, air-hammer guns that have a .500" (13mm) chuck.



order number	catalog number
1012246	KAHP 1D Air-Hammer Punch



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■ LR87

- Replacement retainer for use with C387DS, AR15087, C387BF, KCWB-0448, and C87BF cutting tools.



order number	catalog number
1011935	LR87

■ C87SR

- Replacement retainer for use with C87KCSBSR and C87DSSR cutting tools.



order number	catalog number
1012363	C87SR

■ LR858

- Replacement retainer for use with C858KCSB.



order number	catalog number
1012089	LR858

■ SR Washer 44MM

- Replacement washer for C87WFRKCSB.



order number	catalog number
1992068	SR Washer 44MM



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■ RPR07 Retainer

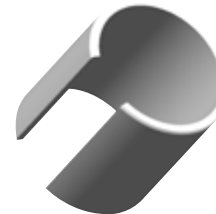
- Replacement retainer for C87WFRKCSB.



order number	catalog number
1990418	RPR07 Retainer

■ LR85

- Replacement retainer for use with C855DS, C855HD, C855HDX, C855LR, C855KCSB, and C855HDX-4 cutting tools.



order number	catalog number
1012117	LR85

■ C100SB

- Replacement retainer for use with C100 24.43SB cutting tools.



order number	catalog number
1851733	C100SB

■ Reducer Bushing

- Reduces bolt hole size in blades from .750" (19mm) bolt to .625" (16mm) bolt.



order number	catalog number
1104522	Reducer Bushing

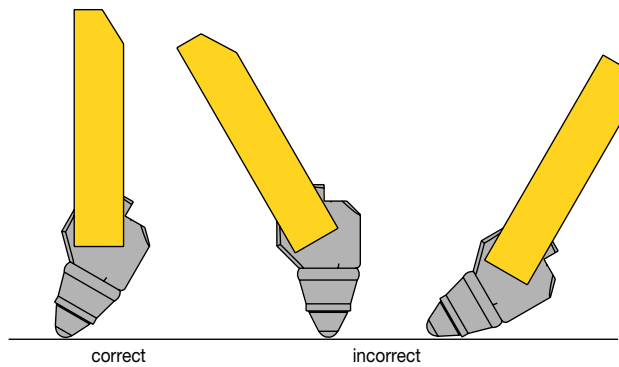


Guidelines for Proper Use of Scarifier Blades

These guidelines will help you maximize your Kennametal scarifier blade performance:

1. Kennametal recommends using only Grade 8, No. 3 head plow bolts and matching Grade 8 heavy hex nuts to install our scarifier blades.
2. Position and operate blades at a 90° angle to the road surface so cutting tools are at the proper cutting angle (see drawing on page 23).
3. Carbide-tipped cutting tools should be used to penetrate a depth no greater than 1.00" (25mm).
4. Inspect the blade and cutting tools daily. Replace lost, worn, or broken cutting tools immediately.
5. Kennametal carbide cutting tools are self-rotating and self-sharpening. Inspect cutting tools daily by turning them with your hand to ensure they are rotating properly. Cutting tools that do not turn can usually be freed by several light taps with a soft-headed hammer. Clean cutting tool and block assemblies with a solvent cleaner when necessary to ensure proper rotation of the cutting tool. Do not use oil for this purpose. Oil will cause dirt to adhere to the cutting tool, preventing proper rotation.
6. Do not use these blades to remove large rocks or boulders. These blades are intended for use in scarifying roads to return them to their original aggregate condition. Using Kennametal scarifier blades to remove large rocks or boulders terminates and voids all warranties and obligations from Kennametal as the manufacturer and supplier.
7. When transporting scarifier blades fitted with long-retainer cutting tools, be sure to roll the moldboard backward so the blade is horizontal and the cutting tools are pointed upward. This will prevent the cutting tools from vibrating out of the blade while in transit. This procedure is not necessary when using short-retainer cutting tools in the blade.
8. The travel speed of the grader may affect the performance of the blade. When working in heavy-impact applications, use a lower speed (such as second gear). This will reduce the risk of cutting tool breakage or blade damage.
9. "Backdragging" is not recommended. This procedure increases the risk of breakage or loss of cutting tools and puts unnecessary stress on the blade, bolts, and moldboard.
10. Use Kennametal carbide end protectors in applications like ditching that subject the side of the blade to wear. End protectors do not interfere with penetration and protect the ends of the blade from excessive wear.





To replace a worn or broken block:

1. Cut out the broken block, if necessary, and clean the recess to remove rust and loose material.
2. Align the new block at the appropriate attack angle and tack weld into position.
3. Weld around the upper part of the block, first on the front and back side of the blade.
4. Use Airco 7018M or equivalent welding material.
5. Use a welding rod (stick) with a maximum .125" (3mm) diameter or a welding wire with a maximum .052" (1mm) diameter.
6. Angle the weld gun or rod to run a root pass along the block base where it meets the .500" (13mm) wide steel "tongue" between the blocks. Do not weld back and forth between the blocks. Run one pass on each side of the block in opposite directions to weld it to the blade.



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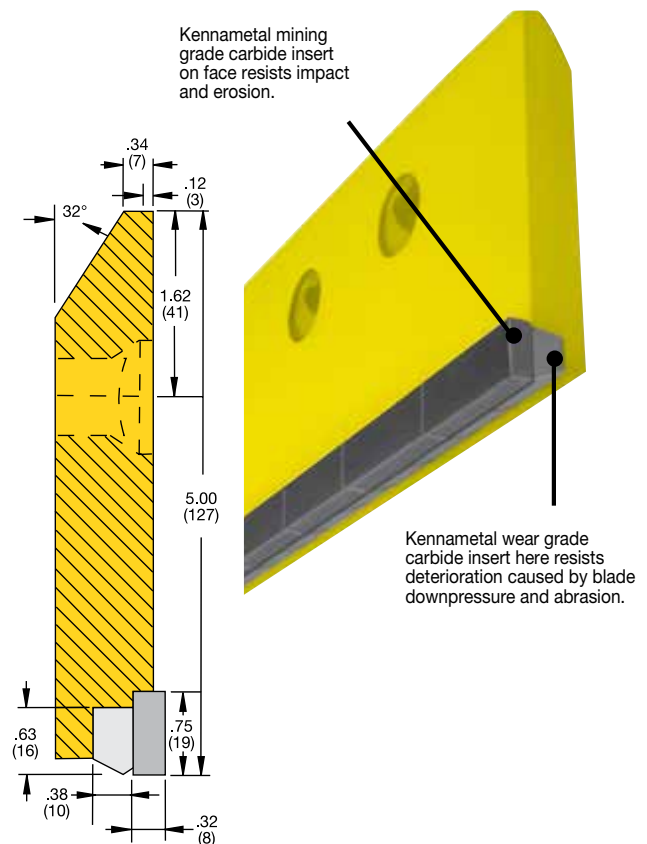
Dual-Carbide Blades

Improved Braze, More Wear-Resistant Steel Body

Dual-carbide blades — available exclusively through Kennametal, the only manufacturer of this innovative blade — outlast embedded carbide granule-style blades. Dual-carbide blades features a universal bolt-hole and a variety of available lengths for maximum compatibility.

Dual-carbide tungsten insert blades are specifically designed for high-abrasion and low-impact applications to stay straight; maintain a sharp, clean edge; and stop crowning:

- First insert is formulated with our proprietary macrocrystalline carbide grade for toughness and impact resistance and mounts on the front of blade.
- Second insert is made from a wear-resistant carbide grade and mounts directly behind the first insert to resist wear caused by blade down pressure and abrasion.
- Backed by a comprehensive warranty program.



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Specifications

- Steel holder:** SAE 1040-1045, hot-rolled
- Carbide inserts:**
- Front .750" (19mm) high, impact-resistant
 - Rear .625" (16mm) high, wear-resistant
- Braze:** A high-strength alloy material

Bolting Recommendations

To reduce the likelihood of blade chatter and/or failure, use Grade 8, Number 3 head plow bolts and nuts.

Hole-Punch Data

- Standard 6" (152mm) on centers
- .687" (17mm) square, countersunk to receive .625" (16mm) diameter plow bolts

OR

- .812" (21mm) square, countersunk to receive 750" (19mm) diameter plow bolts
- Holes accurately punched to fit most make/models of graders.

■ Dual-Carbide Blade Sizes and Ordering Information

thickness		width		length (L)		order number	bolt diameter		weight	
in	mm	in	mm	in	mm		in	mm	kg	lbs
.875	22	5	127	24	610	1011871	.625	16	15	32
.875	22	5	127	36	914	1011872	.625	16	22	48
.875	22	5	127	48	1219	1011875	.625	16	29	63
.875	22	5	127	36	914	1011879	.750	19	22	48
.875	22	5	127	48	1219	1011877	.750	19	29	63
.875	22	5	127	60	1524	1311238	.625	16	35	77

NOTE: When ordering, please provide the order number and be sure to specify hole size and moldboard length. Blades beveled at top to fit grader moldboard.



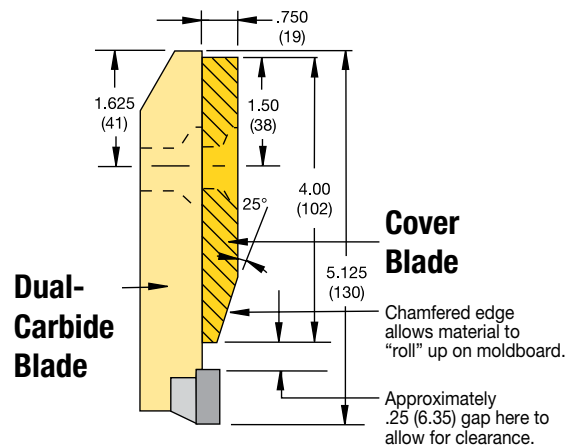
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DCI Cover Blades — Now 3/4" (19mm) thick

When operating in extremely abrasive conditions, our optional cover blades provide added wear resistance for the non-carbide portion of the blade. The chamfered bottom edge inhibits any interruption of the rolling action of bladed road material. The cover blades are attached using the same bolts as those used for attaching the dual-carbide blade below it, simply by increasing the length of the bolts by a .500" (13mm). It's not necessary to use end protectors when cover blades are used. Fabricated from wear-resistant steel, these cover blades are available in the following sizes:



Thick Dual Carbide Cover Blades Ordering Information 3/4" (19mm)

thickness		width		length		order number	bolt diameter	
in	mm	in	mm	in	mm		in	mm
.750	19	4	102	36	914	2492564	.625	16
.750	19	4	102	48	1219	2478681	.625	16
.750	19	4	1 102 27	36	914	2872390	.750	19

* Replaces old 1/2" (13mm) thick blade part numbers.



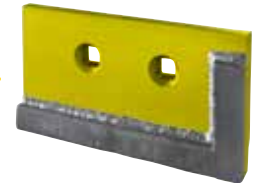
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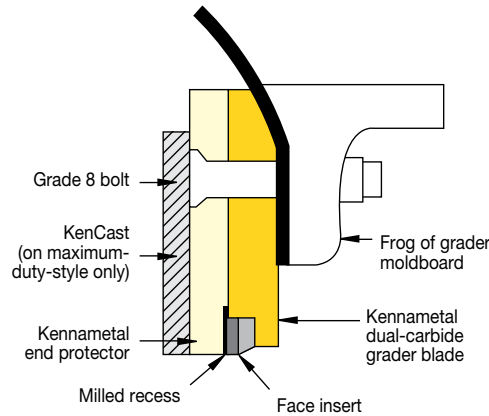
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End Protectors

Kennametal highly recommends the use of our carbide or standard steel end protectors. Our end protectors avoid impact damage by covering the last 9" (229mm) of each of the end blades on either side of the moldboard. They are installed over the dual carbide blade, using the same bolt holes (as shown in the diagram). An installation guide is available upon request.



carbide type shown



■ Blade Selection Guide for Various Moldboards Lengths

standard steel type

new order number	description
1011918	standard for .625 (16) bolts
1011919	standard for .750 (19) bolts

standard steel type

new order number	description
1012555	maximum-duty right for .625 (16) bolts
1012556	maximum-duty right for .750 (19) bolts
1012560	maximum-duty left for .625 (16) bolts
1012561	maximum-duty left for .750 (19) bolts



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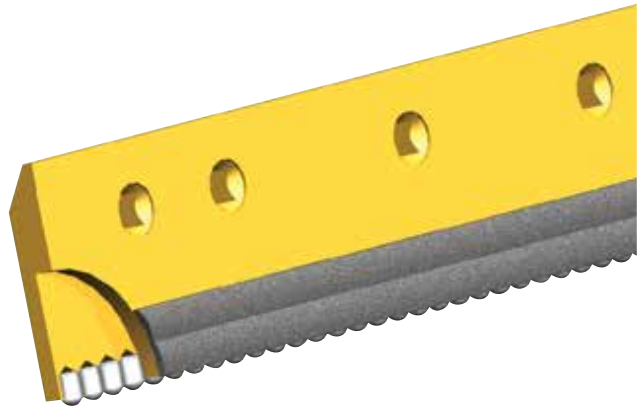


I.C.E.[™] /KenCoat[™] Blades

Snowplow/Grader Blades — Two Unique Technologies Combined into One

Traditional carbide-edged blades are prone to premature failure in tough, high-impact applications because cracks that occur in a single carbide insert often travel the length of the blade through all the carbide inserts. Kennametal's I.C.E./KenCoat blades eliminate total blade fractures and provide one of the strongest carbide blades available today!

I.C.E./KenCoat blades withstand blade edge breakage and damage caused by the harshest road conditions, aggressively cutting through hard-packed road surfaces. Within one blade, we combine the durable, individually mounted bullet-shaped inserts of the I.C.E. Series[™] with KenCoat wear-resistant carbide granules imbedded in a tough, abrasion-resistant, steel-weld material. Together, these two technologies provide the ultimate in blade strength, performance, and longevity.



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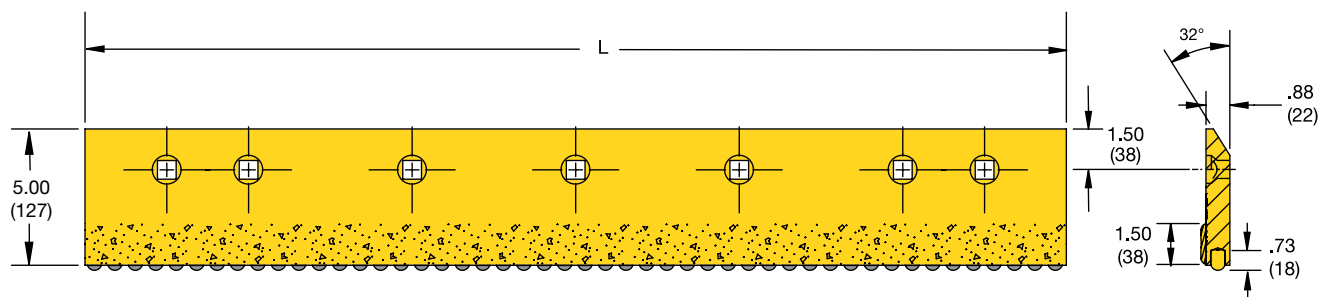
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When the going gets tough... get our tough I.C.E.[™] /KenCoat[™] blades

I.C.E./KenCoat blades feature a row of .500" (13mm) diameter, .750" (19mm) high, bullet-shaped tungsten carbide inserts on the wear edge of the blade and a 1.50" (38mm) wide band of KenCoat carbide in front of the inserts.

- Combines durable, individually mounted bullet-shaped inserts protected with a layer of wear-resistant carbide granules imbedded in a tough, abrasion-resistant, steel-weld material in one blade.
- Offers maximum blade strength and blade longevity — even in the harshest of road applications.
- Features the highest levels of combined blade wear, impact, and fracture resistance.
- Performs effectively to remove snow on roads with imbedded lane markers and rumble strips by effectively resisting carbide fractures.
- Improved penetration versus traditional straight edged designs.



■ I.C.E./KenCoat Blade Sizes and Ordering Information

thickness		width		length		order number	bolt diameter		weight	
in	mm	in	mm	in	mm		in	mm	kg	lbs
.875	22	5	127	36	914	1923523	.625	16	20	45
.875	22	5	127	48	1219	1923524	.625	16	27	60
.875	22	5	127	36	914	2388888	.750	19	20	45
.875	22	5	127	48	1219	2388889	.750	19	27	60



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KenCoat™ Blades

Kennametal Carbide Overlay Application Technology

KenCoat Grader Blades use our exclusive Kennametal Carbide Overlay Application Technology to fortify the mild steel face of standard carbide insert blades, providing enhanced blade protection and strength.

When working on unpaved surfaces, the mild steel of standard carbide insert blades often wears away, weakening the carbide insert and making it susceptible to impact and breakage. KenCoat Grader Blades are economical choices to prevent this type of wear.



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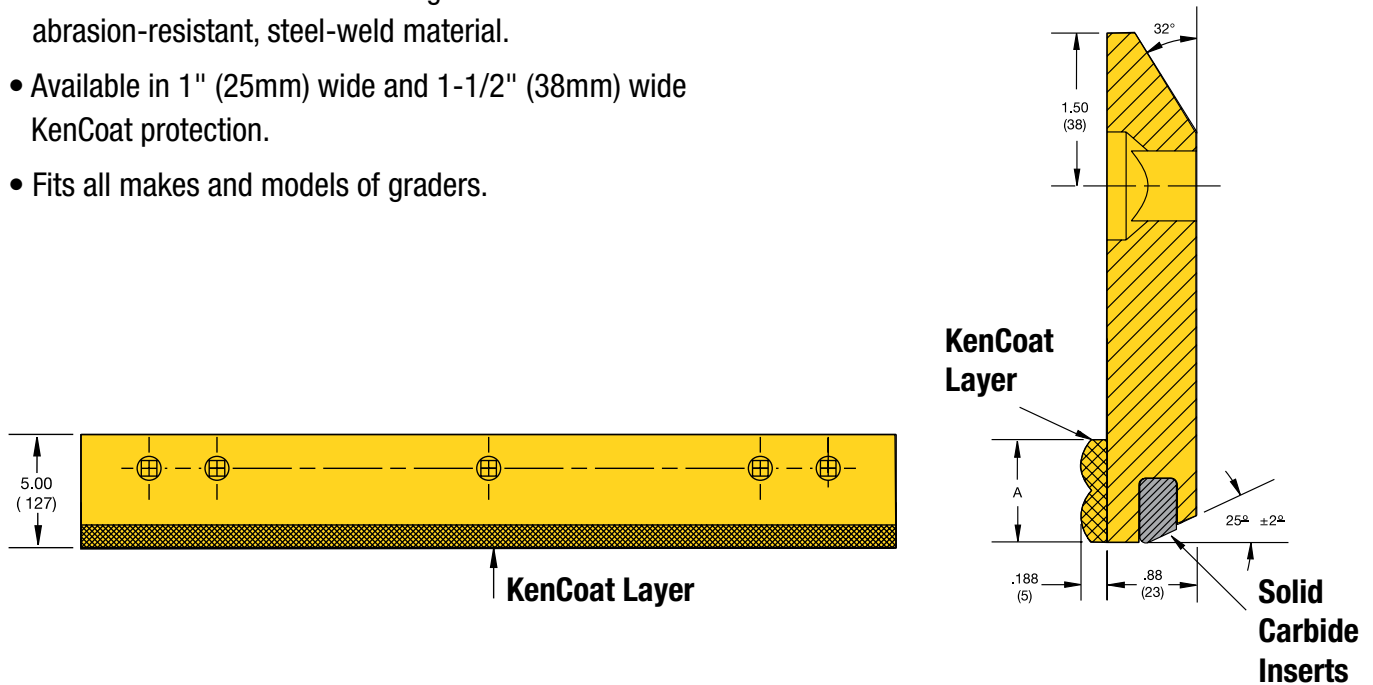
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The KenCoat layer consists of wear-resistant carbide granules embedded in a tough, abrasion-resistant, steel-weld material and protects a solid carbide insert that is brazed in place and resists wear from down pressure.

KenCoat Grader Blades are .875" (22mm) thick and 5" (127mm) wide (tall). They are available in both standard 36" (914mm) and widepass 48" (1219mm) lengths and fit all makes and models of graders.

- Economical choices for moderate-impact applications.
- Provides enhanced blade protection and resistance to wear caused by down pressure.
- Features wear-resistant carbide granules embedded in an abrasion-resistant, steel-weld material.
- Available in 1" (25mm) wide and 1-1/2" (38mm) wide KenCoat protection.
- Fits all makes and models of graders.



■ KenCoat Blade Sizes and Ordering Information • Wide KenCoat Protection 1" (25mm)

thickness		width		length		order number	bolt diameter		weight		Size A	
in	mm	in	mm	in	mm		in	mm	kg	lbs	in	mm
.875	22	5	127	36	914	1231173	.625	16	20	45	1.00	25
.875	22	5	127	48	1219	1180020	.625	16	27	60	1.00	25
.875	22	5	127	48	1219	1728718	.750	19	27	60	1.00	25

■ KenCoat Blade Sizes and Ordering Information • Wide KenCoat Protection 1-1/2" (38mm)

thickness		width		length		order number	bolt diameter		weight		Size A	
in	mm	in	mm	in	mm		in	mm	kg	lbs	in	mm
.875	22	5	127	36	914	2619561	.625	16	20	45	1.50	38
.875	22	5	127	48	1219	2619509	.625	16	27	60	1.50	38
.875	22	5	127	60	1524	2619556	.625	16	34	75	1.50	38
.875	22	5	127	36	914	2619559	.750	19	20	45	1.50	38
.875	22	5	127	48	1219	2619560	.750	19	27	60	1.50	38

NOTE: Blades utilize a row of 5/8" (16mm) high trapezoid-shaped tungsten carbide inserts on the wear edge.



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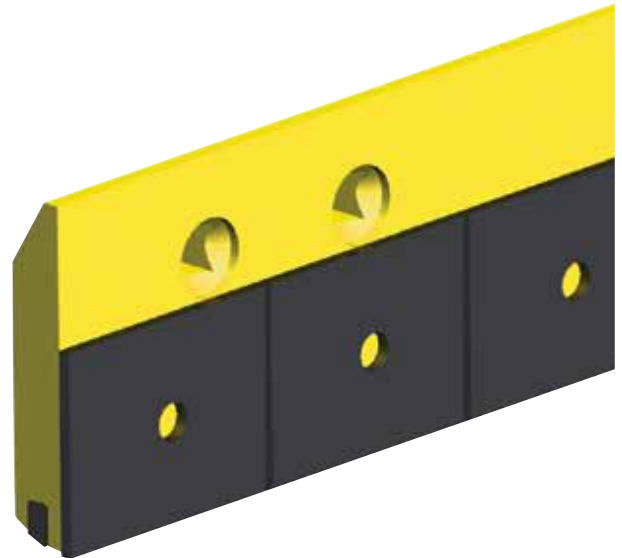
Armored Blades

Hardened-Steel Armored Blades

Kennametal Armored Blades are designed to provide better protection of the steel face of standard carbide insert blades. When working on unpaved surfaces, the mild steel can deteriorate, exposing the carbide insert to greater impact and causing blade breakage. Kennametal Armored Blades are the economical choice to prevent this type of wear.

Kennametal Armored Blades use a securely welded, hardened-steel plate to protect and further strengthen the inserts. The wear-resistant, armored blades are .875" (22mm) thick in the bolt area and 1.0625" (27mm) thick in the armor plate area. The blades are 5" wide (127mm) (tall) and are available in 36" (914mm), 48" (1219mm), and 60" (1524mm) lengths.

Like all Kennametal grader blades, they are "standard highway punched" to fit all makes and models of graders.

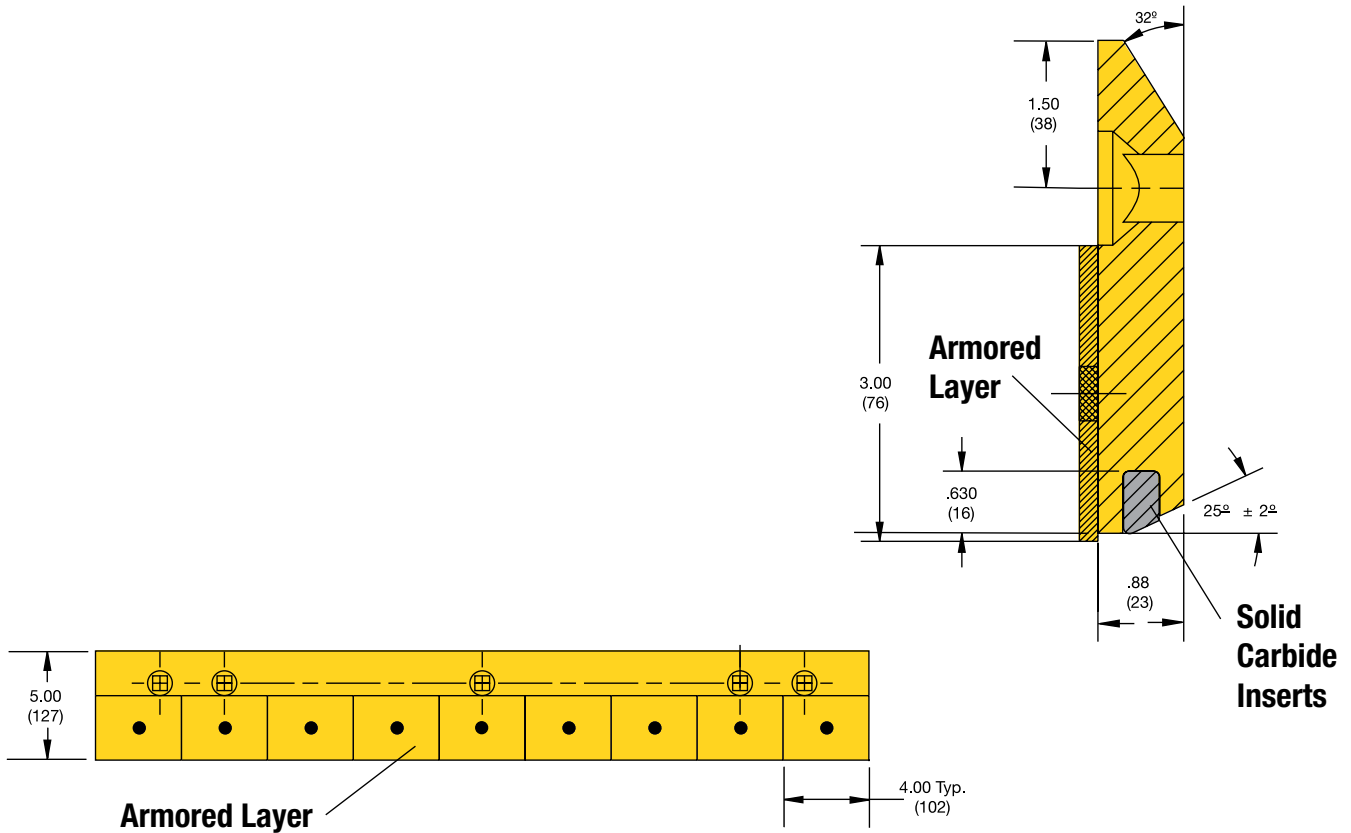


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- Economical choices for higher-impact applications.
- Protects carbide insert by reinforcing the steel face with a securely welded, hardened-steel plate.
- Reduces blade wear caused by unpaved surfaces, extending blade life by three to five times as compared to standard carbide blades.
- Available in 3ft (914mm), 4ft (1219mm), and 5ft (1524mm) lengths.
- “Standard highway punched” to fit all makes and models.



■ Armored Blades Ordering Information

thickness		width		length		order number	bolt diameter		weight	
in	mm	in	mm	in	mm		in	mm	kg	lbs
.875	22	5	127	36	914	1105976	.625	16	21	47
.875	22	5	127	48	1219	1013304	.625	16	29	63

■ Replacement Wear Patch

thickness		width		length		order number	bolt diameter		weight	
in	mm	in	mm	in	mm		in	mm	kg	lbs
.875	5	3	76	4	102	1012159	—	—	.005	.01



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KNA® KUEPER NORTH AMERICA



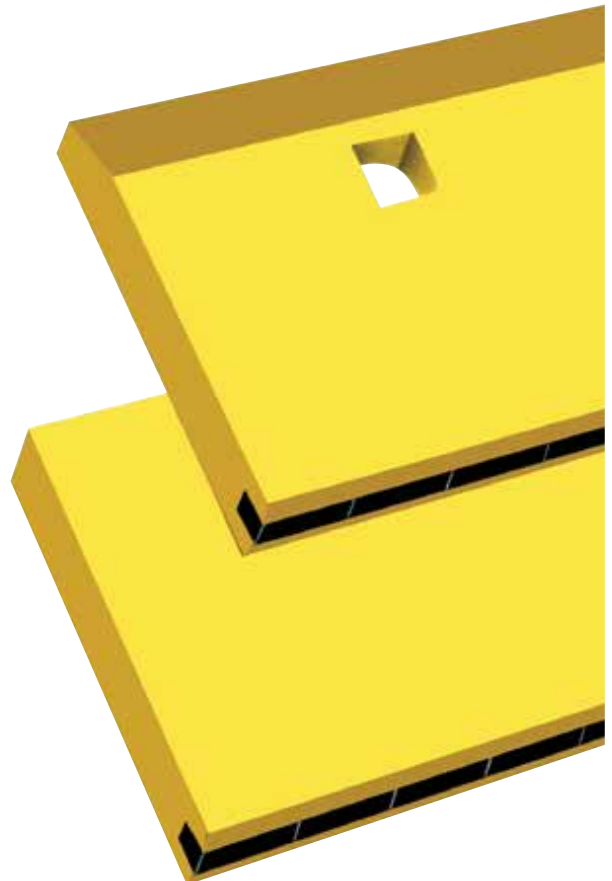
Snow Removal Blades

Tungsten Carbide-Edged Blades for Graders, Equipped with Front Plows or Wings, and Underbody Plows

Our tungsten carbide-edged grader blades stand up against the toughest winter snow-packed roads.

Equipped with genuine Kennametal tungsten carbide inserts, which are secured firmly to the blade with our superior brazing technique, these snowplow blades offer unparalleled fracture and wear resistance. In fact, our tungsten carbide-edged snowplow blades are field tested and proven to have a life span 20 times greater than competitive all-steel blades.

Kennametal tungsten carbide-edged snowplow blades are available in a variety of lengths in two styles: standard-size .625" (16mm) carbide inserts and heavy-duty .750" (19mm) carbide inserts.

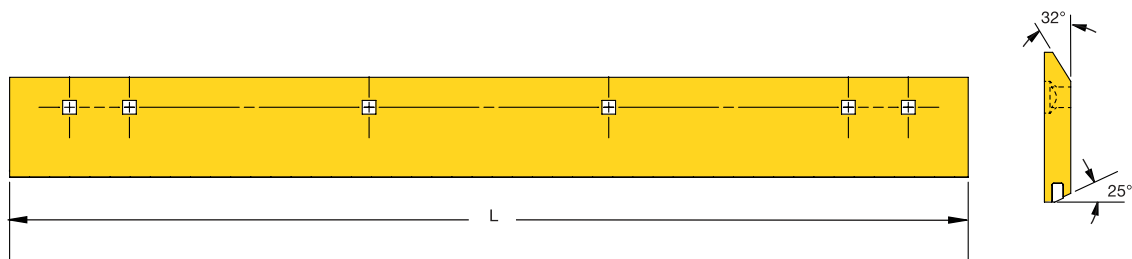


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AMERICA

- Economically priced blades for paved road surfaces.
- Features genuine Kennametal tungsten carbide inserts formulated with macrocrystalline technology.
- Provides superior wear-resistance and longevity, outlasting competitive all-steel blades by up to 20:1.
- Our brazing expertise ensures that inserts stay firmly in place, without residual stress, resulting in a more durable blade.
- Available in an unmatched variety of styles and size — all backed by the road maintenance industry's best quality assurance program.
- Sold in combinations of 3ft (914mm) or 4ft (1219mm) lengths for more versatility, safety, and ease of use.



■ Snowplow Blades Ordering Information • Standard Size .625" (16mm) Carbide Inserts

thickness		width		length (L)		order number	catalog number	bolt hole distance		hole spacing		weight	
in	mm	in	mm	in	mm			in	mm	in	mm	kg	lbs
.875	22	5	127	36	914	1011883	PB-736H top beveled	1.50	38	3-3-12-12-3-3	76-76-305-305-76-76	18	40
.875	22	5	127	48	1219	1011885	PB-748H top beveled	1.50	38	3-3-12-12-12-3-3	76-76-305-305-305-76-76	25	55
.875	22	5	127	60	1524	1011887	PB-760H top beveled	1.50	38	3-3-12-12-12-12-3-3	76-76-305-305-305-305-76-76	32	70

■ Snowplow Blades Ordering Information • Heavy-Duty Size .750" (19mm) Carbide Inserts

thickness		width		length (L)		order number	catalog number	bolt hole distance		hole spacing		weight	
in	mm	in	mm	in	mm			in	mm	in	mm	kg	lbs
.875	22	5	127	48	1219	1011930	GDR48A0140	1.50	38	3-3-12-12-12-3-3	76-76-305-305-305-76-76	26	57



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AMERICA

Kennametal Inc. encourages the safe use of its products. To help avoid personal injury or damage to tools, please follow these guidelines:

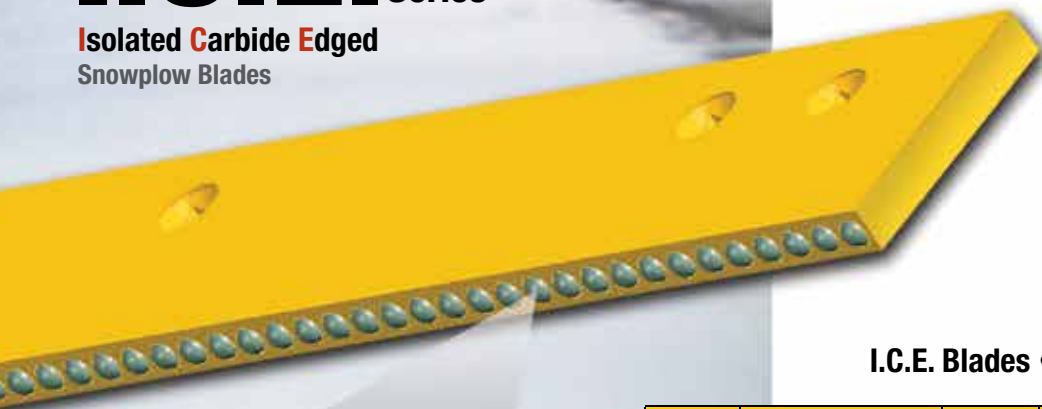
- Wear approved personal protection equipment, including eye and ear protection, steel-toed shoes, hard hat, and vest.
- Make sure tools are properly seated and securely retained.
- Do not strike cutting tools with metal objects. Carbide tips could shatter.
- Use a soft-headed hammer or other approved installation tools to insert cutting tools.
- Exercise care when removing tools.
- Inspect tools before each use. Do not use dull, cracked, burred, or bent tools.
- Operate all machines with safety in mind. Stand clear of machines in use, and make sure protective guards are in place.
- Do not change tools when the blade is moving.





I.C.E. Series

Isolated Carbide Edged
Snowplow Blades



Lasts up to three times longer than standard carbide-edged styles in impact conditions!

Introducing

Kennametal I.C.E. Series™ • Isolated Carbide-Edged Blades

Specifically engineered to last exceptionally long in even the most challenging road conditions.

- Especially effective in applications involving imbedded lane markers and rumble strips — greatly reducing blade breakage.
- Ideal for high-speed plowing over roads with excessive joints, cracks, or uneven surfaces.
- Ultra-durable, dome-shaped carbide inserts are securely mounted and strategically isolated from one another to provide optimum fracture resistance throughout the entire blade length.
- Available in 3' and 4' (7/8"-thick; 5"-high) sections that can be easily installed and rotated on the plow for balanced wear throughout a season.
- Patented design.

I.C.E. Blades • Ordering Information

blade length	catalog number	material number	blade dimensions	bolt hole distance from top	hole spacing	lbs
Square Top Edge for Snowplows						
36"	PB-536	1553693	7/8 x 5 x 36"	1-1/2"	3-3-12-12-3-3"	45
48"	PB-548	1553694	7/8 x 5 x 48"	1-1/2"	3-3-12-12-12-3-3"	62
Top Edge Beveled for Graders						
36"	PB-636	2035932	7/8 x 5 x 36"	1-1/2"	3-3-12-12-3-3"	45
48"	PB-648	2035931	7/8 x 5 x 48"	1-1/2"	3-3-12-12-12-3-3"	62
60"	PB-660	3384812	7/8 x 5 x 60"	1-1/2"	3-3-12-12-12-12-3-3"	72

Rounded-tip carbide inserts deliver exceptional penetration performance in even the hardest-packed snow.



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Presenting

Kennametal I.C.E. Series™ Center and End Blade Savers featuring genuine Kennametal tungsten carbide at the point of impact — for ultimate wear resistance and moldboard protection.

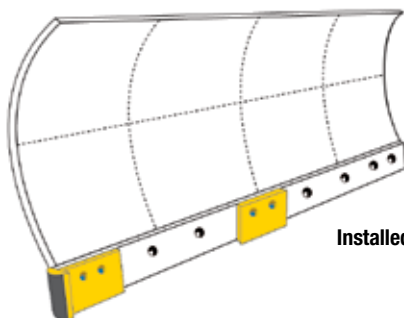
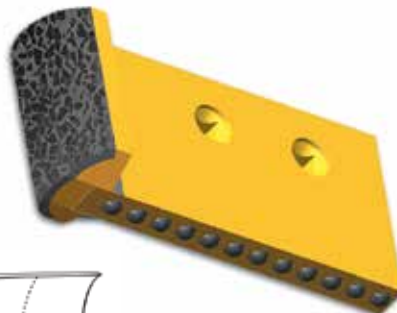
- Position at the highest wear areas of your moldboard to ensure substantially improved blade performance and a straight edge, in even the hardest-packed ice and snow.
- Simply mount over your blades, on either side of the moldboard, using the same bolt holes.
- Vastly superior to competitive chrome-carbide hardfaced or hardened-steel offerings.
- Eliminates need for moldboard shoes.
- Dome-shaped (no sharp corners to chip), individually spaced carbide inserts deliver maximum breakage defense.
- End model incorporates KenCast™ tungsten carbide material to safeguard the blade end from curb contact, saving you on replacement inventory and labor — no matter the cast angle of your plow.
- Available in a wide array of sizes and bolt patterns to fit virtually all plow and blade designs.

Drastically reduce downtime by extending blade life!



I.C.E. Center Blade Saver

I.C.E. End Blade Saver



Installed Blade Savers

I.C.E. Blade Savers • Ordering Information

part number	blade height	hole spacing	gauge line	length	bolt size
End Blade Savers 2-Bolt Styles					
2040087	5"	3-3"	1.5"	10.5"	5/8"
2040088	5"	3-3"	1.5"	10.5"	3/4"
2040089	6"	3-3"	1.5"	10.5"	5/8"
2040090	6"	3-3"	1.5"	10.5"	3/4"
2040091	6"	3-3"	2"	10.5"	5/8"
2040092	6"	3-3"	2"	10.5"	3/4"
2040123	8"	3-3"	1.5"	10.5"	5/8"
2040124	8"	3-3"	1.5"	10.5"	3/4"
2040125	8"	3-3"	2"	10.5"	5/8"
2402490	6"	2-8-2"	2"	14.5"	5/8"
End Blade Savers 3-Bolt Styles					
2402494	6"	3-3-12-2.25"	2"	22.5"	5/8"
2402495	6"	3-3-12-2.25"	1.5"	22.5"	5/8"
2402485	6"	3-3-12-2.25"	1.5"	22.5"	3/4"
2402489	6"	3-3-12-2.25"	2"	22.5"	3/4"
2457130	8"	3-3-12-2.25"	1.5"	22.5"	5/8"
3556530	5"	3-3-12-2.25"	1.5"	22.5"	5/8"
Center Blade Savers					
2038043	6"	3-3-9-3-3"	1.5"	21"	5/8"
2040864	6"	3-3-9-3-3"	2"	21"	5/8"
2035512	6"	3-3-12-3-3"	1.5"	24"	5/8"
2037952	6"	3-3-12-3-3"	2"	24"	5/8"
2037951	5"	3-3-12-3-3"	1.5"	24"	5/8"
2038044	6"	3-3-3-3"	1.5"	9"	5/8"
2038045	8"	3-3-3-3"	1.5"	9"	5/8"
2038046	6"	3-12-3-3"	1.5"	18"	5/8"
2042998	8"	3-3-12-3-3"	1.5"	24"	5/8"

NOTE: End blade saver bolt holes countersunk on both sides of blade to facilitate use as a left-hand or right-hand part.

Blade is 1" - thick on all blade savers.

To choose the optimum blade saver for your application, simply match blade height, hole spacing, hole size, and gauge to the cutting edge you need to protect. Blade savers are available in various lengths to enable you to safeguard any size area on your main cutting-edge assembly.

Custom hole-spacing available.

Now available in a 3-bolt-hole design for more secure fastening.

Features I.C.E.-style inserts to resist breakage.



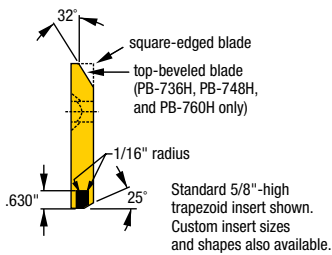
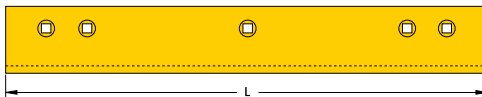
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Tungsten Carbide-Edged Snowplow Blades and Accessories

- Equipped with genuine Kennametal tungsten carbide inserts.
- Unparalleled hardness and fracture/wear resistance.
- Our brazing expertise ensures that inserts stay firmly in place — dramatically lowering your replacement part inventory and overall operating costs.
- Available in an unmatched variety of styles and sizes — each backed by the road maintenance industry's best quality assurance program.
- Sold in sections preventing the need to replace an entire blade — replace only the damaged segment.



Significantly outlasts all steel blades!

Snowplow Blades • Ordering Information

length	catalog number	material number	blade dimensions	bolt hole distance from top	hole spacing	lbs
Standard-Size 5/8" Carbide Inserts						
24"	PB-124	1011840	3/4 x 6 x 24"	2"	3-3-12-3-3"	31
28"	PB-128C	1011805	3/4 x 6 x 28"	2"	6-8-8-6"	36
36"	PB-136	1011807	3/4 x 6 x 36"	2"	3-3-12-12-3-3"	47
36"	PB-136H	1011848	7/8 x 5 x 36"	1-1/2"	3-3-12-12-3-3"	45
36"	PB-236	1011842	3/4 x 6 x 36"	1-1/2"	3-3-12-12-3-3"	47
36"	PB-436	1011859	3/4 x 5 x 36"	1-1/2"	3-3-12-12-3-3"	38
36"	PB-736H top beveled	1011883	7/8 x 5 x 36"	1-1/2"	3-3-12-12-3-3"	40
42"	PB-142	1011815	3/4 x 6 x 42"	2"	3-3-12-12-6-3-3"	53
44"	PB-144E	1011811	3/4 x 6 x 44"	2"	2-8-8-8-8-2"	57
44"	PB-144C	1011809	3/4 x 6 x 44"	2"	6-8-8-8-8-6"	57
48"	PB-148	1011813	3/4 x 6 x 48"	2"	3-3-12-12-12-3-3"	62
48"	PB-148H	1011854	7/8 x 5 x 48"	1-1/2"	3-3-12-12-12-3-3"	60
48"	PB-248	1011844	3/4 x 6 x 48"	1-1/2"	3-3-12-12-12-3-3"	62
48"	PB-448	1011861	3/4 x 5 x 48"	1-1/2"	3-3-12-12-12-3-3"	51
48"	PB-748H top beveled	1011885	7/8 x 5 x 48"	1-1/2"	3-3-12-12-12-3-3"	55
60"	PB-160C	1011819	3/4 x 6 x 60"	2"	6-8-8-8-8-8-6"	77
60"	PB-760H top beveled	1011887	7/8 x 5 x 60"	1-1/2"	3-3-12-12-12-12-3-3"	70
Heavy-Duty 3/4" Carbide Inserts						
36"	PB-336	1011968	3/4 x 6 x 36"	1-1/2"	3-3-12-12-3-3"	47
36"	PB-336H	1011924	7/8 x 5 x 36"	1-1/2"	3-3-12-12-3-3"	47
36"	GDR36A0138 top beveled	1011928	7/8 x 5 x 36"	1-1/2"	3-3-12-12-3-3"	45
48"	PB-348	1011970	3/4 x 6 x 48"	1-1/2"	3-3-12-12-12-3-3"	62
48"	PB-348H	1011926	7/8 x 5 x 48"	1-1/2"	3-3-12-12-12-3-3"	62
48"	GDR48A0140 top beveled	1011930	7/8 x 5 x 48"	1-1/2"	3-3-12-12-12-3-3"	57
60"	PB-360	1011972	3/4 x 6 x 60"	1-1/2"	3-3-12-12-12-12-3-3"	77
72"	PB-372	1011974	3/4 x 6 x 72"	1-1/2"	3-3-12-12-12-12-12-3-3"	92
.57" Tall Bullnose Inserts						
36"	PB875362470182	3323727	7/8 x 5 x 36"	1-1/2"	3-3-12-12-3-3"	42
48"	PB875482470183	3323726	7/8 x 5 x 48"	1-1/2"	3-3-12-12-12-3-3"	55
60"	PB875603470217	3505710	7/8 x 5 x 60"	1-1/2"	3-3-12-12-12-12-3-3"	72
Made-To-Order Inserts						
44"	7/8X6X44W/.81X40DEG	1157211	7/8 x 6 x 44"	2"	2-(10) 4" spaces-2	64
48"	7/8X6X48W/.81X40DEG	1157212	7/8 x 6 x 48"	2"	4-(5) 8" spaces-4	71
56"	PB876561440148	3007351	7/8 x 6 x 56"	2"	4-(6) 8" spaces-4	79



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Tungsten Carbide-Reinforced Snowplow Shoes

- Improve blade life.
- Prevent blade dig-ins during road-shoulder work.
- Protect moldboards against premature failure.
- Kennametal's unique high-hardness KenCast™ material provides unsurpassed wear resistance versus competitive mild-steel/brazed designs.
- Custom shoes also available — just provide us your drawing or a sample.

Extend snowplow blade life by as much as 30%!

Use long-life, weldable KenCast bars to rebuild your worn all-steel shoes.



KCWB-0167
1012483



PBS-1212*
1012590



KCWB-0062
1012434



KCWB-0295
1012582



KCWB-0154
1012472



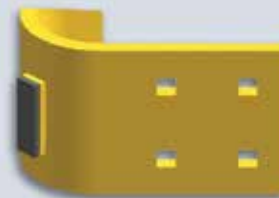
KCWB-0187
1012493

*Please specify hole size, bracket thickness, distance from shoe top to center of hole, and distance between brackets. Other shoes are available upon request. To ensure proper fit, we need to know the specific style, make, model number, hole spacing, and hole size.

Tungsten Carbide-Reinforced Curb Guards

- Guard moldboard ends and blades from extensive impact and abrasion.
- Feature the same tough KenCast material as on our I.C.E. Series™ blade guards.
- Offered in easy-to-attach, easy-to-change wrap-around and mushroom-cap styles.

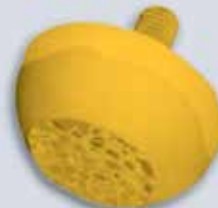
Inexpensive insurance against major moldboard repair!



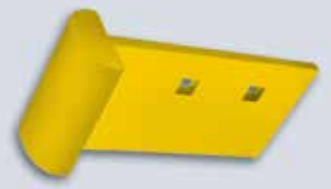
KCWB-0578**
3390176



KCWB-0574**
3336844



KCWB-0145
1012465



KCWB-0307-A
1012592
(for standard 12" punching)
KCWB-0307-B
2426053
(for 8" punching)

**Used with blades punched 1-1/2" from blade top to center of hole. Our curb bumpers fit most snowplow makes and models.

Tungsten Carbide Pick-Up Plow Blades

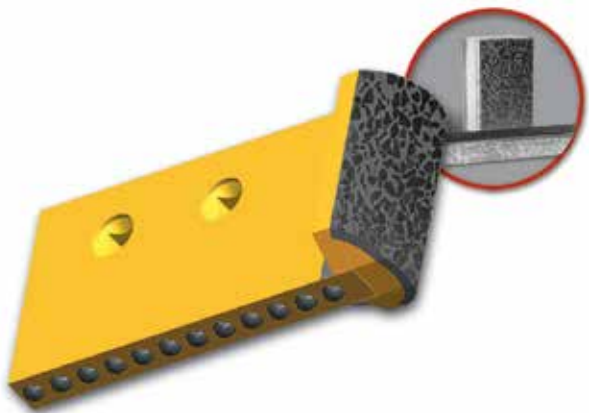
- Specially engineered for your Meyer,[™] Western,[™] The Boss,[™] or Fisher[™] snowplow — regardless of the hole pattern.
- Sold in sections for economical and convenient installation and replacement.
- Use the same square-hole style carriage bolts as your original plow blade.



Outlast OEM-style steel models by at least 20-to-1!

KenCast[™] Tungsten Carbide Wear Material

- Specially engineered to guard against premature and costly wear on your valuable heavy equipment — saving you on downtime and replacement parts.
- Made with tungsten carbide particles metallurgically bonded in air-hardening steel to withstand extremes of abrasion and impact.
- Easy to weld.
- Particularly effective on curb bumpers, snowplow shoes, moldboard shoes, and plow blade end protectors.



Pick-Up Plow Blades • Ordering Information

plow type and length	material number	replacement blade length	bolt size	lbs	quantity replacement blades needed
Straight Plows					
7'-6" (90") Meyer / Fisher*	1826114	45"	1/2"	62	2
8'-0" (96") Meyer / Fisher*	1826115	48"	1/2"	63	2
8'-6" (102") Meyer / Fisher*	1826116 end blade	34"	1/2"	50	2
	1826117 center blade	34"	1/2"	50	1
7'-6" (90") Western Pro Series	2401740	45"	1/2"	60	2
7'-6" (90") Western Pro Plus Series	3381745	45"	5/8"	60	2
8'-0" (96") Western	1826118	48"	1/2"	66	2
8'-6" (102") Western	1826124	51"	1/2"	68	2
8'-6" (102") Western Plus Series	3577996	51"	5/8"	68	2
9'-0" (108") Western	2415564	54"	1/2"	70	2
9'-0" (108") Western Pro Plus	3017373	54"	5/8"	70	2
9'-0" (108") Fisher MC (3 pc set)	3336769 end blade	31-3/8"	3/4"	40	1
	3336770 center blade	45"	3/4"	60	2
10'-0" (120") Fisher MC	3277933	60"	3/4"	77	2
9'-6" (120") Western-MVP	2604937	55-3/4"	1/2"	65	2
Blizzard Model 8611 (2 pc set)	3041839	39-1/2"	5/8"	51	1
	3048141	55"	5/8"	64	1
7'-6" (90") The Boss	2263063	45"	1/2"	56	2
8'-0" (96") The Boss	2263064	48"	1/2"	62	2
8'-6" (102") The Boss	2263065	51"	1/2"	64	2
9'-0" (108") The Boss	2263066	54"	1/2"	68	2
10'-0" (120") The Boss	1011842 end blade	36"	5/8"	47	2
	1011844 center blade	48"	5/8"	62	1
V Plows					
7'-6" (90") The Boss VRTII	2263008	44"	1/2"	47	2
7'-6" (90") The Boss VRT3	2402074	44"	5/8"	47	2
8'-2" (98") The Boss VRTII	2263009	48"	1/2"	60	2
8'-2" (98") The Boss VRT3	1961521	48"	5/8"	60	2
9'-2" (110") The Boss VRTII	2263010	54"	1/2"	66	2
9'-2" (110") The Boss VRT3	2263011	54"	5/8"	66	2
10' (120") The Boss VRT3	2263012	59"	5/8"	72	2
9-1/2' Western-MVP	2604937	55-3/4"	1/2"	65	2

*old style Fisher



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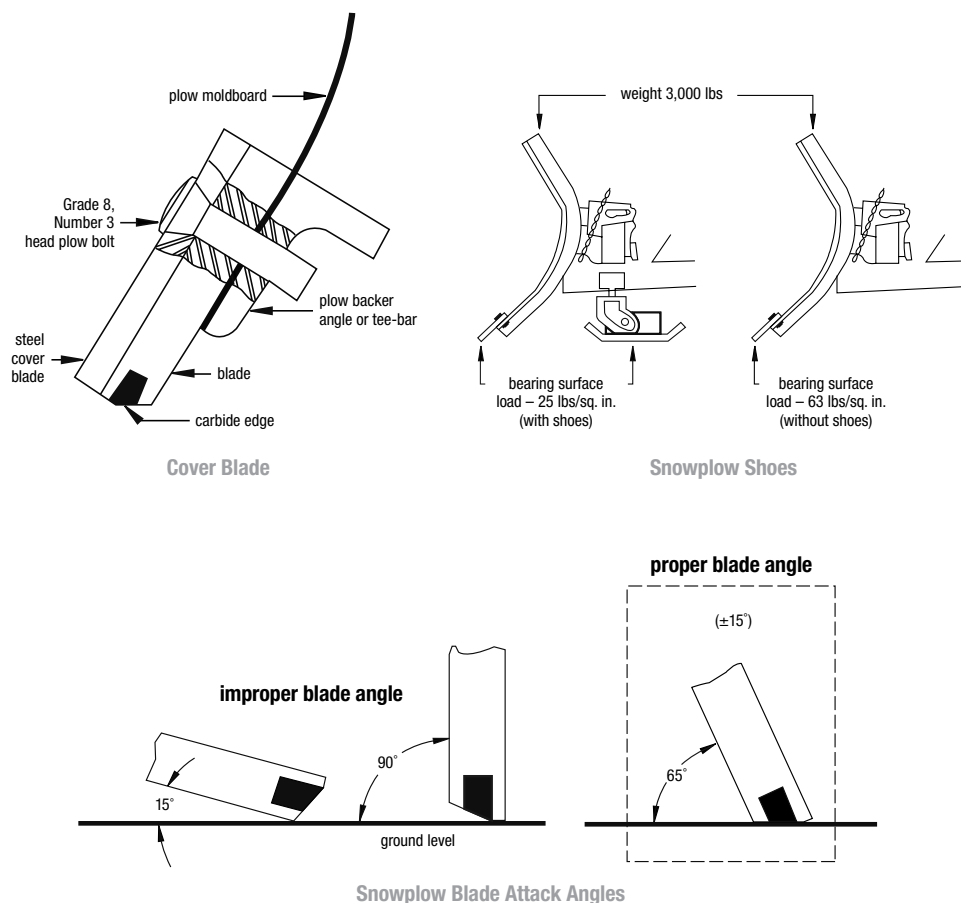
Snowplow Blades and Shoes Operating Tips

To significantly reduce blade chatter and bolt failure, we highly recommend Grade 8, Number 3 head plow bolts with self-locking nuts for mounting our blades.

We also recommend use of a “cover blade” — a steel section bolted to the front of the carbide blade — to reinforce your moldboard, absorb shock, and greatly diminish steel erosion around the carbide insert area. Cover blades can improve blade life by as much as 30%.

Snowplow shoes can be employed with our snowplow blades to provide uniform plow frame weight distribution.

Lastly, we strongly suggest that you set your snowplow blade attack angle at 65° from the ground. A higher or lower angle can result in increased vibration and decreased wear life.



For unparalleled service life on underbody plows!

Kennametal wear grade carbide insert resists deterioration caused by blade down pressure and abrasion.

Kennametal mining grade carbide insert on face resists impact and erosion.

Unsurpassed in ice removal!

Long-life Kennametal carbide-tipped conicals rotate as they cut — sharpening themselves and providing a uniform wear pattern. Worn teeth can be quickly changed onsite by one person.

Tungsten Carbide Grader and Scarifier Blades

- Our proprietary dual carbide-edge grader blades stay straight, maintain a clean/sharp cutting edge, and stop crowning.
- Kennametal scarifier blades feature replaceable carbide tools that rotate as they cut, easily penetrating ice and hard-packed gravel roads — enabling you to quickly bring embedded rock back to the surface.



You can't do a job — and do it right — without tools that are up to the challenge.

Kennametal is continually engineering products that will provide exceptional performance on snow and ice removal. Our blades come in a wide variety of styles and sizes each backed by the road maintenance industry's best quality assurance program.

Kennametal uses the best in engineering to give you unsurpassed quality and performance.



Safety Note

Kennametal Inc. is concerned with the safe use of its products. To help avoid personal injury or damage to equipment, please:

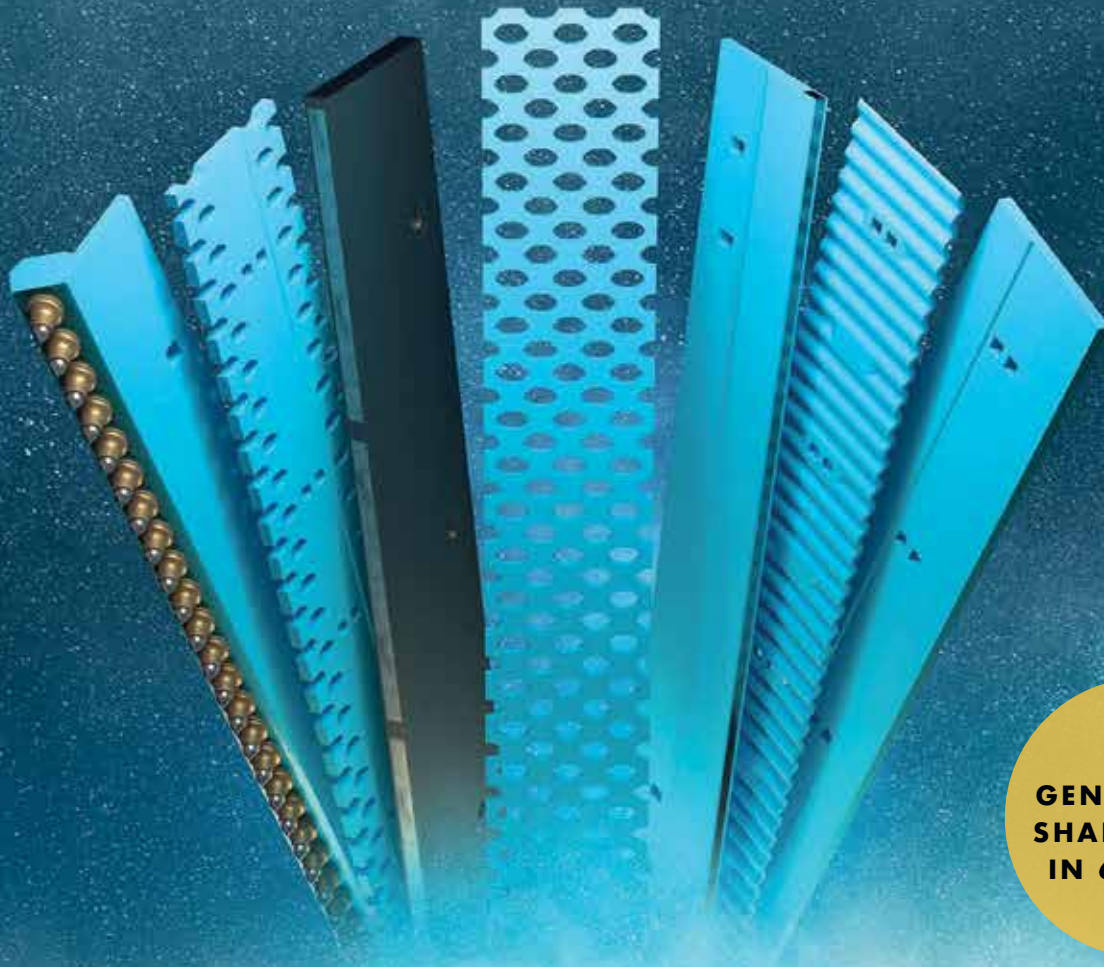
- Wear all appropriate and approved personal protection equipment.
- Be sure to use proper blade size.
- Use Grade 8, Number 3 head plow bolts; use proper size and torque.
- Inspect blades and moldboard prior to each plowing run.
- Do not plow at excessive speeds.

Kennametal, the stylized K, I.C.E. Series, and KenCast are trademarks of Kennametal Inc., and are used as such herein.

Fisher, Meyer, The Boss, and Western are trademarks of their respective companies, and are used as such herein.

Sharq™

PRODUCT CATALOGUE
SHARQEDGES – EDGES
FOR GRADERS AND PLOWS



**NEXT
GENERATION.
SHARQ EDGES
IN 600 HBW**



KÜPER®

 **Olofsfors**
Make your own way

SHARQ

GENERATION

"The SharqEdges System is a universal quick mount system for all motor graders and snow plows with the unique sharp cutting system that save time and money for your operations."

THE MOST COST EFFECTIVE CUTTING-EDGE SYSTEM FOR ALL SEASONS, AND ALL ROAD CONDITIONS.

Sharq™

CARBIDE SERRATED

SHARQ P300™ HD

SHARQ P300™

SHARQ RAM™

SHARQ FLAT

MULTIPLE MOUNTING OPTIONS – WEDGE OR STANDARD BOLT.

THE COMPLETE TOOLBOX OF CUTTING EDGES.

- + CONVERT ANY GRADER AND SNOW PLOW
- + EDGES FOR ROAD AND WEATHER CONDITIONS
- + SAVES YOU TIME AND MONEY
- + INCREASE ROAD SAFETY
- + INCREASE PRODUCTIVITY
- + MINIMIZE DOWNTIME WITH QUICK MOUNT SYSTEM
- + MAINTAIN SHARP AND STRAIGHT CUTTING EDGE THROUGH THE ENTIRE BLADE
- + IMPROVE OPERATOR ENVIRONMENT
- + USE LITTLE TO NO DOWN PRESSURE
- + REDUCE WEAR ON THE GRADER TIRES
- + REDUCED FUEL CONSUMPTION BY 20%–35%
- + RUN IN HIGHER GEAR & LOWER RPM
- + REDUCE TIME AND COSTS OF CHANGING EDGES

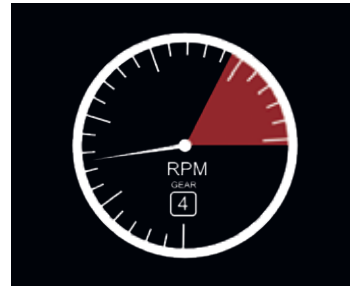


SHARQ BENEFITS

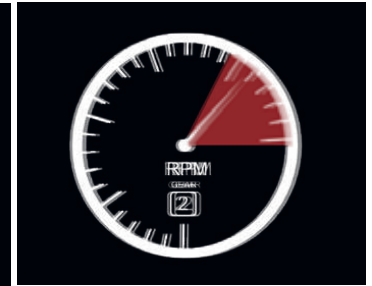
#1. REDUCED FUEL CONSUMPTION AND EMISSIONS. (20–35% SAVINGS)

Because:

- + Thinner/sharper edges require less down pressure and hence less power from the engine.
- + Run at higher gear and lower RPM.
- + Less/fewer passes.



With Sharq



Without Sharq

#2. IMPROVED OPERATOR ENVIRONMENT.

Because:

- + Reduce chattering and noise in the cab.
- + Less vibration and less operator fatigue.



With Sharq



Without Sharq

#3. REDUCED WEAR AND TEAR ON THE MACHINE.

Because:

- + Less down pressure. = Less stress on the machine.
- + Longer tire life.
- + No rear diff lock required for traction
- + Mounting plate adds a layer of protection for the moldboard.



With Sharq

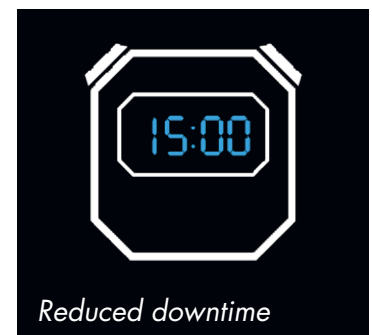


Without Sharq

#4. REDUCED TIME AND COST OF CHANGING EDGES.

Because:

- + No pneumatics required
- + Change and adjust blades with a hammer.
- + One person only to change the blades.
- + Change and adjust blades anywhere, on the road or on job site without returning to the garage.
- + Edges are light weight and easy to bring/mount spares to the grader.



Reduced downtime

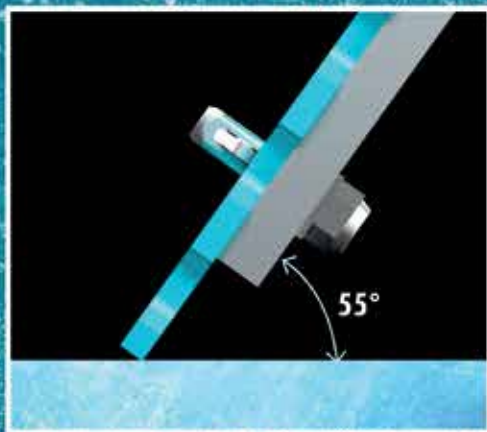
#5. EDGES STAY SHARP.

Because:

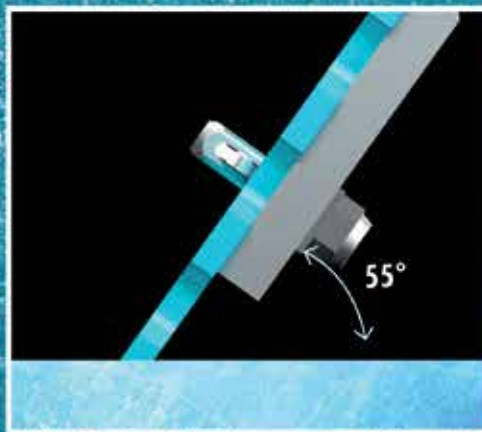
- + Thin edges at the cutting angle will penetrate through the material.
- + Adjust the edges quickly to maintain a straight edge.
- + Out perform conventional grader edges.
- + Good for any road condition and weather condition.

SHARQEDGES TECHNIQUE

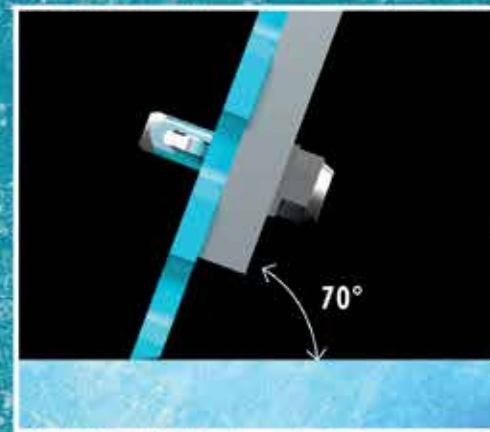
Sharq



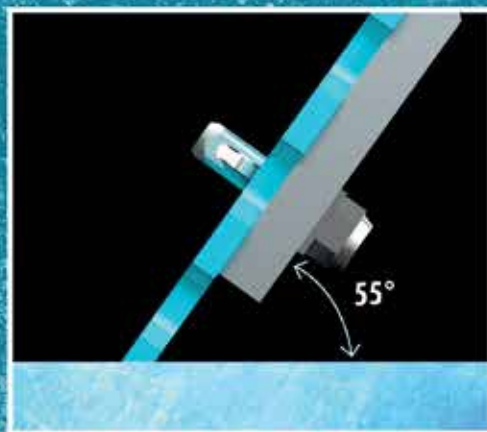
1 TILT THE EDGE BACK TO A MAXIMUM OF 55 DEGREES. CUT WITH THE LOWER CORNER.



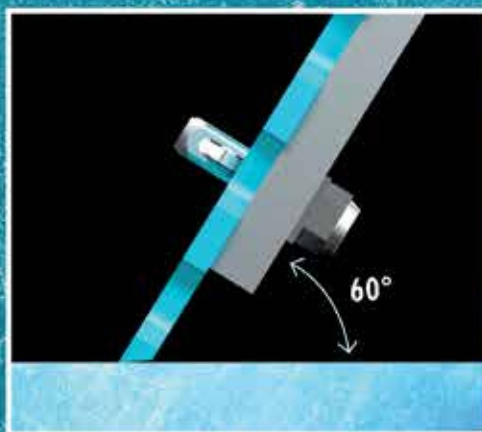
2 SHARPEN THE EDGE UNTIL IT'S BEVELED ALL THE WAY TO THE FRONT



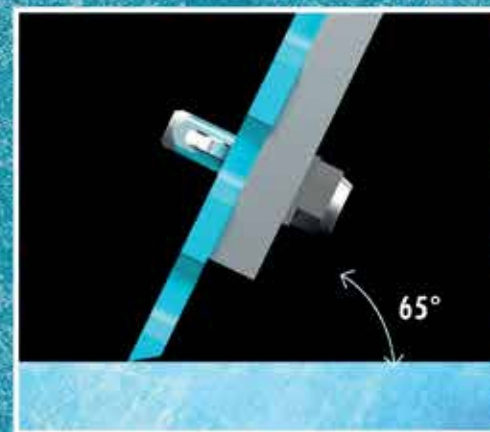
3 TILT THE MOLDBOARD FORWARD TO NO MORE THAN 70 DEGREES. CONTINUE CUTTING!



4 RESHARPEN THE EDGE BY TILTING THE EDGE BACK TO 55 DEGREES.



5 LIFT AND TILT FORWARD TO 60 DEGREES TO CUT MORE MATERIAL. NOT MUCH DOWN PRESSURE NEEDED.



6 TILT FORWARD AGAIN TO 65 DEGREES AND CONTINUE CUTTING!

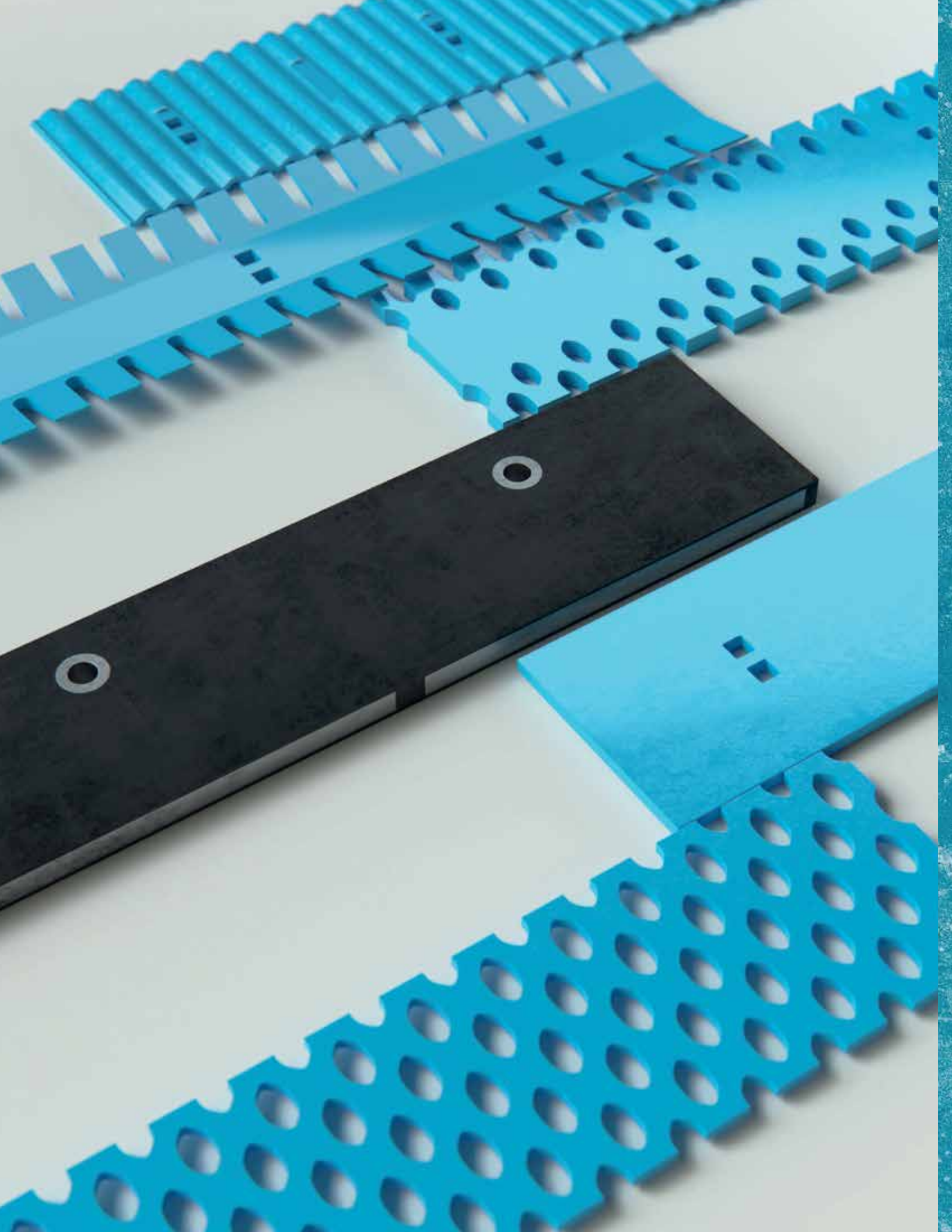


7 REGAIN A STRAIGHT EDGE LINE BY ADJUST THE EDGES AND MOVE THEM SIDE TO SIDE, UP AND DOWN. EXCHANGE THEIR PLACES ON THE MOLDBOARD. REMOUNTING IS DONE QUICKLY. MOUNT THE EDGE WITH A MAXIMUM 2" EXTENDING BELOW THE MOUNTING PLATE.



WHAT HAPPENS WHEN YOU OPERATE AT THE OPTIMAL CUTTING ANGLE WITH A THIN BLADE?

- + Maintain a sharp cutting edge allowing to penetrate your material
- + Get a good mix of fines from the cutting and rolling action
- + Use little to no down pressure relieving stress and over working the machine
- + Allow the machine to work in higher gears and lower RPM
- + Results in less fuel consumption and more KM/Miles per day



SHARQ FLEXDESIGN

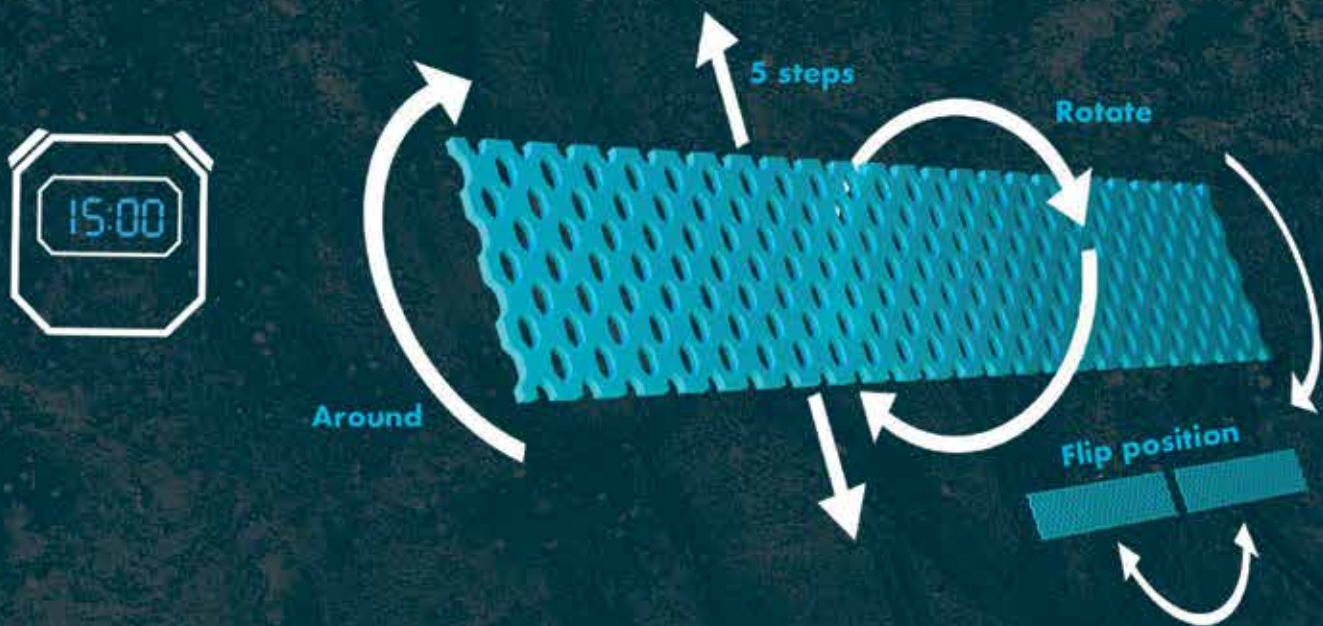
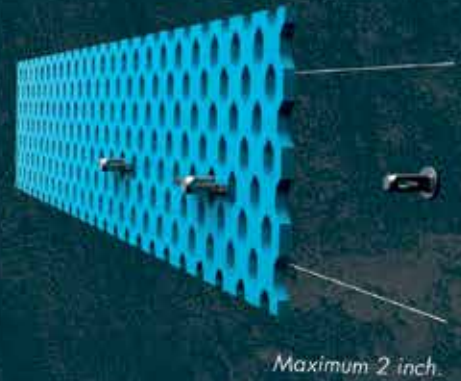
- + Easy to recover a straight cutting edge by adjusting the blades.
- + Only takes 5–10 minutes to adjust contoured blades on the road side.
- + One person can easily and quickly make the adjustment back to a straight edge.
- + SHARQ edges can be moved vertically, horizontally, or flipped around.
- + Left-over blade after wear life, is less than 20%. Much less than any cutting edge.

The Sharq system is designed to be flexible and give maximum efficiency. The edges are light weight, easy to handle and can be mounted quickly.

With Sharq P300 and other double punched SharqEdges, it is easy to recover a straight cutting edge on the mold board. With a 5 minute stop on the road side you can solve the problem of a contoured edge line so you can run again with a straight edge line. No need to go back to the workshop to change blades. Saving time and fuel!

The Sharq FlexDesign makes road side edge changing quick and easy. All SharqEdges can easily be moved vertically, horizontally or flipped around so edges on the mold board are in a straight line.

We call this unique solution the **Sharq FlexDesign!**





THE EDGES FOR ALL SEASONS

SUMMER MAINTENANCE

(Road Building and Maintenance on Gravel Roads)

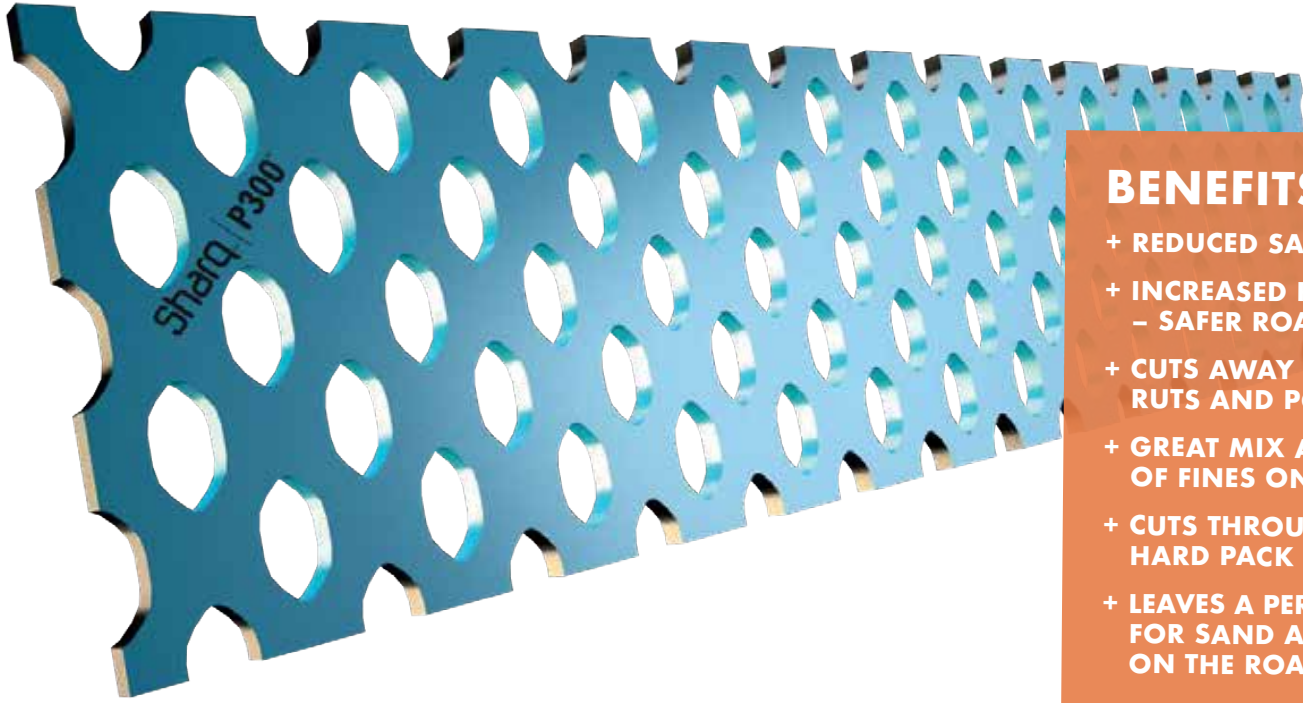
- + Thin blade and sharp edge penetrates any material with little to no down pressure
- + Cuts through washboards and potholes and wheel ruts in less passes
- + The fines go through the holes of the blade, creating a good mix of materials in the road bed.
- + The roll of the material mixes the fines and redistributes them evenly across the road.
- + Results in a safe road that requires less maintenance.
- + Reduces the amount of time to revisit the road for maintenance.
- + Less down pressure reduces the need for the rear differential lock.
- + Select the P300 to cut and reshape the road, and use the flat to spread and pull ditches.
- + Choose 1 of the 8 compatible blades for your road conditions.

WINTER MAINTENANCE

(Ice and Snow Pack)

- + Cuts ice like no other blade. Thick chunks of ice can be removed with very little down pressure.
- + The P300 effectively rakes the ice and snow, leaving a perforated surface to allow sand or salt to react with the surface much quicker.
- + Salt and sand will fit in the groves left by the P300 and not get blown off the road from wind or traffic.
- + Reduce your costs on salt and sand consumption.
- + Thinner blades reduce the friction and heat transferred to the road to avoid creating a slippery surface.
- + Less down pressure reduces the need for tire chains to gain traction.

SHARQ P300™



BENEFITS:

- + REDUCED SAND AND SALT COSTS
- + INCREASED ROAD FRICTION
– SAFER ROAD SURFACE
- + CUTS AWAY WASHBOARDS, RUTS AND POT HOLES WITH EASE
- + GREAT MIX AND REDISTRIBUTION OF FINES ON THE ROAD
- + CUTS THROUGH THICK ICE AND HARD PACK SNOW
- + LEAVES A PERFORATED SURFACE FOR SAND AND SALT TO REMAIN ON THE ROAD

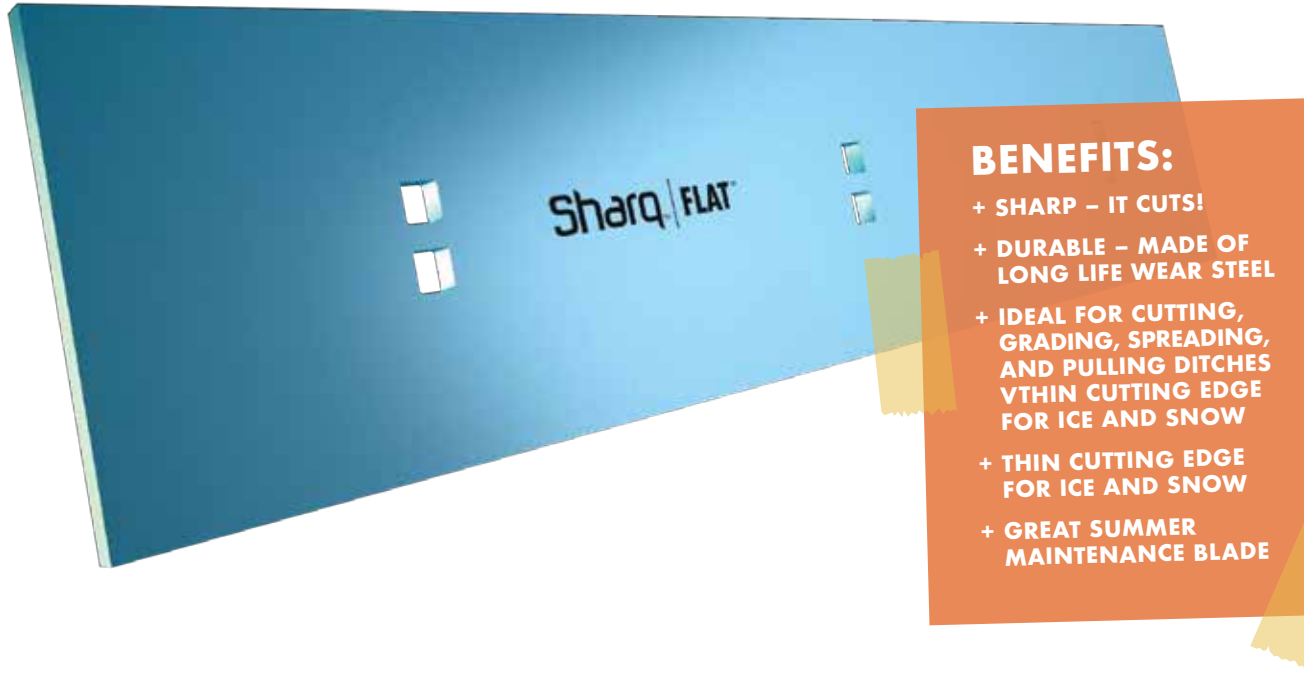
Sharq P300™ is the optimal edge to take care of snow compacted bumpy and polished winter roads. It easily cut up and straighten the white road surface and it makes grooves in the compacted snow and ice that helps sand and salt to stay on the road instead of it ending in the ditch. The snow and ice surface structure also get a much higher friction with Sharq P300 than with traditional flat blades.

You also know that thin, polished hard ice layer that makes the road rutted and slippery – Sharq P300 takes care of that. Run the Sharq P300 with the Sharq technique and you get straight down to a flat, non-slippery and safe road without any damage on the asphalt.



Item. No	W. mm	T. mm	L. mm	W. inches	T. inches	L. feet	Weight, kg	Weight, lbs	Note
122-454410	240	10	915	9,5	0,4	3	11,05	24,36	600 HBW
122-454420	240	10	1220	9,5	0,4	4	14,73	32,47	600 HBW
122-454430	240	10	1525	9,5	0,4	5	18,42	40,61	600 HBW

SHARQ FLAT



Sharq Flat is a universal grader edge made of Olofsfors extra long life wear steel. The reversible design makes it very cost effective. This edge is an excellent choice for general grading, mixing and snow removal.

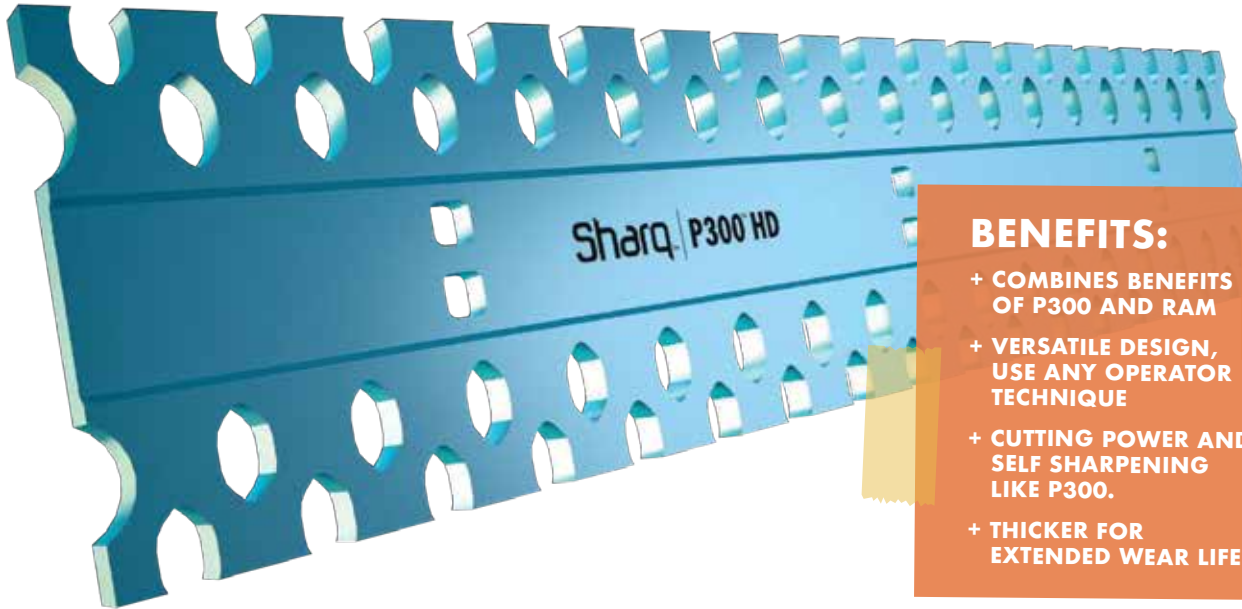
The edge is made of high-strength through-hardened steel which makes it sharp and longlasting. The special steel alloy and thin design ensures maximum strength while minimizing the downward pressure required for optimum penetration. This increases carrier efficiency, reduces operating costs and allows better grader control. As with all the other SharqEdges these flat edges are quick mounting.



Item. No	W. mm	T. mm	L. mm	W. inches	T. inches	L. feet	Weight, kg	Weight, lbs	Note
122-454502	200	10	915	7,9	0,4	3	14,19	31,28	600 HBW
122-454512	200	10	1220	7,9	0,4	4	18,92	41,71	600 HBW
122-454522	200	10	1525	7,9	0,4	5	23,66	52,16	600 HBW
122-454692	200	12	915	7,9	0,4	3	17,03	37,54	600 HBW
122-454702	200	12	1220	7,9	0,4	4	22,71	50,07	600 HBW
122-454712	200	12	1525	7,9	0,4	5	28,39	62,59	600 HBW

Note: More edges available on request.

SHARQ P300™ HD



BENEFITS:

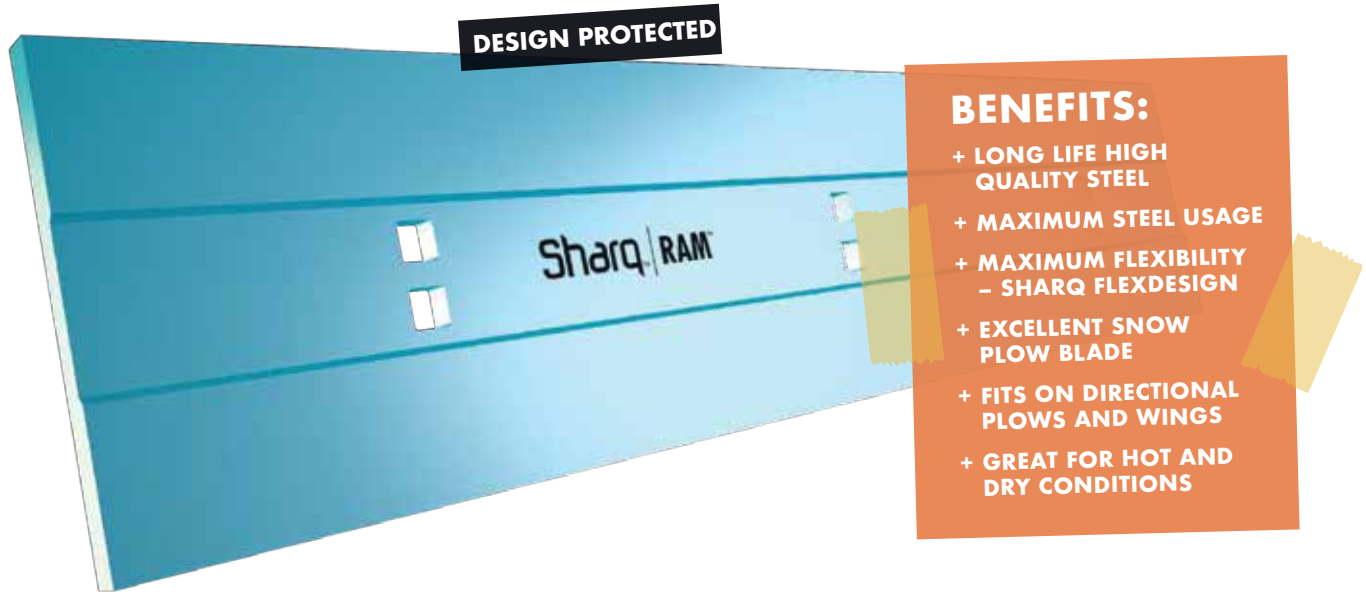
- + COMBINES BENEFITS OF P300 AND RAM
- + VERSATILE DESIGN, USE ANY OPERATOR TECHNIQUE
- + CUTTING POWER AND SELF SHARPENING LIKE P300.
- + THICKER FOR EXTENDED WEAR LIFE.

Sharq P300™ HD is a unique combination of the Sharq RAM and the Sharq P300. It's a serrated alternative to the Sharq RAM and a heavy duty alternative to the Sharq P300. With the same long life wear steel as the Sharq RAM and with the P300 teeth design it is as good for winter road maintenance as it is for hard gravel conditions.



Item. No	W. mm	T. mm	L. mm	W. inches	T. inches	L. feet	Weight, kg	Weight, lbs	Note
122-496434	200	16	915	7,9	0,63	3	16,73	36,88	550 HBW
122-496444	200	16	1220	7,9	0,63	4	22,30	49,16	550 HBW
122-496454	200	16	1525	7,9	0,63	5	27,89	61,49	550 HBW

SHARQ RAM™



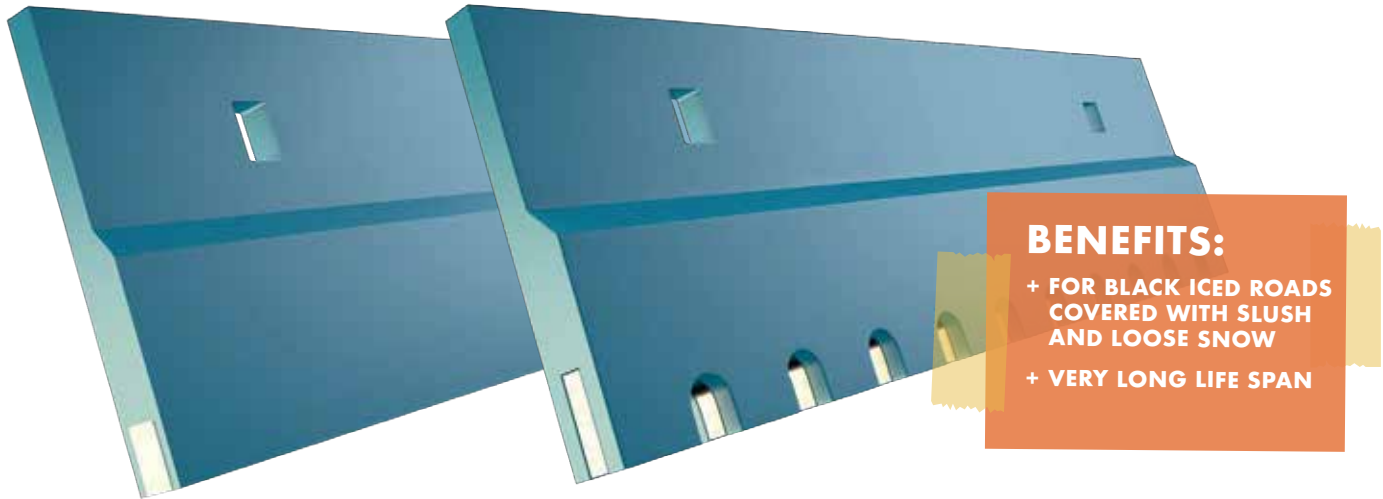
The **Sharq RAM™** edge beats all standard flat grader blades. With more steel to wear, long life high quality steel and the Sharq FlexDesign there is no reason to not convert your motor grader from standard grader blades to the Sharq-Edges system and the Sharq RAM. With Sharq RAM you can do everything that you do with standard grader blades – but at a reduced cost.

The Sharq RAM are available in 5/8" (16 mm) and 3/4" (20 mm) thicknesses.



Item. No	W. mm	T. mm	L. mm	W. inches	T. inches	L. feet	Weight, kg	Weight, lbs	Note
122-361971	200	16	915	7,9	0,63	3	21,33	47,02	550 HBW
122-361951	200	16	1220	7,9	0,63	4	28,45	62,72	550 HBW
122-361961	200	16	1525	7,9	0,63	5	35,57	78,42	550 HBW
122-362101	200	20	915	7,9	0,79	3	23,87	52,62	550 HBW
122-361931	200	20	1220	7,9	0,79	4	33,31	73,44	550 HBW
122-361941	200	20	1525	7,9	0,79	5	41,64	91,80	550 HBW

CARBIDE INSERTED BLADES



Olofsors carbide inserted blades for plowing slush and compact snow are designed to resist fracture and wear damage. Due to the thickness of the blade the cutting effect is less but the thick cutting surface and the brazed carbide give the blade a very long life span.

The carbide inserted blades consist essentially of ordinary steel in which carbide bits have been based into it which makes them harder than the hardest wear steel.

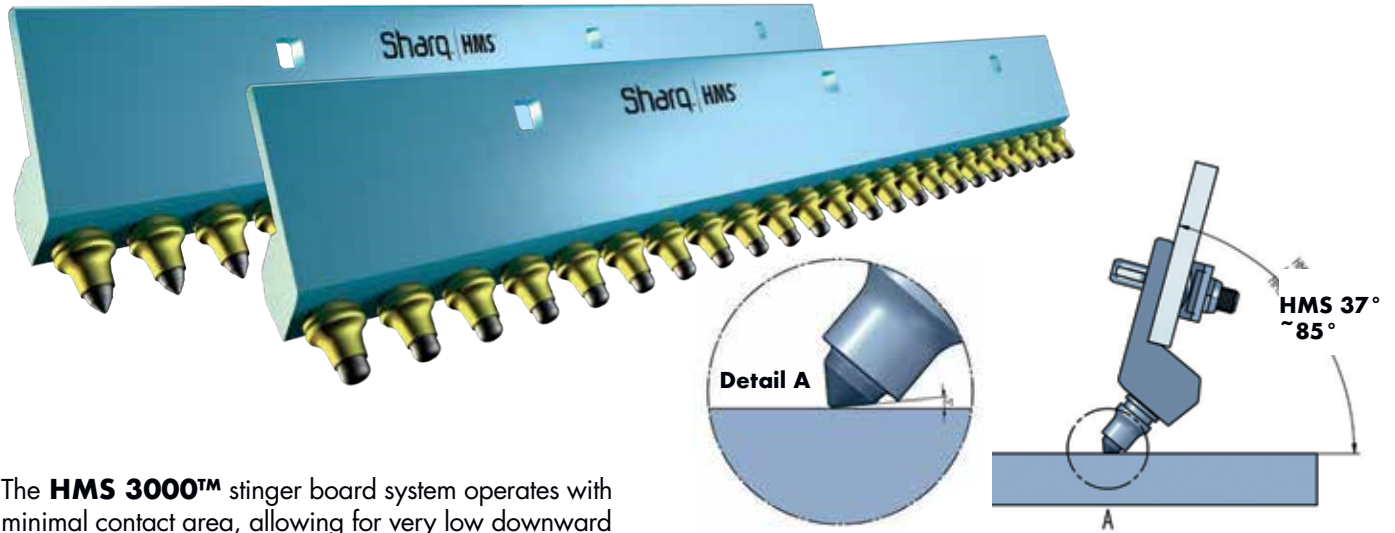
CARBIDE INSERTED BLADES C/C 305 MM

Item. No	W. mm	T. mm/mm	L. mm	W. inches	T. inches	L. feet	Weight, kg	Weight, lbs	Note
920-461810	130	20/12	610	5,12	0.78/0.47	2	9,10	20,06	Carbide bits hardness approx. 87 HRA
920-461820	130	20/12	915	5,12	0.78/0.47	3	15,25	33,62	Carbide bits hardness approx. 87 HRA
920-461830	130	20/12	1220	5,12	0.78/0.47	4	20,00	44,09	Carbide bits hardness approx. 87 HRA

SERRATED CARBIDE INSERTED BLADES C/C 305 MM

Item. No	W. mm	T. mm/mm	L. mm	W. inches	T. inches	L. feet	Weight, kg	Weight, lbs	Note
920-461850	130	20/12	610	5,12	0.78/0.47	2	9,00	19,85	Carbide bits hardness approx. 87 HRA
920-461860	130	20/12	915	5,12	0.78/0.47	3	13,00	28,67	Carbide bits hardness approx. 87 HRA
920-461870	130	20/12	1220	5,12	0.78/0.47	4	18,00	39,69	Carbide bits hardness approx. 87 HRA

HMS 3000™ AND STINGERS



The **HMS 3000™** stinger board system operates with minimal contact area, allowing for very low downward pressure on the edge. The HMS 3000 board comprises one solid piece with integrated support for maximum stability. The stinger bit holes are drilled with high precision to ensure the stingers can rotate reliably and will wear evenly throughout their lifetime. The HMS 3000 is not welded.

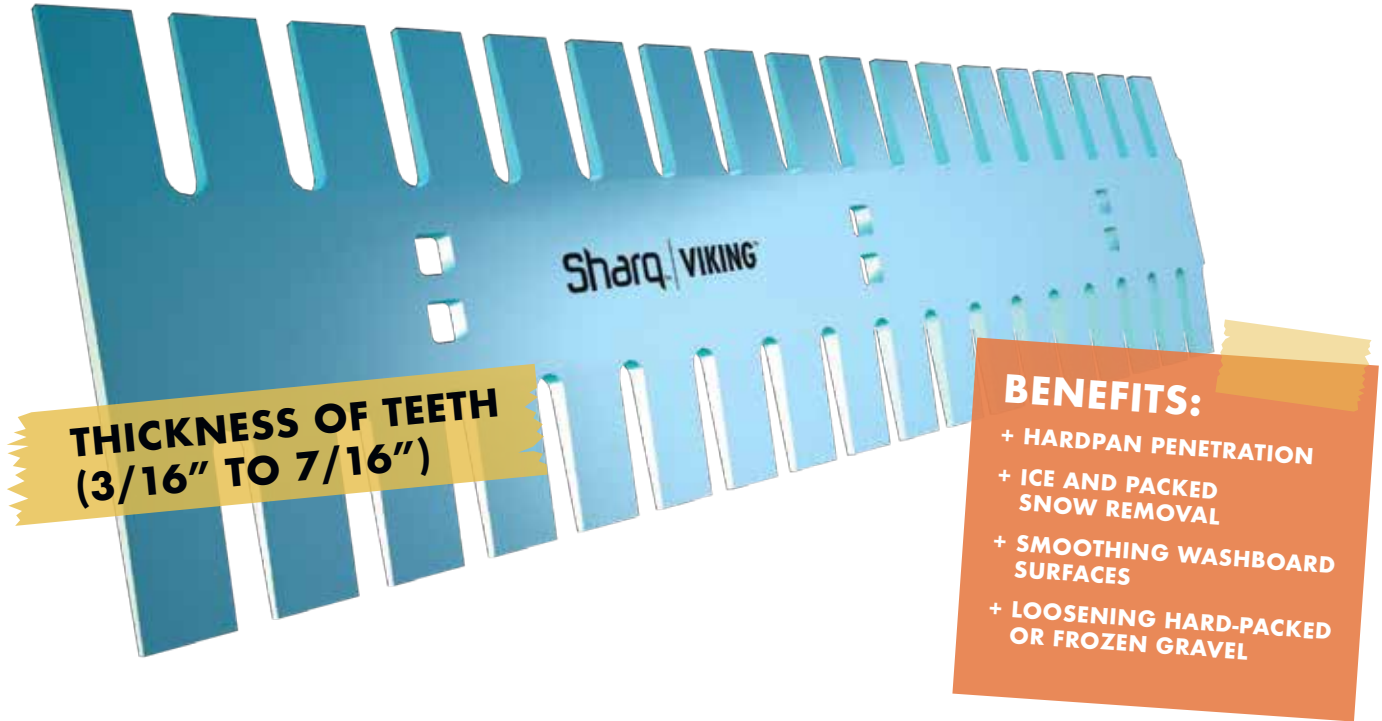
The HMS 3000 system protects the grader better and is far stronger than stinger boards with individually welded adapters for each stinger. If some stingers take an impact from a manhole, for instance the wedge bolts break to protect the grader and the solid stinger board remains undamaged.

Note: Both wedges 20,5 x 125 and 18,5 x 100 can be used. For severe duty 18,5 is recommended.

Carbide bits must be at 45° with the road surface. Carbide bits will rotate while in operation to cut the material.

Item. No	L. mm	L. feet		Weight, kg	Weight, lbs	Note
122-164092	912	3	37° Ø 22,3 mm	20,00	44,09	500 HBW (52 Rockwell "C")
122-164095	1217	4	37° Ø 22,3 mm	27,00	59,52	500 HBW (52 Rockwell "C")
122-158004	608	2	37° Ø 19,5 mm	16,00	35,27	500 HBW (52 Rockwell "C")
122-158002	912	3	37° Ø 19,5 mm	20,00	44,09	500 HBW (52 Rockwell "C")
122-158005	1217	4	37° Ø 19,5 mm	26,00	57,32	500 HBW (52 Rockwell "C")
122-156070	605	2	25° Ø 19,5 mm	15,00	33,07	500 HBW (52 Rockwell "C")
122-156071	915	3	25° Ø 19,5 mm	20,00	44,09	500 HBW (52 Rockwell "C")
122-156072	1220	4	25° Ø 19,5 mm	26,00	57,32	500 HBW (52 Rockwell "C")
122-156085	1217	4	25° Ø 25,0 mm	48,50	106,92	500 HBW (52 Rockwell "C")
920-450396		0,765	Ø 19,5 mm	0,27	0,60	Carbide Stud, sharp with collar and washer
920-450395		0,765	Ø 19,5 mm	0,27	0,60	Carbide Stud, blunt with collar and washer

SHARQ VIKING

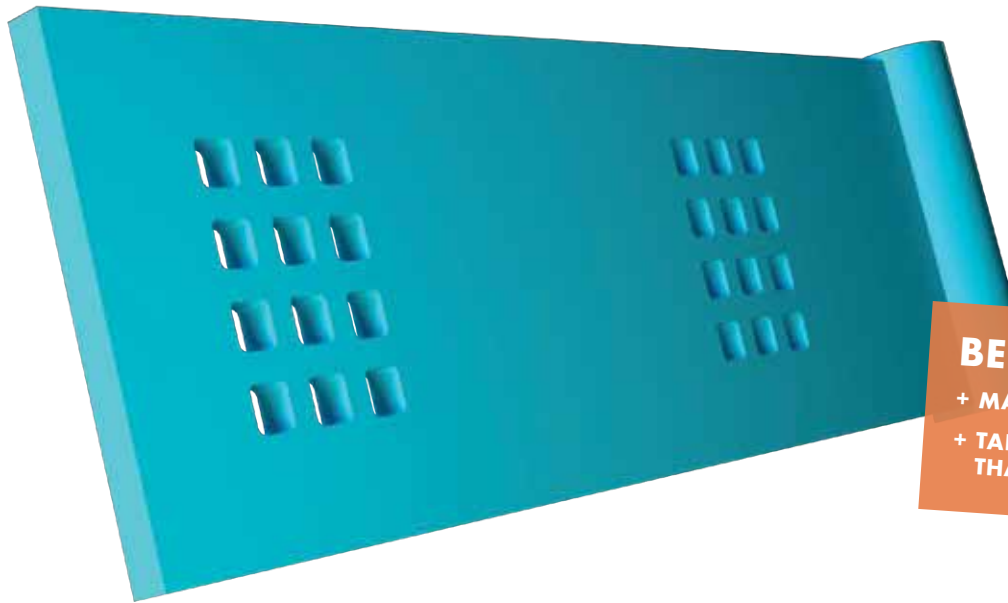


The **Sharq Viking** edge provides ultimate penetration in all ice conditions. With its long, thin, hard and tough teeth you can do ice removal that you always believed was impossible. The Viking edge can also be used for loosening frozen ground or gravel. Like most other SharqEdges, the serrated edge is reversible, so it's really two edges in one.



Item. No	W. mm	T. mm	L. mm	W. inches	T. inches	L. feet	Weight, kg	Weight, lbs	Note
122-483320	240	11	1220	9,5	0,43	4	17,21	37,94	500 HBW
122-483330	240	11	1525	9,5	0,43	5	21,52	47,44	500 HBW

CURB PROTECTOR



BENEFITS:

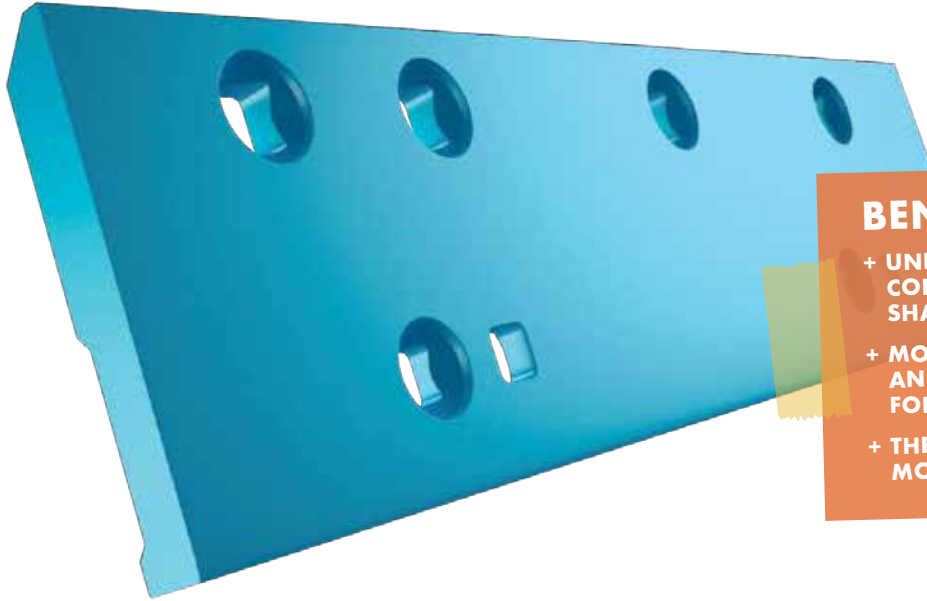
- + MACHINED
- + TALLER CURB PROTECTOR THAN MOST

Olofsors curb protector has a classic Canadian design. It's made of the same special alloy steel as the SharqEdges and heat-treated using the same process that makes SharqEdges so strong and durable. Use wedgebolt 65 mm.



Item. No	W. mm	T. mm	L. mm	W. inches	T. inches	L. feet	Weight, kg	Weight, lbs	Holes	Note
122-484100	260	16	580	10,2	0,63	22,8	19,00	41,89	2x(4x3)	Ø = 60 mm (2 ^{3/8} ") 475 HBW

MOUNTING BOARDS



BENEFITS:

- + UNIVERSAL MOUNTING BOARDS CONVERT ANY GRADER TO SHARQEDGES SYSTEM.
- + MOUNTING BOARD PROVIDES AN EXTRA LAYER OF PROTECTION FOR THE MOLDBOARD.
- + THE KEY BEHIND THE QUICK MOUNT SYSTEM.

Olofsfors provides **mounting boards** to convert any motor grader to Sharqedges. Most common are 7 and 8 foot lengths with either 5/8-inch or 3/4-inch mounting holes. With a mounting board fitted, you have full access to the complete system of quickmounted edges for all road conditions and seasons.




Item. No	W. mm	T. mm	L. mm	W. inches	T. inches	L. feet	Weight, kg	Weight, lbs	c/c	Fastening hole	Note
122-369570	150	20	1512	5,9	0,79	5	33,00	72,75	305/305	5/8"	Wedgebolt 53
122-369560	150	20	1512	5,9	0,79	5	32,00	70,55	305/305	3/4"	Wedgebolt 53
122-369550	150	20	1817	5,9	0,79	6	39,00	85,98	305/305	5/8"	Wedgebolt 53
122-369540	150	20	1817	5,9	0,79	6	39,00	85,98	305/305	3/4"	Wedgebolt 53
122-369530	150	20	2122	5,9	0,79	7	46,00	101,41	305/305	5/8"	Wedgebolt 53
122-369520	150	20	2122	5,9	0,79	7	46,00	101,41	305/305	3/4"	Wedgebolt 53
122-369510	150	20	2427	5,9	0,79	8	53,00	116,84	305/305	5/8"	Wedgebolt 53
122-369500	150	20	2427	5,9	0,79	8	52,00	114,64	305/305	3/4"	Wedgebolt 53

MOUNTING HARDWARE


WEDGE BOLTS

Item No.	Designation	W. mm	L. mm	W. inches	L. inches	Weight kg	Weight lbs	Note
151-457510	Wedge Bolt 53	16	53	0,6	2,1	0,14	0,30	25 pcs/pack
151-457500	Wedge Bolt 47	16	47	0,6	1,9	0,12	0,26	25 pcs/pack
151-457512	Wedge Bolt 65	16	65	0,6	2,6	0,16	0,35	24 pcs/pack




WEDGES

Item No.	Designation	L. mm	L. inches	Weight kg	Weight lbs	Note
151-455980	20,5 long	125	4,9	0,09	0,20	50 pcs/pack, general service
151-455950	18,5	100	3,9	0,07	0,15	25 pcs/pack, severe duty up to 12-13 mm
151-455960	20,5	100	3,9	0,07	0,15	50 pcs/pack, severe duty up to 11 mm



MOUNTING TOOLS

Item No.	Designation	Weight kg	Weight lbs	Note
151-484320	Mounting tool with shatter protection	1,10	2,43	




BOLTS

Item No.	Designation			Weight kg	Weight lbs	Note
959-590300	M16X37 (5/8" x 1-1/2")	FH	Qual. 10.9	0,07	0,15	25 pcs/pack
959-590310	M16X65 (5/8" x 2-1/2")	FH	Qual. 12.9	0,10	0,22	25 pcs/pack
950-500620	M16X35 (5/8" x 1-3/8")	M6S	Qual. 8.8	0,06	0,13	25 pcs/pack
959-590270	M16X45 (5/8" x 1-3/4")	KH	Qual. 12.9	0,11	0,23	25 pcs/pack
959-590285	M16x55 (5/8" x 2-1/4")	KH	Qual 12.9	0,12	0,26	25 pcs/pack.
959-590730	M20X65 (3/4" x 2-1/2")	FH	Qual. 10.9	0,15	0,33	25 pcs/pack



NUTS

Item No.	Designation		Weight kg	Weight lbs	Note
959-590360	M16	Locking nut	0,04	0,09	
959-590670	M20	Locking nut	0,06	0,13	



WASHERS

Item No.	Designation	W x T x L mm	W x T x L inches	Weight kg	Weight lbs	Note
959-590250	No 70 – straight	30 x 6 x 70	1,2 x 0,24 x 2,8	0,09	0,20	24 pcs/pack
959-590560	No 80,65-sliding	40 x 6 x 130	1,6 x 0,24 x 5,1	0,20	0,44	20 pcs/pack



SHARQ STARTUP

Sharq P300

10ft: 122-454430=2 pcs
11ft: 122-454420=2 pcs
 122-454410=1 pc
12ft: 122-454420=3 pcs
13ft: 122-454420=2 pcs
 122-454430=1 pc
14ft: 122-454420=1 pc
 122-454430=2 pcs
16ft: 122-454420=4 pcs

Sharq RAM 16 mm

10ft: 122-361961=2 pcs
11ft: 122-361951=2 pcs
 122-361971=1 pc
12ft: 122-361951=3 pcs
13ft: 122-361951=2 pcs
 122-361961=1 pc
14ft: 122-361951=1 pc
 122-361961=2 pcs
16ft: 122-361951=4 pcs

Sharq RAM 20 mm

10ft: 122-361941=2 pcs
11ft: 122-361931=2 pcs
 122-362101=1 pc
12ft: 122-361931=3 pcs
13ft: 122-361931=2 pcs
 122-361941=1 pc
14ft: 122-361931=1 pc
 122-361941=2 pcs
16ft: 122-361931=4 pcs

Sharq P300 HD

10ft: 122-496454=2 pcs
11ft: 122-496444=2 pcs
 122-496434=1 pc
12ft: 122-496444=3 pcs
13ft: 122-496444=2 pcs
 122-496454=1 pc
14ft: 122-496444=1 pc
 122-496454=2 pcs
16ft: 122-496444=4 pcs

Number of parts needed for each mounting board

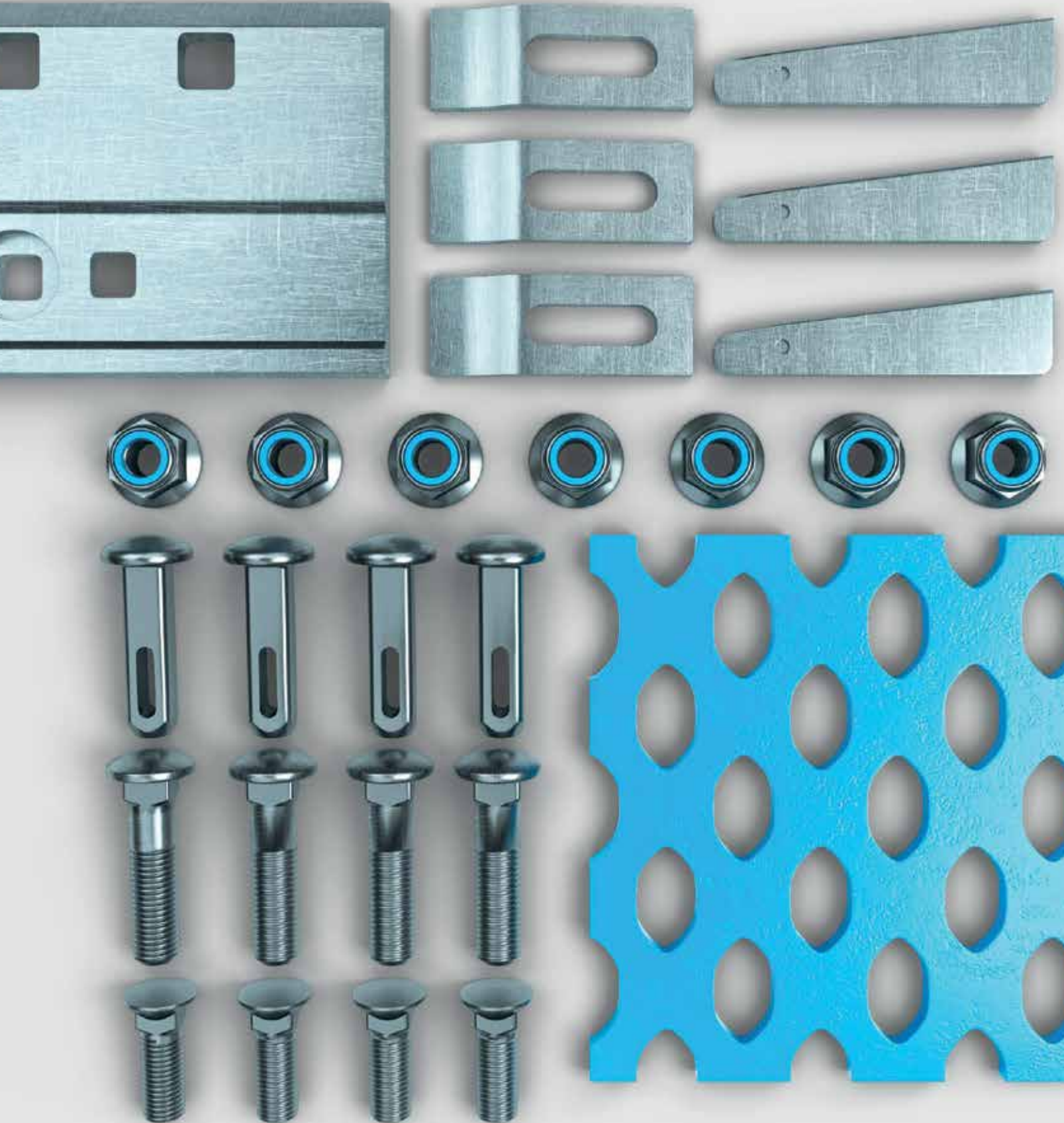
Sharq bolt-mounting	10 ft. M16	10 ft. M20	11 ft. M16	11 ft. M20	12 ft. M16	12 ft. M20	13 ft. M16	13 ft. M20	14 ft. M16	14 ft. M20	16 ft. M16	16 ft. M20
Adapter-plates M16, 5 ft., 122-369570	2		1									
Adapter-plates M16, 6 ft., 122-369550			1		2		1					
Adapter-plates M16, 7 ft., 122-369530							1		2			
Adapter-plates M16, 8 ft., 122-369510											2	
Adapter-plates M20, 5 ft., 122-369560		2		1								
Adapter-plates M20, 6 ft., 122-369540				1		2		1				
Adapter-plates M20, 7 ft., 122-369520								1		2		
Adapter-plates M20, 8 ft., 122-369500												2
Bolt FH M16 x 65, 959-590310	22		24		26		28		30		34	
Bolt FH M20 x 65, 959-590730		22		24		26		28		30		34
Nut M16 locking, 959-590350	32	10	35	11	38	12	41	13	44	14	50	16
Nut M20 locking, 959-590670		22		24		26		28		30		34
Support washer 80.65, 959-590560	10	10	11	11	12	12	13	13	14	14	16	16
Bolt FH M16 x 50, 959-590420	10	10	11	11	12	12	13	13	14	14	16	16
For mounting of the SharqEdges												
Wedge bolt 53, 151-457510	10	10	11	11	12	12	13	13	14	14	16	16
Wedge 20,5, 151-455980	10	10	11	11	12	12	13	13	14	14	16	16
Optional												
Bolt KH M16 x 55, 959-590285	10	10	11	11	12	12	13	13	14	14	16	16
Nut M16 locking, 959-590350	10	10	11	11	12	12	13	13	14	14	16	16

GENERAL TERMS

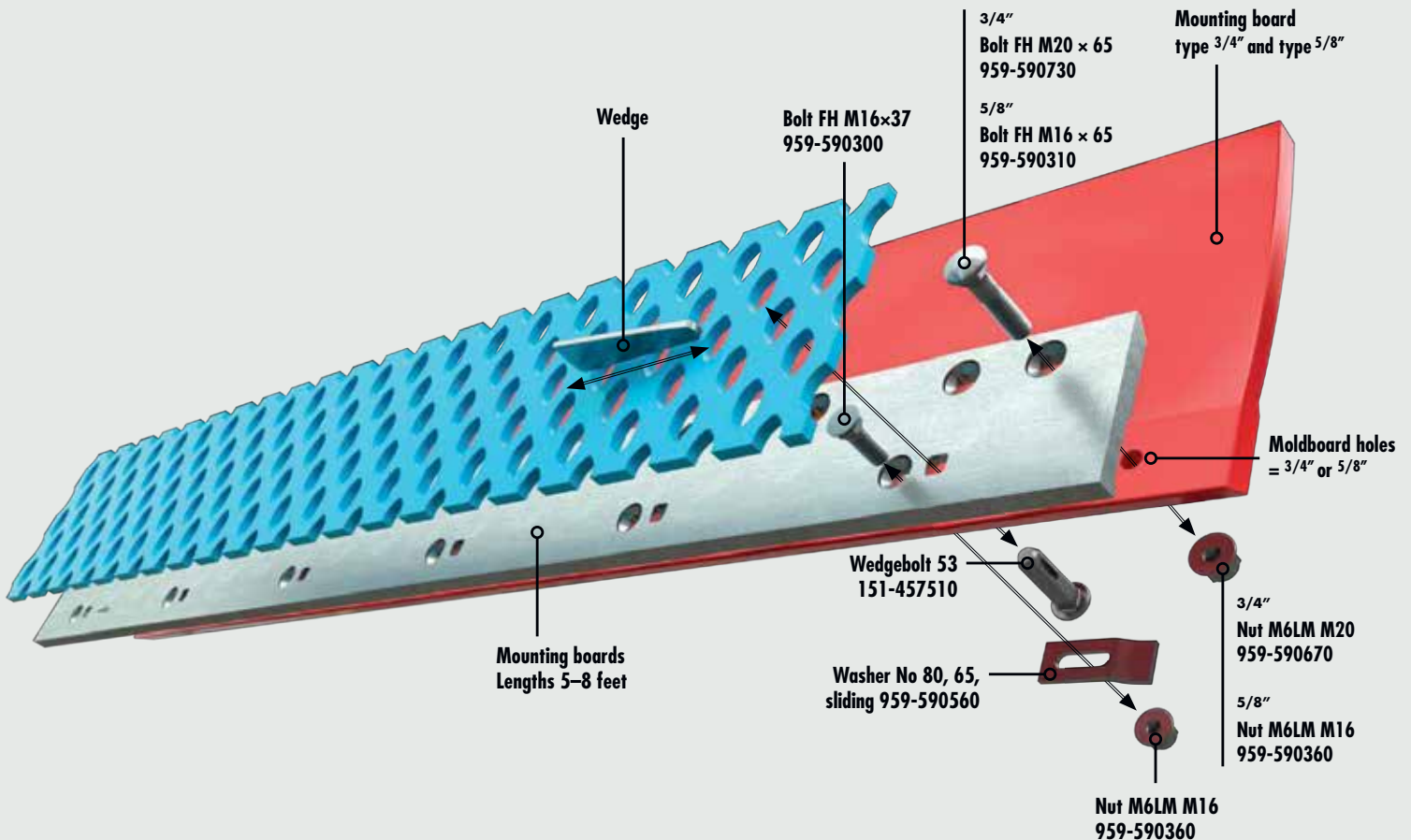
We reserve the right to make design changes at any time. This catalogue mainly contains our standard range of products. Other products are available on request. We reserve the right to make immediate corrections to any errors in the catalogue.

INSTRUCTIONS

► The Sharp Quick Mount Edge System



WEDGE MOUNTING INSTRUCTIONS FOR MOLDBOARD 3/4" AND 5/8"



Number of parts needed for each mounting board.

For blades <11mm, use wedge 20,5 (151-455980) or 20,5 (151-455960).
For blades >12mm, use wedge 20,5 (151-455980) or 18,5 (151-455950).

Note: FH M20 = FH 3/4" with 5/8" head

Length	Adapter plate	Wedge	Wedgebolt 53	Washer no 80,65	Bolt FH M16 x 37	Nut M16 locking	Bolt FH M20 x 65	Nut M20 locking
5 feet	122-369560	5 x	5 x	5 x	5 x	5 x	11 x	11 x
6 feet	122-369540	6 x	6 x	6 x	6 x	6 x	13 x	13 x
7 feet	122-369520	7 x	7 x	7 x	7 x	7 x	15 x	15 x
8 feet	122-369500	8 x	8 x	8 x	8 x	8 x	17 x	17 x

Note: FH M16 = FH 5/8"

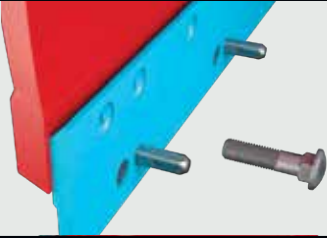
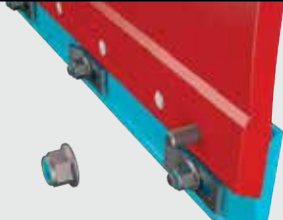

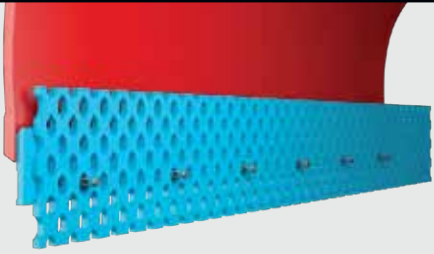
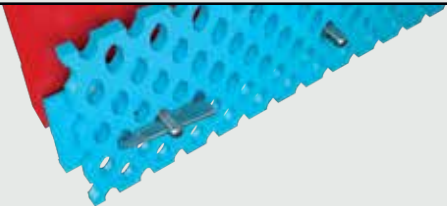
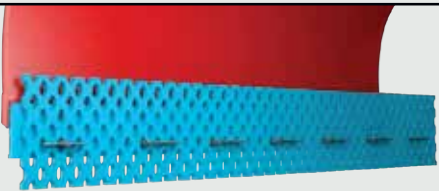

Length	Adapter plate	Wedge	Wedgebolt 53	Washer no 80,65	Bolt FH M16 x 37	Nut M16 locking	Bolt FH M16 x 65	Nut M16 locking
5 feet	122-369570	5 x	5 x	5 x	5 x	5 x	11 x	11 x
6 feet	122-369550	6 x	6 x	6 x	6 x	6 x	13 x	13 x
7 feet	122-369530	7 x	7 x	7 x	7 x	7 x	15 x	15 x
8 feet	122-369510	8 x	8 x	8 x	8 x	8 x	17 x	17 x

MOUNTING INSTRUCTIONS



- WHEN CHANGING THE BLADES, YOU SHOULD WEAR GLOVES, SAFETY-GOGGLES AND -SHOES.
- GOOD ERGONOMIC POSITION TO MOUNT THE BLADES
- USE OUR SUPPORTING-TOOL

	<p>1 FOR MOUNTING THE ADAPTER PLATE THE FOLLOWING IS NEEDED: BOLT 16X37 MM (5/8" × 1 1/2), "TRILOC" M16 (LOCK NUT 5/8"), APPROPRIATE WEDGE BOLT AND WASHER.</p>
	<p>2 ATTACH THE BOLT 16X37 MM (5/8" × 1 1/2).</p>
	<p>3 ATTACH THE WEDGE BOLT.</p>
	<p>4 ATTACH THE WASHER AND "TRILOC" M16 (LOCK NUT 5/8").</p>
	<p>5 REPEAT STEPS 2 THROUGH 4 UNTIL CORRECT AMOUNT OF WEDGE BOLTS IS INSTALLED. MAKE SURE THE WEDGE BOLTS "EYE" IS IN A HORIZONTAL DIRECTION.</p>
	<p>6 ALIGN THE ADAPTER PLATE TO THE MOLD BOARD. MAKE SURE THE MOLD BOARD IS CLEAN AND FREE FROM DIRT.</p>

	<p>7</p> <p>ATTACH THE MOUNTING PLATES WITH BOLTS FH 16X65. FH 16X90 ARE NEEDED IF THERE IS A REINFORCED AREA ON THE MOLD BOARD. (IF MOTHER BOARD HOLES ARE 3/4", USE M20 BOLTS AND NUTS)</p>
	<p>8</p> <p>ATTACH THE "TRILOC" M16 (LOCK NUT 5/8").</p>
	<p>9</p> <p>ATTACH THE MOUNTING PLATES WITH BOLTS AT A DISTANCE OF 6" (152.5 MM) OR 12" (305 MM)</p>
	<p>10</p> <p>YOU CAN NOW INSTALL THE SHARQEDGES ON THE MOUNTING PLATE.</p> <p>THE BLADE SHOULD BE ATTACHED WITH THE BLADE PROTRUDING 2" FROM THE BOTTOM EDGE OF THE MOUNTING PLATE.</p>
	<p>11</p> <p>LOCK THE BLADE IN PLACE WITH APPROPRIATE WEDGES.</p>
	<p>12</p> <p>THE GRADER IS NOW READY TO BE USED.</p>
	<p>13</p> <p>RETIGHTEN THE BOLTS AFTER A COUPLE OF HOURS OF OPERATION.</p>

CUSTOMER TESTIMONIALS

Sharq™



DALE PATTERSON

J.D. Irving, Canada: Woodlands (Sussex New Brunswick)

"I could not imagine how it would work here because we were wearing a 1" grader blade on average in 5 days. How would this thin blade last more than a few hours? To my surprise we are averaging about 3 weeks on a set of SharqEdges."

"Fuel consumption has dropped drastically from 24 L/hr on the old blades to 16 L/hr on the SharqEdges."

"We are able to recover more gravel and the holes allow some of the fines to stay on the road with the Sharq P300, something we could never do with conventional grader blades."

"We could only grade about 6 km a day with our old blades compared to 10+ km with the SharqEdges. Plus, the SharqEdges give us a safer road surface in summertime."

"We are very satisfied with Olofsfors SharqEdges, we are now running the system on 3 graders. We would never go back to the old way."



AL HOTEL / STEVE HULSMAN

Rocky View County, Canada: Rocky View, AB

"The fuel consumption with Sharq is 140–160 liters per day, and with regular grader blades its 200–240 liters a day."

"With regular grader blades you get a slippery surface, with Sharq P300 you get a scarified surface and that helps the sand and salt stay on the road."

"With regular grader blades you throw away 30–40% with Sharq P300 you throw away about 5%."

"Changing blades takes about 1–1.5 hrs with regular grader blades, Sharq it takes you 15 min on the road."

"Sharq gives me about 100–120hrs and regular grader blades about 8–40hrs."

"When you get 4 times the wear life on the edges for 50% more cost there is an easy decision."

