

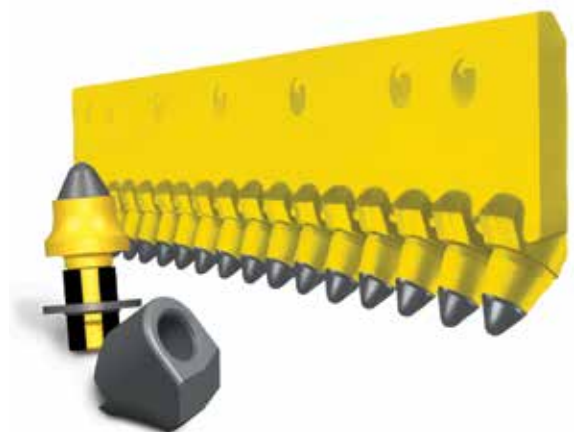


Scarifier Blades

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.

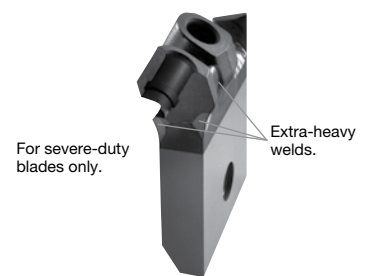
A Variety of Blade Styles to Match Your Conditions

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.



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-plow 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.

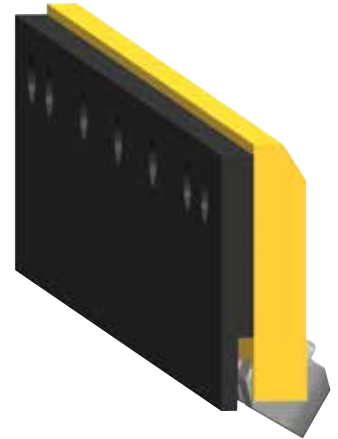
■ Scarifier Blade Sizes and Ordering Information

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.

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.



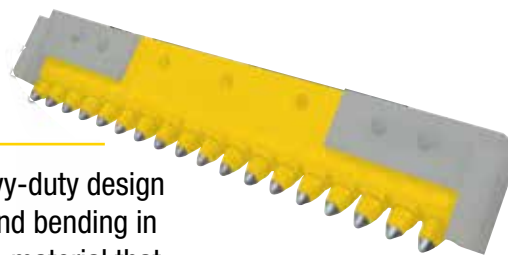
■ Cover Blades Ordering Information • Standard-Duty Blades

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

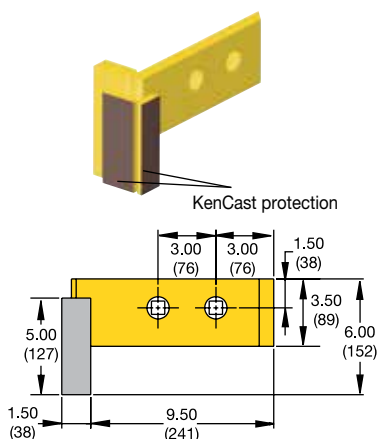
thickness		width		length		order number	bolt diameter	
in	mm	in	mm	in	mm		in	mm
.750	19	6	152	36	914	1791493	.625	16
.750	19	6	152	48	1219	1791494	.625	16
.750	19	6	152	36	914	1799128	.750	19
.750	19	6	152	48	1219	1799131	.750	19

End Protectors

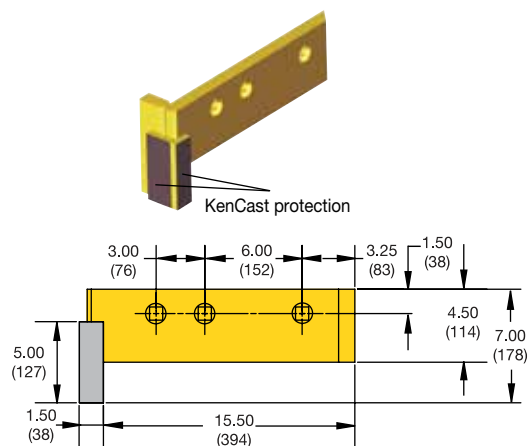


Kennametal carbide end protectors for scarifier blades feature a heavy-duty design and tough steel supports of the end protectors that resist breakage and bending in any road application. Our end protectors feature KenCast™ composite material that combines the wear resistance of Kennametal’s exclusive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

For standard- and heavy-duty blades



For severe-duty blades



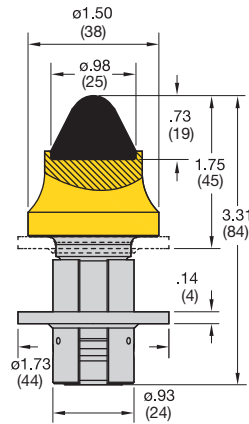
■ End Protectors Ordering Information • Standard-Duty Blades

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

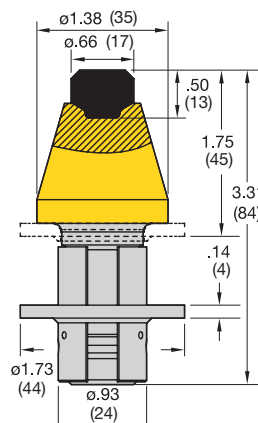
- Superior wear and rotation.
- Washer keeps out debris and improves rotation for longer bit life and less block wear.
- New full-sleeve retainer protects the inside of the bore to prevent uneven wear.
- Washer precompresses the retainer which makes it easier to install.
- Retainer grips tighter to prevent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

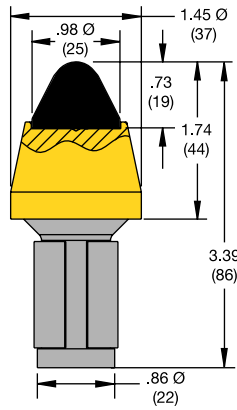
order number	catalog number
3837213	C87HDRP

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).

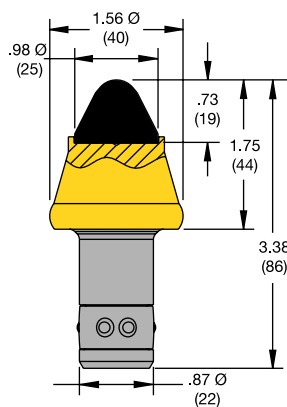
- Longest wearing carbide tip available.
- For use on all types of road surfaces.
- Specially designed carbide tip for extra-long tool life and added steel-wash protection.
- 1.45" (37mm) diameter cutting tool shoulder protects block face from excessive wear.



■ **C858KCSB**

order number	catalog number
1010880	C858KCSB

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



■ **C87KCSBSR**

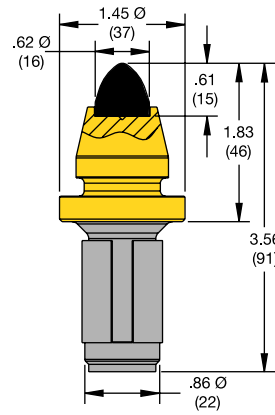
order number	catalog number
1010937	C87KCSB SR

■ **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).

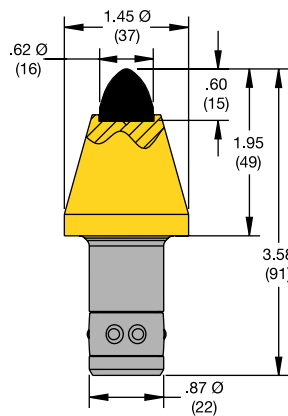
- Sharper carbide tip for increased penetration.
- Large carbide tip for long tool life in average cutting conditions.
- Specially designed flange protects block from excessive wear.
- Puller groove for easier tool extraction from front side of blade.



■ **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**

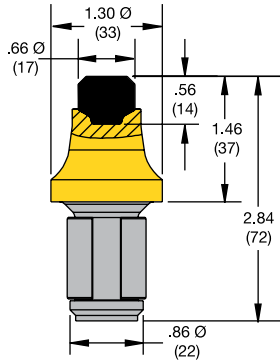
order number	catalog number
1010935	C87DS SR

■ **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).

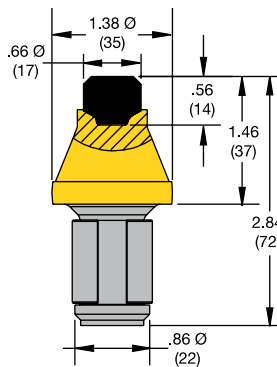
- Larger carbide tip than similar competitive tools.
- Improved with 30% stronger braze.
- Blunt-nose tip style.
- Fits competitive blade systems.



■ **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**

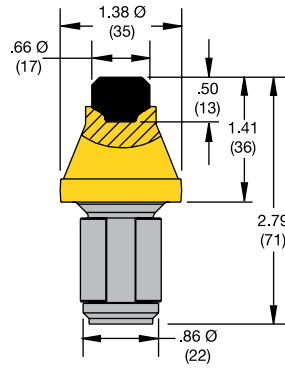
order number	catalog number
1011206	C855HDX

■ **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).

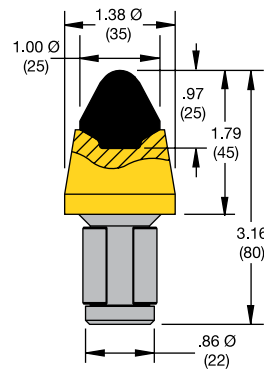
- Economy-sized carbide tip.
- Improved with 30% stronger braze.
- Additional steel in body style for added strength and wear life.
- Fits Kennametal and competitive blade systems.



■ **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**

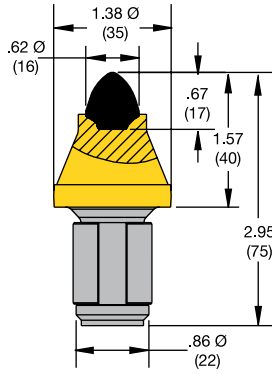
order number	catalog number
1855704	C855KCSB

■ **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).

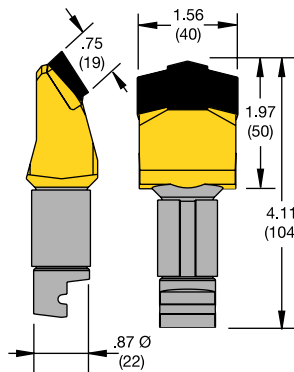
- Sharp carbide tip.
- Fits Kennametal and competitive blade systems.



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

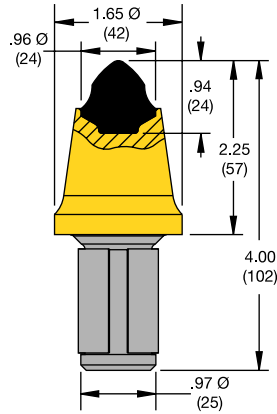
order number	catalog number
1012240	AR15087

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).

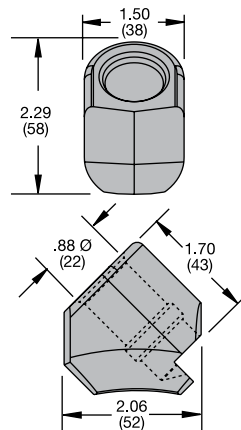
- Specially designed and manufactured for use in competitive “mining duty” systems. (This tool does NOT fit Kennametal blade systems.)
- Contains more carbide than similar competitive designs.



■ **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**

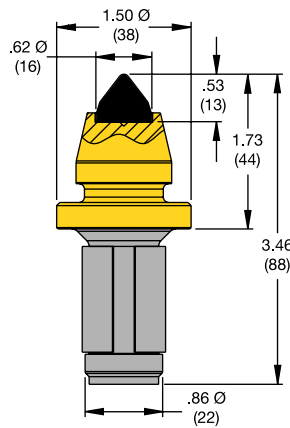
order number	catalog number
1012234	C87G BLOCK

■ **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).

- 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

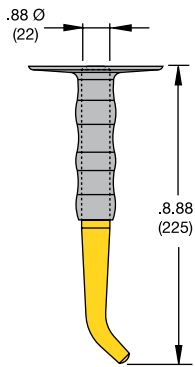
■ **Packaging Information**

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

Dimensions shown in millimeters and (inches).

■ **KHP2 Hammer Punch**

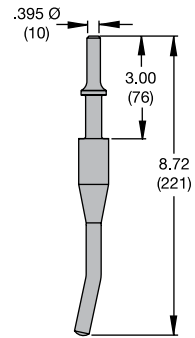
- For removing cutting tools from blocks.
- Hardened tip for longer life; used with a hammer.
- Plastic hand protector for added safety.



order number	catalog number
1012247	KHP2 Hammer Punch

■ **KAHP1 Air-Hammer Punch**

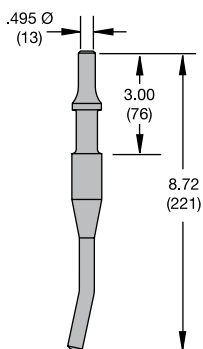
- For removing cutting tools from blocks.
- Hardened tip for durability.
- Fits all light-duty, air-hammer guns that have a .375" (10mm) chuck.



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

■ **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

■ **RPR07 Retainer**

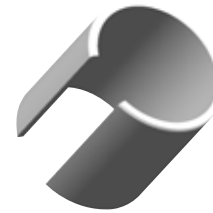
- Replacement retainer for C87WFRKCSB.



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**

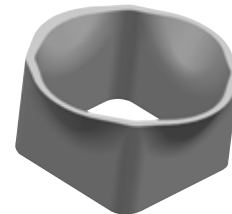
- Replacement retainer for use with C100 24.43SB cutting tools.



order number	catalog number
1851733	C100SB

■ **Reducer Bushing**

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

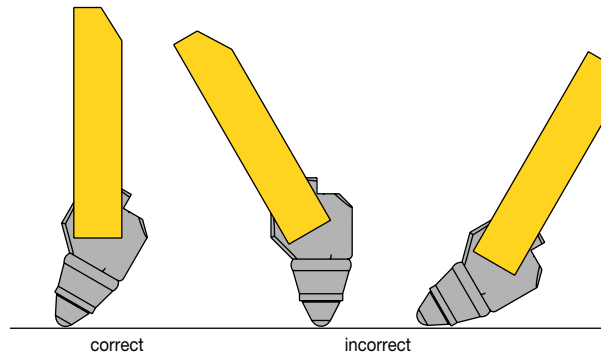


order number	catalog number
1104522	Reducer Bushing

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.

