

Mills Machine Company first started manufacturing Claw Bits under an agreement with Kennametal, Inc. in 1978, who owned the original patent for the **KENCLAW®** bit. We were able to improve the original design by offering a **one piece heat treated alloy steel body with special hardfaced blocks** that could be reworked many times to extend the overall life of the bit.

The **KENCLAW®** bit is best suited for **soft to medium formations** and especially excels in **unconsolidated formations**, where the driller may encounter alternating layers of very soft clay and then encounter sand rock or hard shale formations that would cause a drag bit to over torque and possibly stall. The bits are available in a **wide range of sizes** that vary from 3 1/2 to 24 diameter and features a variety of options such as; multi-stage stage reamers, holeopeners, circulating pilot bits, and special jet circulation configurations.

After years of custom manufacturing the **KENCLAW®** bits and after four prototype testing phases we finally perfected an improved version of the **KENCLAW®** bit which we call the **MILCLAW®** bit. A U.S. Patent protects the **MILCLAW®** bit and several International Patents; this bit features a **triangular, multi-stage body**

design that provides better support for the cutters and enables it to **cut harder formations**. The **MILCLAW®** bit is available in sizes ranging from 6 1/2 to 24 and is best suited for medium soft to medium hard formations and normally provides better footage from a set of cutters than the **KENCLAW®** design.

KENCLAW® is a Registered trademark of Kennametal, Inc.  
MILCLAW® is a Registered trademark of Mills Machine Company  
GEOCLAW® is a Registered trademark of Mills Machine Company, Inc

Experience and field test reports have indicated that the **MILCLAW®** bit runs smoother and more efficiently with a ribbed stabilizer.

All of our Claw bit designs offer **rapid penetration**, drill as fast or **faster than a drag bit** while being as **tough as a roller rock bit**. They feature economical, **inexpensive field replaceable cutters**. The conical bullet shaped cutters rotate in their blocks to provide a self-sharpening effect, which extends the life of the bit and reduces torque.

The **MILCLAW®** and the **KENCLAW®** bits both have one circulation hole per cutter to provide maximum hole cleaning and are easily repairable because of the one-piece alloy steel body.

The Mills **GEOCLAW** fills the niche for smaller size bullet bits with more versatile construction and superior performance than small bullet bits previously available. Available in either the heavy duty crossed bit construction or the standard pilot bit form, these bits fill a need in the drilling market.



"PLEASE CALL FOR CUSTOM OPTIONS AND OTHER ACCESSORIES"

**Check our Web Site:**  
[www.MillsMachine.com](http://www.MillsMachine.com)

MILLS MACHINE CO. INC., P O BOX 1514, SHAWNEE, OK, 74802  
Phone: 800-654-2703 or 405-273-4900 Fax: 405-273-4956

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# MILLS MILCLAW® BITS

	Part #	Description	Pilot Bit	# of Cutters	Weight	
					Lbs.	Kgs.
S	MC0612-312	6 1/2 (161.5 mm) MILCLAW® 3 1/2 Reg Pin	CP18	6	35	15.9
S	<a href="#">MC0634-312</a>	<a href="#">6 3/4 (171.5 mm) MILCLAW® 3 1/2 Reg Pin</a>	CP18	6	35	15.9
S	MC0778-412	7 7/8 (200.0 mm) MILCLAW® 4 1/2 Reg Pin	CP18	7	51	23.1
S	MC0834-412	8 3/4 (222.3 mm) MILCLAW® 4 1/2 Reg Pin	CP18	8	60	27.2
S	MC0900-412	9 (228.8 mm) MILCLAW® 4 1/2 Reg Pin	CP18	9	65	29.5
S	MC0978-658	9 7/8 (250.8 mm) MILCLAW® 6 5/8 Reg Pin	CP18	9	88	39.9
S	MC1058-658	10 5/8 (295.3 mm) MILCLAW® 6 5/8 Reg Pin	CP18	14	128	58.1
S	MC1214-658	12 1/4 (311.1 mm) MILCLAW® 6 5/8 Reg Pin	CP18	17		
	MC1434-658	14 3/4 (374.7 mm) MILCLAW® Reamer 6 5/8 Reg Pin	MC0634-312			
	MC1712	17 1/2 (444.5 mm) MILCLAW® Reamer 6 5/8 Reg Pin	MC0634-312			
	MC2000	20 (500.0 mm) MILCLAW® Reamer 6 5/8 Reg Pin	MC0778-412			
	MC2200	22 (558.8 mm) MILCLAW® Reamer 7 5/8 Reg Pin	MC0778-412			
	MC2400	24 (609.6 mm) MILCLAW® Reamer 7 5/8 Reg Pin	MC0778-412			

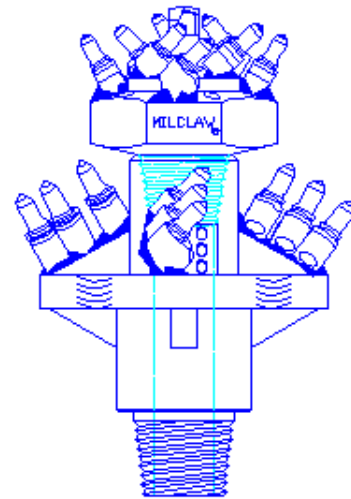
**S – Stock Item**

**\*Other sizes available upon request.**



The sizes listed above are what we consider to be standard stock sizes but we can custom manufacture any size that you want! For sizes not shown, use the price of the next larger bit size.

We can furnish the MILCLAW® Bit with your choice of any pin or box threads. Other modifications include different pilot bits, breakout flats, circulation holes, reamers, larger sizes, etc. Contact us for more information.



**MILCLAW® Reamer Design**

We highly recommend the use of a ribbed stabilizer when drilling with a MILCLAW® Bit.

**The design for the MILCLAW® Bit changes at 14 3/4 and larger to a Heavy Duty Reamer type as shown on the right.**

MILCLAW® is a Registered trademark of Mills Machine Co., Inc.  
The MILCLAW® is patented in the U.S., Canada, Philippines and Australia.

“PLEASE CALL FOR CUSTOM OPTIONS AND OTHER ACCESSORIES”

# MILLS KENCLAW® and GEOCLAW BITS

★	Part #	Description	Pilot Bit	Qty. of Cutters	Weight Lbs.Kgs.
<b>GEOCLAW</b>					
S	MG378-238	3 7/8 (98.4 mm) MILLS GEOCLAW	2 3/8 Reg Pin	Crossed Bit	5 C6 8 3.6
S	MG414-238	4 1/4 (104.8 mm) MILLS GEOCLAW	2 3/8 Reg Pin	Crossed Bit	5 C6 9 4.1
S	MG412-238	4 1/2 (108.0 mm) MILLS GEOCLAW	2 3/8 Reg Pin	Crossed Bit	5 C6 10 4.5
S	MG434-238	4 3/4 (120.7 mm) MILLS GEOCLAW	2 3/8 Reg Pin	Crossed Bit	5 C6 10 4.5
S	MG514-278	5 1/4 (133.4 mm) MILLS GEOCLAW	2 7/8 Reg Pin	Crossed Bit	6 C6 14 6.4
<b>KENCLAW</b>					
S	MK0412-238	4 1/2 (108.0 mm) MILLS KENCLAW®	2 3/8 Reg Pin	CP-12	4 C6 9 4.1
S	MK0434-238	4 3/4 (120.7 mm) MILLS KENCLAW®	2 3/8 Reg Pin	CP-12	4 C6 12 5.4
S	MK0514-238	5 1/4 (133.4 mm) MILLS KENCLAW®	2 3/8 Reg Pin	CP-12	4 C6 13 5.9
S	MK0434-278	4 3/4 (120.7 mm) MILLS KENCLAW®	2 7/8 Reg Pin	CP-12	4 C6 14 6.4
S	MK0514-278	5 1/2 (133.4 mm) MILLS KENCLAW®	2 7/8 Reg Pin	CP-12	4 C6 17 7.7
S	MK0512-312	5 1/2 (139.7 mm) MILLS KENCLAW®	3 1/2 Reg Pin	CP-18	4 C-23 19 6.8
S	MK0558-312	5 5/8 (142.9 mm) MILLS KENCLAW®	3 1/2 Reg Pin	CP-18	4 C-23 20 8.2
S	MK0575-312	5 7/8 (149.2 mm) MILLS KENCLAW®	3 1/2 Reg Pin	CP-18	
S	MK0600-312	6 (152.4 mm) MILLS KENCLAW®	3 1/2 Reg Pin	CP-18	5 C-23 21 9.5
S	MK0614-312	6 1/4 (158.8 mm) MILLS KENCLAW®	3 1/2 Reg Pin	CP-18	5 C-23 21 9.5
S	MK0612-312	6 1/2 (165.1 mm) MILLS KENCLAW®	3 1/2 Reg Pin	CP-18	5 C-23 21 9.5
S	MK0634-312	6 3/4 (171.5 mm) MILLS KENCLAW®	3 1/2 Reg Pin	CP-18	5 C-23 22 10.0
S	MK0778-412	7 7/8 (200.0 mm) MILLS KENCLAW®	4 1/2 Reg Pin	CP-18	8 C-23 34 15.8
S	MK0812-412	8 1/2 (215.9 mm) MILLS KENCLAW®	4 1/2 Reg Pin	CP-18	8 C-23 36 13.6
S	MK0834-412	8 3/4 (222.3 mm) MILLS KENCLAW®	4 1/2 Reg Pin	CP-18	8 C-23 40 18.1
S	MK0900-412	9 (228.6 mm) MILLS KENCLAW®	4 1/2 Reg Pin	CP-18	8 C-23 40 18.1
S	MK0978-658	9 7/8 (250.8 mm) MILLS KENCLAW®	6 5/8 Reg Pin	CP-18	9 C-23 57 25.9
S	MK1058-658	10 5/8 (269.9 mm) MILLS KENCLAW®	6 5/8 Reg Pin	CP-18	9 C-23 70 31.8
S	MK1214-658	12 1/4 (311.2 mm) MILLS KENCLAW®	6 5/8 Reg Pin	CP-18	12 C-23 110 49.9
		14 3/4 See MILCLAW® Reamer design	6 5/8 Reg Pin	6 3/4 Kenclaw®	
		17 1/2 See MILCLAW® Reamer design	6 5/8 Reg Pin	6 3/4 Kenclaw®	
		20 See MILCLAW® Reamer design	7 7/8 Reg Pin	7 7/8 Kenclaw®	
		22 See MILCLAW® Reamer design	7 7/8 Reg Pin	7 7/8 Kenclaw®	
		24 See MILCLAW® Reamer design	7 7/8 Reg Pin	7 7/8 Kenclaw®	

## S-Stock Item

\*Other sizes available upon request.



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The GEOCLAW was initially designed for the Geothermal industry but it is also suitable for other types of drilling. The GEOCLAW has smaller blocks and cutters and features a crossed bullet cutter design for the pilot bit.



We can furnish the GEOCLAW or KENCLAW® Bits with your choice of any pin or box threads. Other modifications include different pilot bits, breakout flats, circulation holes, larger sizes, etc. Please contact us for more information.

We highly recommend the use of a ribbed stabilizer when drilling with a KENCLAW® Bit.

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# Claw Bit Components

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Replacement Blocks, Bullet Cutters and Pilot Bits for Mills KENCLAW<sup>®</sup>, MILCLAW<sup>®</sup> and GEOCLAW Bits

## Cutters

Part #	Description	Weight	
		Lbs.	Kgs.
C23	Standard Bullet Bit	.3	.1
C6	Mini-Bullet Cutter	.2	.1

## Blocks

C20	Block for Standard Bullet Bit	.7	.3
C6B	Block for C4 Mini-Bullet	.3	.1

## Pilot Bits

CP12	Pilot Bit, 7/8 (22.2mm), NC Thread	.7	.3
CP15	Pilot Bit, 7/8 (22.2mm), NC Thread	1.3	.6
CP16	Pilot Bit, 1 (25.4mm), NC Thread	1.5	.7
CP17	Pilot Bit, 3/4 (19.1mm), NC Thread	1.2	.5
CP18	Pilot Bit, 1 1/4 (31.8mm), 5-stub Acme Thread	1.6	.7

Mills Machine has several other sizes and styles of bullet cutters and blocks to meet your specific needs. Please call us for detailed information.

**Repairs.** The larger sizes of KENCLAW<sup>®</sup> and MILCLAW<sup>®</sup> can be reworked to like new condition at a reasonable cost. We can replace the bullet cutters, blocks and pilot bits with new components and repair any damaged threads. The cost depends on the amount of wear or damage that the bit has incurred. Contact the factory for more information.

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## Claw Holeopeners

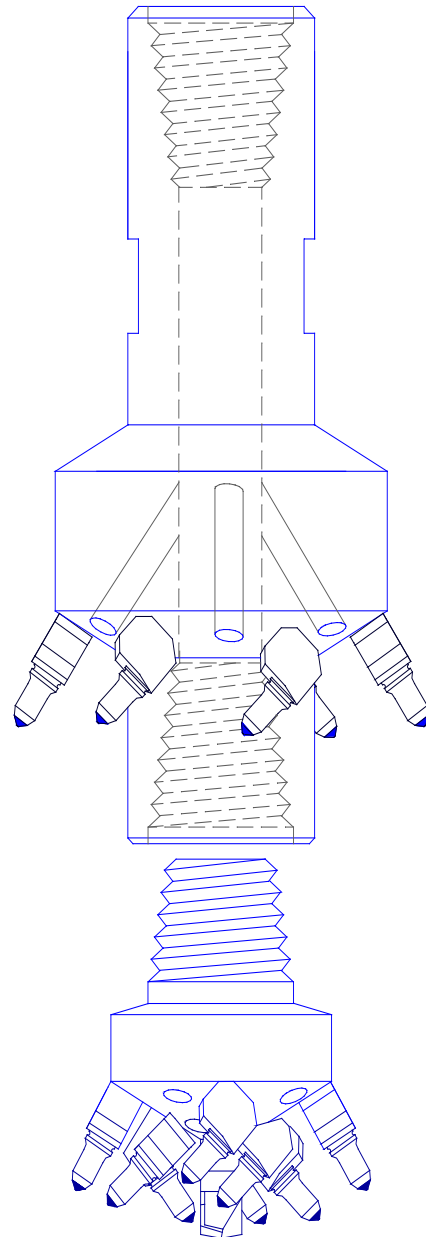
Mills Machine manufactures a full line of rotary claw bits that include many variations of the original design. One of the popular options is the claw reamer or holeopener. Like our KENCLAW<sup>®</sup> line of bits, these bits will work in clay to medium shale rock (up to 6000 psi rock).

Carbide cutters rotate in their block to promote a self sharpening action and reduce torque on the drill string. These cutters are inexpensive and easily replaced in the field.

These holeopeners will cut as fast as a drag bit while at the same time they are as tough as a soft to medium formation rock bit. They are suitable for either air or fluid drilling.

The claw holeopeners can be used with either rock bits as a pilot or with the Mills KENCLAW<sup>®</sup> or MILCLAW<sup>®</sup>. Versatility lies with our ability to manufacture in single, double or multi-stage versions to offer the best product for your individual needs.

These tough, high-quality units are designed for long life. All edges exposed to wear are hard surfaced with tungsten carbide material. The threaded tool joints and bodies are made from 4142 heat treated steel. Each holeopener is individually designed and manufactured for your specific application.



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**Application Questionnaire**

**Claw Holeopener** **Claw Holeopener**

Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 \_\_\_\_\_  
 City, State Zip \_\_\_\_\_

Phone \_\_\_\_\_  
 Fax \_\_\_\_\_  
 Contact \_\_\_\_\_

**\*\*Quantity:** \_\_\_\_\_ **\*\*Hole Size** \_\_\_\_\_

**\*\*Pilot Bit Dia.** \_\_\_\_\_ Pilot Bit Type \_\_\_\_\_

**\*\*Top Connection:** \_\_\_\_\_ Pin  Box

**\*\*Bottom Connection:** \_\_\_\_\_ Pin  Box

**\*\* Must fill out these items. Fill out more if possible or custom product requested.**

Claw Type: Standard, C-23 , Mini Bullet ,  
 Heavy Duty , or Other \_\_\_\_\_

Number of Stages \_\_\_\_\_ Length: S to S \_\_\_\_\_ OR Overall \_\_\_\_\_

Formation: \_\_\_\_\_ Description \_\_\_\_\_

Is Holeopener Going Inside of Casing? Yes  No   
 Casing ID \_\_\_\_\_

Top Neck Dimensions: OD \_\_\_\_\_ ID \_\_\_\_\_ Length \_\_\_\_\_  
 Knurled

Bottom Neck Dimensions: OD \_\_\_\_\_ ID \_\_\_\_\_ Length \_\_\_\_\_

Breakout  
 Flats: Two Sided  Four Sided   
 Special \_\_\_\_\_  
 Flat Length \_\_\_\_\_ Location \_\_\_\_\_  
 Dimensions: Flat to Flat \_\_\_\_\_ OR Depth per Side \_\_\_\_\_  
 Location \_\_\_\_\_

Float Valve: Bore Only  Install: Customer Furnished  Mills Furnished   
 Brand \_\_\_\_\_ Model & Size \_\_\_\_\_

Special Requirements: \_\_\_\_\_  
 \_\_\_\_\_

**Sketch:**

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