

# CIC 200™ QUAD POINT DRILLS™

CUT WHERE OTHER DRILLS FAIL



MAINTENANCE GRADE  
**TOUGH!**



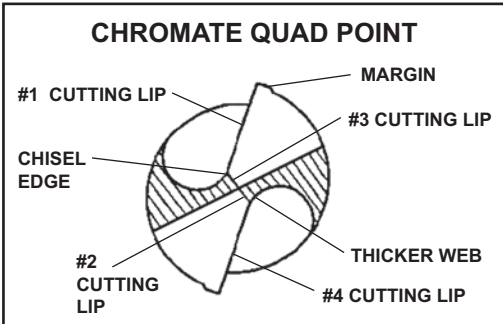
 **CHROMATE®**  
INDUSTRIAL CORP.

# CIC 200™ QUAD POINT DRILLS™

## FASTER CUTTING AND LONGER LIFE ON THE TOUGHEST INDUSTRIAL APPLICATIONS

- Chromium, vanadium and molybdenum alloy tool steel maintains maximum sharpness and durability
- Nitro-carburized for exceptional hardness
- Cuts materials up to 55 Rockwell “C” scale
- Runs cooler - uses less torque
- Self-piloting point assures fast, accurate starts and prevents “walking”
- No need for center punching
- Outlasts ordinary drills up to 10 to 1

## MORE HOLES PER DRILL ASSURES A LOWER COST PER HOLE



**CHROMATE QUAD POINT**

#1 CUTTING LIP      MARGIN

CHISEL EDGE      #3 CUTTING LIP

#2 CUTTING LIP      THICKER WEB

#4 CUTTING LIP

**HEAVY DUTY WEB**  
FOR LONGER LIFE AND GREATER BREAKAGE RESISTANCE

**PRECISION GROUND QUAD POINT**  
ASSURES FASTER, CLEANER STARTS, EVEN ON ROUND HARDENED SURFACES.

**EXTENDED FLUTES**  
REMOVES CHIPS FASTER

**RELIEVED LANDS**  
ALLOW AIR AND CUTTING FLUID TO FLOW AROUND THE DRILL, PROVIDING COOLER CUTTING AND LONGER LIFE.

**SPECIAL MARGIN**  
MINIMIZES FRICTION FOR CLEAN ACCURATE CUTTING

**IT CUTS:**

- Stainless Steel
- Tool Steel
- Exotic Steel
- Standard Steel

*CIC 200™ QUAD POINT DRILLS EXCEED NAS907B AEROSPACE SPECIFICATIONS*

## THE ONE DRILL FOR ALL MAINTENANCE JOBS



EXCEPTIONAL PRODUCTS, SERVICE AND INNOVATIVE SOLUTIONS

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P/N 21226

# CIC 200™ QUAD POINT™ DRILL ORGANIZER

— FRACTIONAL SIZES —

SIZES EMBOSSED  
ON FRONT OF EACH  
COMPARTMENT



DRILL CABINET:  
14-1/2" W x 7-1/4" H x 7-1/4" D

- Contains 50 Quad Point Drills
- 23 of the most popular fractional sizes
- Stores hundreds of drills in one place
- Eliminates misplaced drills

**P/N 61695**

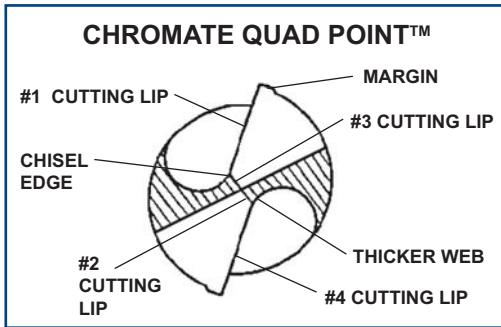
- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE ALWAYS AVAILABLE
- CONTROLS YOUR DRILL INVENTORY

QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
3	1/16	2	5/32	<b>4</b>	<b>1/4</b>	<b>2</b>	<b>3/8</b>
3	5/64	2	11/64	2	17/64	1	25/64
3	3/32	<b>4</b>	<b>3/16</b>	2	9/32	1	27/64
3	7/64	2	13/64	<b>2</b>	<b>5/16</b>	1	7/16
<b>4</b>	<b>1/8</b>	2	7/32	1	21/64	1	1/2
2	9/64	2	15/64	1	11/32		

***SAVES MONEY, TIME AND LABOR***

# CIC 200™ PRO™ DRILLS

**CUT WHERE OTHER DRILLS FAIL**



**HEAVY DUTY WEB**  
FOR LONGER LIFE AND  
GREATER BREAKAGE  
RESISTANCE

**PRECISION GROUND  
QUAD POINT**  
ASSURES FASTER, CLEANER  
STARTS, EVEN ON ROUND  
HARDENED SURFACES.

**EXTENDED FLUTES**  
REMOVES CHIPS FASTER

**GOLD OXIDE FINISH**  
REDUCES FRICTION  
AND HEAT

**RELIEVED LANDS**  
ALLOW AIR AND CUTTING FLUID TO FLOW  
AROUND THE DRILL, PROVIDING COOLER  
CUTTING AND LONGER LIFE.

**SPECIAL MARGIN**  
MINIMIZES FRICTION FOR  
CLEAN ACCURATE CUTTING

**GROUND FLATS**  
ELIMINATES SLIPPAGE IN CHUCK

## **CUTS:**

- Stainless Steel
- Tool Steel
- Exotic Steel
- Standard Steel

**FASTER CUTTING AND LONGER LIFE ON THE  
TOUGHEST INDUSTRIAL APPLICATIONS**

**THE ONE DRILL FOR ALL MAINTENANCE JOBS**

**MORE HOLES PER DRILL ASSURES A LOWER COST PER HOLE**



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P/N 21227

# CIC 200™ PRO™ DRILLS

## CUT WHERE OTHER DRILLS FAIL

- Chromium, vanadium & molybdenum alloy tool steel maintains sharpness & durability
  - Nitro-carburized for exceptional hardness
  - Cuts materials up to 55 Rockwell "C" scale
    - Runs cooler - uses less torque
- Self-piloting point assures fast, accurate starts and prevents "walking"
  - No need for center punching
    - Eliminates step drilling
- Outlasts ordinary drills up to 10 to 1

DIA.	LENGTH	DEC. EQUIV.	PART	DIA.	LENGTH	DEC. EQUIV.	PART
1/16"	1-7/8"	.0625	97104	19/64"	3-7/8"	.2969	97119
5/64"	2"	.0781	97105	5/16"	4"	.3125	97120
3/32"	2-1/4"	.0938	97106	21/64"	4-1/16"	.3281	97121
7/64"	2-3/8"	.1094	97107	11/32"	4-1/8"	.3438	97122
1/8"	2-1/2"	.1250	97108	23/64"	4-3/16"	.3594	97123
9/64"	2-5/8"	.1406	97109	3/8"	4-1/4"	.3750	97124
5/32"	2-3/4"	.1562	97110	25/64"	4-5/16"	.3906	97125
11/64"	2-7/8"	.1719	97111	13/32"	4-3/8"	.4062	97126
3/16"	3"	.1875	97112	27/64"	4-7/16"	.4219	97127
13/64"	3-1/8"	.2031	97113	7/16"	4-1/2"	.4375	97128
7/32"	3-1/4"	.2188	97114	29/64"	4-5/8"	.4531	97129
15/64"	3-3/8"	.2344	97115	15/32"	4-3/4"	.4688	97130
1/4"	3-1/2"	.2500	97116	31/64"	4-7/8"	.4844	97131
17/64"	3-5/8"	.2656	97117	1/2"	5"	.5000	97132
9/32"	3-3/4"	.2812	97118	-	-	-	-

# CIC 200™ PRO™ DRILL ORGANIZER

## — FRACTIONAL SIZES —

SIZES EMBOSSED  
ON FRONT OF EACH  
COMPARTMENT



DRILL CABINET:  
14-1/2" W x 7-1/4" H x 7-1/4" D

- Contains 45 CIC 200 Pro Drills
- 23 of the most popular fractional sizes
- Stores hundreds of drills in one place
- Eliminates misplaced drills

**P/N 61699**

- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE ALWAYS AVAILABLE
- CONTROLS YOUR DRILL INVENTORY

QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
3	1/16	3	5/32	<b>3</b>	<b>1/4</b>	1	3/8
3	5/64	2	11/64	1	17/64	1	25/64
3	3/32	<b>4</b>	<b>3/16</b>	1	9/32	1	27/64
3	7/64	1	13/64	1	5/16	1	7/16
<b>5</b>	<b>1/8</b>	1	7/32	1	21/64	1	1/2
3	9/64	1	15/64	1	11/32		

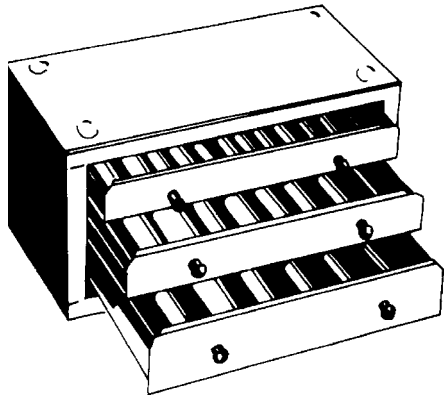
***SAVES MONEY, TIME AND LABOR***

# CIC 200

# QUAD POINT

# NUMBER DRILL

# ORGANIZER



**P/N 61697**

**DRILL CABINET** {  
 14-1/2" WIDE  
 7-1/4" HIGH  
 7-1/4" DEEP  
 SIZES EMBOSSED  
 ON FRONT OF EACH  
 COMPARTMENT

- Total of 75 Quad Point Drills.
- The Organizer stores hundreds of drills in one place. Eliminates misplaced drills.
- 25 of the most popular number drill sizes.
- Chromate 200 Quad Point Drills — the drills that cut where ordinary drills fail.  
*The perfect drill for all maintenance jobs.*

QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
3	#3	3	#11	3	#26	3	#36
3	#5	3	#15	3	#28	3	#38
3	#6	3	#20	3	#29	3	#39
3	#7	3	#21	3	#30	3	#40
3	#8	3	#22	3	#33	3	#43
3	#9	3	#25	3	#35	3	#44
3	#10						

*Saves Money, Time and Labor*

- **ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS.**
- **THE RIGHT SIZE AVAILABLE EVERY TIME.**
- **INSTANT CONTROL OF YOUR DRILL INVENTORY.**

# CIC 200™ METRIC DRILL ORGANIZER

SIZES EMBOSSED  
ON FRONT OF EACH  
COMPARTMENT



DRILL CABINET:  
14-1/2" W x 7-1/4" H x 7-1/4" D

- Contains 25 CIC 200 Metric Drills
- 25 of the most popular metric sizes
- Stores hundreds of drills in one place
- Eliminates misplaced drills

**P/N 61696**

- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE ALWAYS AVAILABLE
- CONTROLS YOUR DRILL INVENTORY

QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
1	M1.0	1	M4.0	1	M7.0	1	M10.0
1	M1.5	1	M4.5	1	M7.5	1	M10.5
1	M2.0	1	M5.0	1	M8.0	1	M11.0
1	M2.5	1	M5.5	1	M8.5	1	M11.5
1	M3.0	1	M6.0	1	M9.0	1	M12.0
1	M3.5	1	M6.5	1	M9.5	1	M12.5
						1	M13.0

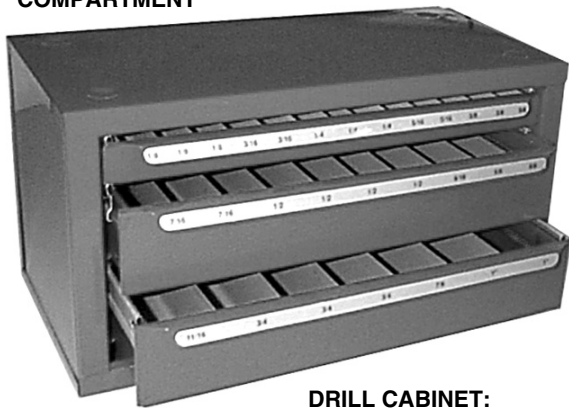
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# CIC 200™ QUAD POINT™ DRILL ORGANIZER

— FRACTIONAL SIZES —

SIZES EMBOSSED  
ON FRONT OF EACH  
COMPARTMENT



DRILL CABINET:  
14-1/2" W x 7-1/4" H x 7-1/4" D

- Contains 50 Quad Point Drills
- 23 of the most popular fractional sizes
- Stores hundreds of drills in one place
- Eliminates misplaced drills

**P/N 61695**

- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE ALWAYS AVAILABLE
- CONTROLS YOUR DRILL INVENTORY

QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
3	1/16	2	5/32	<b>4</b>	<b>1/4</b>	<b>2</b>	<b>3/8</b>
3	5/64	2	11/64	2	17/64	1	25/64
3	3/32	<b>4</b>	<b>3/16</b>	2	9/32	1	27/64
3	7/64	2	13/64	<b>2</b>	<b>5/16</b>	1	7/16
<b>4</b>	<b>1/8</b>	2	7/32	1	21/64	1	1/2
2	9/64	2	15/64	1	11/32		

***SAVES MONEY, TIME AND LABOR***

# CIC 200™ PRO™ DRILL ORGANIZER

— FRACTIONAL SIZES —

SIZES EMBOSSED  
ON FRONT OF EACH  
COMPARTMENT



DRILL CABINET:  
14-1/2" W x 7-1/4" H x 7-1/4" D

- Contains 45 CIC 200 Pro Drills
- 23 of the most popular fractional sizes
- Stores hundreds of drills in one place
- Eliminates misplaced drills

**P/N 61699**

- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE ALWAYS AVAILABLE
- CONTROLS YOUR DRILL INVENTORY

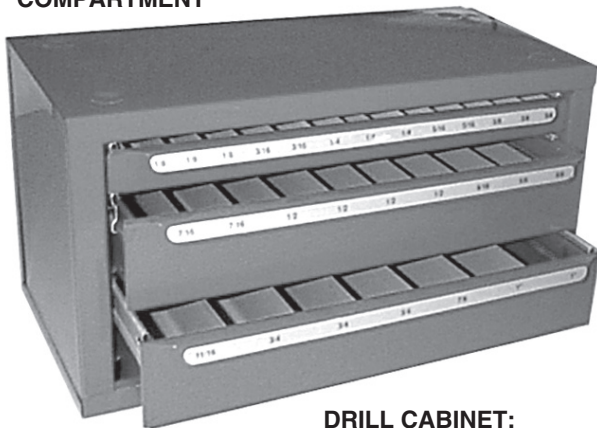
QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
3	1/16	3	5/32	<b>3</b>	<b>1/4</b>	1	3/8
3	5/64	2	11/64	1	17/64	1	25/64
3	3/32	<b>4</b>	<b>3/16</b>	1	9/32	1	27/64
3	7/64	1	13/64	1	5/16	1	7/16
<b>5</b>	<b>1/8</b>	1	7/32	1	21/64	1	1/2
3	9/64	1	15/64	1	11/32		

***SAVES MONEY, TIME AND LABOR***

# CIC 200™ CARBIDE MASONRY DRILL ORGANIZER

— FRACTIONAL SIZES —

SIZES EMBOSSED  
ON FRONT OF EACH  
COMPARTMENT



DRILL CABINET:  
14-1/2" W x 7-1/4" H x 7-1/4" D

- Contains 26 Carbide Masonry Drills
- 15 of the most popular fractional sizes
- Stores hundreds of drills in one place
- Eliminates misplaced drills

**P/N 61611**

- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE ALWAYS AVAILABLE
- CONTROLS YOUR DRILL INVENTORY

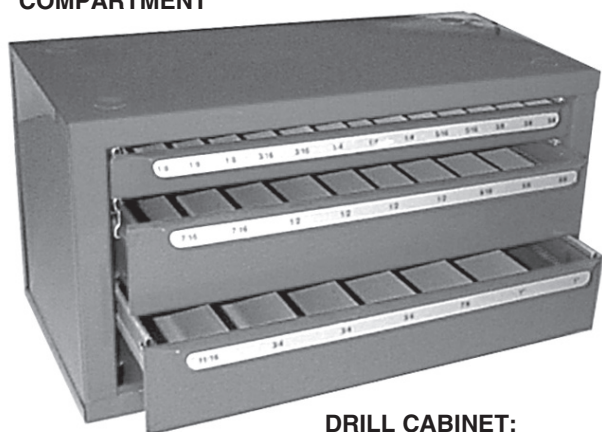
QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
3	1/8 x 3 x 1/8	2	1/4 x 4-1/8 x 1/4	2	3/8 x 6 x 3/8
1	5/32 x 3-1/8 x 5/32	4	1/4 x 6 x 1/4	1	7/16 x 6-1/4 x 7/16
2	3/16 x 3-1/2 x 3/16	1	9/32 x 4-3/8 x 1/4	1	1/2 x 6-3/4 x 3/8
3	3/16 x 6 x 3/16	1	5/16 x 4-3/4 x 5/16	1	5/8 x 6 x 3/8
1	7/32 x 3-3/4 x 7/32	2	5/16 x 6 x 5/16	1	3/4 x 6 x 3/8

***SAVES MONEY, TIME AND LABOR***

# CIC 200™ CARBIDE MASONRY DRILL STARTER ORGANIZER

— FRACTIONAL SIZES —

SIZES EMBOSSED  
ON FRONT OF EACH  
COMPARTMENT



DRILL CABINET:  
14-1/2" W x 7-1/4" H x 7-1/4" D

- Contains 7 Carbide Masonry Drills
- 7 of the most popular fractional sizes
- Stores hundreds of drills in one place
- Eliminates misplaced drills

**P/N 61612**

- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE ALWAYS AVAILABLE
- CONTROLS YOUR DRILL INVENTORY

QTY.	DRILL SIZE	PART	QTY.	DRILL SIZE	PART
1	1/8 x 3 x 1/8	77501	1	3/8 x 6 x 3/8	77530
1	3/16 x 6 x 3/16	77505	1	1/2 x 6-3/4 x 3/8	77546
1	1/4 x 6 x 1/4	77510	1	5/8 x 6 x 3/8	77563
1	5/16 x 6 x 5/16	77520	—	—	—

***SAVES MONEY, TIME AND LABOR***

# CIC 200™ PRO™ DRILL 45-PIECE UNDER-MOUNT ORGANIZER

SIZES EMBOSSED ON FRONT OF EACH COMPARTMENT



## P/N 7880

- Workbench spacesaver
- Built-in lock secures drill inventory (2 keys included)
- Contains 45 CIC 200™ Pro™ Drills
- 23 most popular fractional sizes
- Stores hundreds of drills in one place
- Eliminates misplaced drills

OVERALL DIMENSIONS:  
26-1/8" W x 12-1/2" D x 4-1/2" H

DRAWER DIMENSIONS:  
23-1/8" W x 11" D x 3" H

- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE ALWAYS AVAILABLE
- CONTROLS YOUR DRILL INVENTORY

QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
3	1/16	3	5/32	3	1/4	1	3/8
3	5/64	2	11/64	1	17/64	1	25/64
3	3/32	4	3/16	1	9/32	1	27/64
3	7/64	1	13/64	1	5/16	1	7/16
5	1/8	1	7/32	1	21/64	1	1/2
3	9/64	1	15/64	1	11/32	-	-

**SAVES TIME, MONEY AND LABOR!**



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# CIC 200™ PRO™ DRILL UNDER-MOUNT ORGANIZER WITH RED LION TOOL COOL II



P/N 7884

## UNDER-MOUNT DISPENSER (P/N 7896) WITH PRO DRILLS STARTER SET

- Workbench spacesaver
- Built-in lock secures drill inventory (2 keys included)
- Heavy-duty ball bearing drawer slides
- 3 each of the most popular fractional Pro™ Drill sizes (1/8", 3/16", 1/4", 5/16", 3/8")

## 3 CANS RED LION™ TOOL COOL II (74185)

- Cools and lubricates
- Allows for cleaner, smoother cut
- For all cutting applications

**CIC 200™ PRO™ DRILLS, ALONG WITH 3 CANS  
OF TOOL COOL II, WILL GIVE YOU A BUNDLE  
FOR DRILLING THAT CAN'T BE BEAT!**



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# CIC 200™ PRO™ DRILL 45-PIECE UNDER-MOUNT ORGANIZER

SIZES EMBOSSED ON FRONT OF EACH COMPARTMENT



OVERALL DIMENSIONS:  
26-1/8" W x 12-1/2" D x 4-1/2" H

**P/N 7885**

DRAWER DIMENSIONS:  
23-1/8" W x 11" D x 3" H

- **ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS**
- **THE RIGHT SIZE IS ALWAYS AVAILABLE**
- **CONTROLS YOUR DRILL INVENTORY**

## **INCLUDES:**

### **UNDER-MOUNT DISPENSER** (P/N 7896)

- Workbench spacesaver
- Built-in lock secures drill inventory (2 keys included)
- Stores hundreds of drills in one place
- Eliminates misplaced drills

### **45 CIC 200™ PRO™ DRILLS**

- 23 most popular fractional sizes

### **1/2" BLACK & DECKER DRILL MOTOR** (P/N 16511)

- Powerful 7 Amp motor
- All metal keyed chuck
- Comfort grip handle for controlled drilling & driving
- Variable speed
- 360° side handle
- Reversing brush system
- Handles tough applications
- Drill holes through wood, metal and plastic
- For driving large fasteners in wood, metal and plastic



QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
3	1/16	3	5/32	3	1/4	1	3/8
3	5/64	2	11/64	1	17/64	1	25/64
3	3/32	4	3/16	1	9/32	1	27/64
3	7/64	1	13/64	1	5/16	1	7/16
5	1/8	1	7/32	1	21/64	1	1/2
3	9/64	1	15/64	1	11/32	-	-



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100114

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# CIC 200™ PRO™ DRILL 100-PIECE UNDER-MOUNT ORGANIZER

SIZES EMBOSSED ON FRONT OF EACH COMPARTMENT



OVERALL DIMENSIONS:  
26-1/8" W x 12-1/2" D x 4-1/2" H

DRAWER DIMENSIONS:  
23-1/8" W x 11" D x 3" H

**P/N 7886**

- **ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS**
- **THE RIGHT SIZE IS ALWAYS AVAILABLE**
- **CONTROLS YOUR DRILL INVENTORY**

## **INCLUDES:**

### **UNDER-MOUNT DISPENSER** (P/N 7896)

- Workbench spacesaver
- Built-in lock secures drill inventory (2 keys included)
- Stores hundreds of drills in one place
- Eliminates misplaced drills

### **100 CIC 200™ PRO™ DRILLS**

- 29 most popular fractional sizes

### **1/2" BLACK & DECKER DRILL MOTOR** (P/N 16511)

- Powerful 7 Amp motor
- All metal keyed chuck
- Comfort grip handle for controlled drilling & driving
- Variable speed
- 360° side handle
- Reversing brush system
- Handles tough applications
- Drill holes through wood, metal and plastic
- For driving large fasteners in wood, metal and plastic



QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
4	1/16	4	11/64	3	9/32	2	25/64
4	5/64	6	3/16	3	19/64	2	13/32
4	3/32	3	13/64	4	5/16	2	27/64
4	7/64	4	7/32	3	21/64	2	7/16
8	1/8	3	15/64	3	11/32	2	29/64
4	9/64	6	1/4	3	23/64	2	15/32
4	5/32	3	17/64	4	3/8	2	31/64
-	-	-	-	-	-	3	1/2



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# CIC 200™ QUAD POINT™ DRILLS MASTER DISPENSER, 50 PIECES



**P/N 61653**

**INCLUDES:**

**50 CIC 200™ QUAD POINT™ DRILLS**

- The most popular fractional sizes

**Quad Point Drills:**

- Cuts up to 55 Rockwell “C”
- Cuts standard, stainless, tool and exotic steels
- Won’t snap or chip weld
- No need to center punch

**Dispenser (Features Fractional, Number and Letter Drawers):**

Holds full packages of jobber or screw machine length drills, fractional, letter and wire gauge sizes in one cabinet.

- **Top drawer** - Holds fractional drills 1/16" to 1/2" by 64<sup>ths</sup> with 42 compartments
- **Second drawer** - For #1 to #60 wire gauge with 75 compartments
- **Third drawer** - For letter size A to Z with 42 compartments
- **Lower drawer** - Undivided for extra long drills, reamers and miscellaneous tools
- All steel lockable cabinet with ball bearing slides and vinyl dividers that protect & separate drills
- Dimensions: 26-1/8" W x 12-1/2" D x 4-1/2" H
- Stackable for larger inventories at one location

- ADD MORE DRILLS AS NEEDED
- STORES THOUSANDS OF DRILLS IN ONE PLACE
- ELIMINATES MISPLACED DRILLS
- SIZES EMBOSSED ON FRONT OF EACH COMPARTMENT
- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE DRILL IS ALWAYS AVAILABLE
- CONTROLS YOUR DRILL INVENTORY

QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE	QTY.	DRILL SIZE
3	1/16	2	5/32	4	1/4	2	3/8
3	5/64	2	11/64	2	17/64	1	25/64
3	3/32	4	3/16	2	9/32	1	27/64
3	7/64	2	13/64	2	5/16	1	7/16
4	1/8	2	7/32	1	21/64	1	1/2
2	9/64	2	15/64	1	11/32	-	-



QUALITY BUILDS CONFIDENCE, SERVICE EARNS TRUST.

5250-A Naiman Parkway . Solon . OH 44139

100114

1-800-BUY-BOLT . Fax: 631-567-2418 . www.chromate.com



# CIC 200™ QUAD POINT™ DRILLS MASTER DISPENSER, 115-PIECES

INCLUDES FRACTIONAL, NUMBER & LETTER DRILLS

SIZES EMBOSSED  
ON FRONT  
OF EACH  
COMPARTMENT

ONE CONVENIENT  
LOCATION FOR  
ALL YOUR DRILLS

THE RIGHT SIZE  
DRILL IS ALWAYS  
AVAILABLE

CONTROLS YOUR  
DRILL INVENTORY

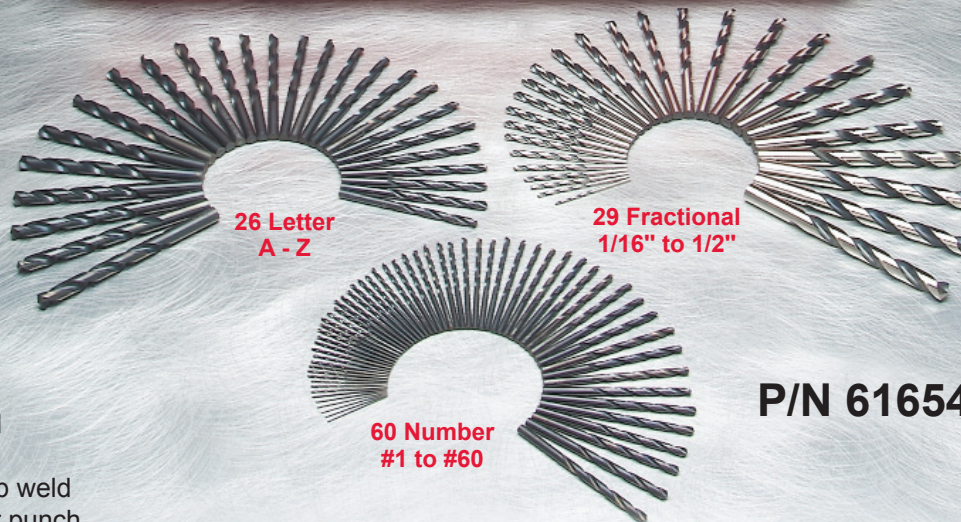


THE MOST  
POPULAR  
FRACTIONAL  
SIZES

ADD MORE  
DRILL SIZES  
AS NEEDED

STORES  
THOUSANDS  
OF DRILLS IN  
ONE PLACE

ELIMINATES  
MISPLACED  
DRILLS



#### Quad Point Drills:

- Cuts up to 55 Rockwell "C"
- Cuts standard, stainless, tool and exotic steels
- Won't snap or chip weld
- No need to center punch

#### Dispenser:

- All steel lockable cabinet with vinyl dividers that protect & separate drills
- Ball bearing slides
- Dimensions: 26-1/8" W x 12-1/2" D x 4-1/2" H
- Stackable for larger inventories at one location
- Lower drawer is undivided for extra long drills, reamers and miscellaneous tools
- Holds full packages of jobber or screw machine length drills, fractional, letter & wire gauge sizes in one cabinet
  - Top drawer holds fractional drills 1/16" to 1/2" by 64<sup>ths</sup> with 42 compartments
  - Second drawer is for #1 to #60 wire gauge with 75 compartments
  - Third drawer is for letter size A to Z with 42 compartments

P/N 61654



QUALITY BUILDS CONFIDENCE, SERVICE EARNS TRUST.

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100114

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# CIC 200™ QUAD POINT™ DRILLS MASTER DISPENSER, 332-PIECES

INCLUDES FRACTIONAL, NUMBER & LETTER DRILLS

SIZES EMBOSSED  
ON FRONT OF EACH  
COMPARTMENT

ONE CONVENIENT  
LOCATION FOR  
ALL YOUR DRILLS

THE RIGHT SIZE  
DRILL IS ALWAYS  
AVAILABLE

CONTROLS YOUR  
DRILL INVENTORY



THE MOST  
POPULAR  
FRACTIONAL  
SIZES

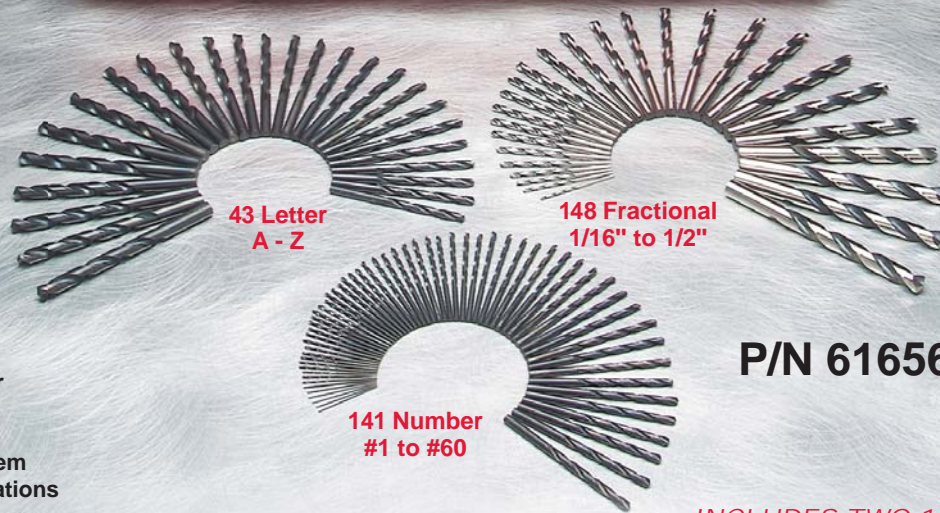
ADD MORE  
DRILL SIZES  
AS NEEDED

STORES  
THOUSANDS  
OF DRILLS IN  
ONE PLACE

ELIMINATES  
MISPLACED  
DRILLS

## Quad Point Drills:

- Cuts up to 55 Rockwell "C"
- Cuts standard, stainless, tool and exotic steels
- Won't snap or chip weld
- No need to center punch



## Black & Decker Drill Motors:

- Powerful 7 Amp motor
- All metal keyed chuck
- Variable speed
- Reversing brush system
- Handles tough applications
- 360° side handle
- Comfort grip handle for controlled drilling & driving

P/N 61656

INCLUDES TWO 1/2"  
BLACK & DECKER  
DRILL MOTORS!



## Dispenser:

- All steel lockable cabinet with vinyl dividers that protect & separate drills
- Ball bearing slides
- Dimensions: 26-1/8" W x 12-1/2" D x 4-1/2" H
- Stackable for larger inventories at one location
- Lower drawer is undivided for extra long drills, reamers & miscellaneous tools
- Holds full packages of jobber or screw machine length drills, fractional, letter & wire gauge sizes in one cabinet
  - Top drawer holds fractional drills 1/16" to 1/2" by 64<sup>ths</sup> with 42 compartments
  - Second drawer is for #1 to #60 wire gauge with 75 compartments
  - Third drawer is for letter size A to Z with 42 compartments



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# CIC 200™ QUAD POINT™ DRILLS AND PRO™ SHOOTER TAPS MASTER DISPENSER



**P/N 61657**

## INCLUDES:

- 64 CIC 200™ QUAD POINT™ DRILLS
- 13 CIC 200™ PRO™ SHOOTER TAPS

- SIZES EMBOSSED ON FRONT OF EACH COMPARTMENT
- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE DRILL IS ALWAYS AVAILABLE
- CONTROLS YOUR DRILL INVENTORY
- THE MOST POPULAR FRACTIONAL SIZES
- ADD MORE DRILLS AS NEEDED
- STORES THOUSANDS OF DRILLS IN ONE PLACE
- ELIMINATES MISPLACED DRILLS

### Quad Point Drills & Pro Shooter Taps:

- Cuts up to 55 Rockwell "C"
- Cuts standard, stainless, tool and exotic steels
- Won't snap or chip weld
- No need to center punch

### Dispenser (Features Fractional, Number and Letter Drawers):

Holds full packages of jobber or screw machine length drills, fractional, letter and wire gauge sizes in one cabinet.

- **Top drawer** - Holds fractional drills 1/16" to 1/2" by 64<sup>ths</sup> with 42 compartments
- **Second drawer** - For #1 to #60 wire gauge with 75 compartments
- **Third drawer** - For letter size A to Z with 42 compartments
- **Lower drawer** - Fourth drawer holds Pro Shooter Taps and corresponding drills
- All steel lockable cabinet and vinyl dividers that protect & separate drills
- Ball bearing slides
- Dimensions: 26-1/8" W x 12-1/2" D x 4-1/2" H
- Stackable for larger inventories at one location

QTY	DRILL SIZE	QTY	DRILL SIZE	QTY	DRILL SIZE	QTY	DRILL SIZE	QTY	DRILL SIZE
<b>QUAD POINT DRILLS (included in top drawer)</b>									
3	1/16	2	9/64	1	7/32	2	19/64	1	25/64
3	5/64	2	5/32	2	15/64	1	5/16	1	27/64
3	3/32	2	11/64	4	1/4	1	21/64	1	7/16
3	7/64	4	3/16	2	17/64	1	11/32	1	29/64
4	1/8	2	13/64	2	9/32	2	3/8	1	1/2
<b>PRO SHOOTER TAPS AND DRILLS (included in fourth drawer)</b>									
1	4-40 Tap	1	10-24 Tap	1	1/4-28 Tap	1	3/8-16 Tap	1	1/2-20 Tap
1	#43 Drill	1	#24 Drill	1	7/32 Drill	1	"P" Drill	1	29/64 Drill
1	6-32 Tap	1	10-32 Tap	1	5/16-18 Tap	1	3/8-24 Tap		
1	#35 Drill	1	#20 Drill	1	"H" Drill	1	"R" Drill		
1	8-32 Tap	1	1/4-20 Tap	1	5/16-24 Tap	1	1/2-13 Tap		
1	#29 Drill	1	#6 Drill	1	"J" Drill	1	7/16 Drill		



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**I · N · T · R · O · D · U · C · I · N · G**

## **CIC 2000™ SERIES**

**"CUTTING TOOLS FOR THE NEW MILLENNIUM"**



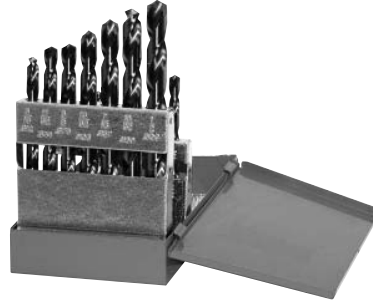
**P/N 61635**

### **INCLUDES:**

- **Oak hardwood box with hinged top cover safely stores and protects CIC 200™ Pro™ Drills**
- **15 of the most popular fractional sizes used by professional mechanics**
- **Sizes include 1/16", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 13/32", 7/16", 15/32" and 1/2"**
- **Dimensions: 7-7/8" long x 6-3/8" wide x 1-1/2" thick**

**NOTE: To remove drills from box, press on base of drill with fingertip.**

# DRILLS



- Unique Quad Point Drill Designs
- Special Metallurgical Blend of Tool Steels
- Superior Strength
- Longer Life
- Unmatched Performance
- The Finest Drills Available
  - CIC 200™ Pro™
  - CIC 200™ Quad Point
  - CIC 200™ Quad Point Plus
  - Reduced Shank
  - Double End
  - Cobalt Tip
  - Carbide Tip
  - Masonry
  - Reamers
  - Step Drills

CHROMATE DRILLS ARE STRONGER, CUT FASTER, LAST LONGER AND OUTPERFORM ORDINARY DRILLS UP TO 10 TO 1.

**Manufactured from the finest and toughest tool steels to exacting specifications. Always use Chromate Drills when speed, accuracy, performance and longevity are important.**



**CHROMATE INDUSTRIAL CORP.**

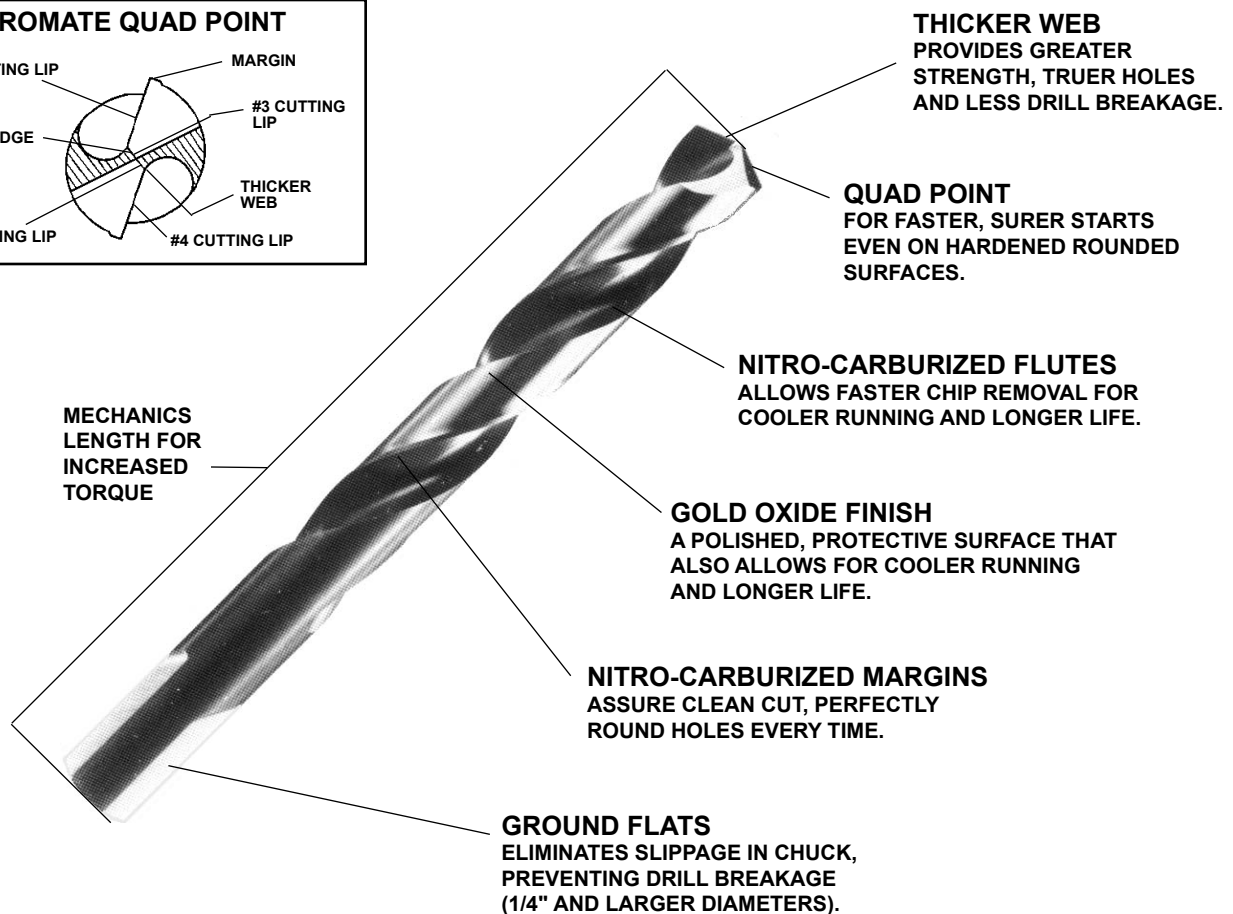
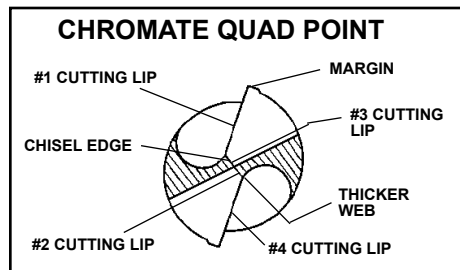
*EXCEPTIONAL PRODUCTS, SERVICE AND INNOVATIVE SOLUTIONS*



# CIC 200™ PROFESSIONAL DRILLS

OUTLAST ORDINARY DRILLS UP TO 10 TO 1

Constructed of special tool steels – a metallurgical blend of chromium, vanadium, molybdenum and tungsten alloys. CIC 200 Professional Drills offer superior strength, faster heat dissipation and longer life for quality, reliability and performance that is unequaled by any other drill.



CIC 200™ PRO DRILLS CUT UP TO 55 ROCKWELL "C"

## SPECIAL TOOL STEEL

- The toughest of the high molybdenum tool steels. Extremely resistant to breakage.
- Will cut up to 55 Rockwell "C"
- Heat-treated at 2,185°F and then nitro-carburized at 950°F.
- Stays sharp longer.
- Withstands higher temperatures.

## SPECIAL DESIGN AND FEATURES

- Triple-flat shank for non-slip chucking.
- Quad point for fast penetration and accurate starting without center punching.
- Heavy duty web design for longer life and less breakage.
- Special mechanics length for less breakage, increased torque and outstanding performance with hand drill.
- Nitro-carburized surface has hardness of approximately 70 Rockwell "C".



# CIC 200™ PROFESSIONAL DRILLS (Cont'd.)

## MECHANICS LENGTH — FRACTIONAL SIZE DRILLS



DIA.	LENGTH	DEC. EQUIV.	PART	DIA.	LENGTH	DEC. EQUIV.	PART
1/16"	1-7/8"	.0625	F 97104	19/64"	3-7/8"	.2969	C 97119
5/64"	2"	.0781	F 97105	5/16"	4"	.3125	C 97120
3/32"	2-1/4"	.0938	F 97106	21/64"	4-1/16"	.3281	C 97121
7/64"	2-3/8"	.1094	F 97107	11/32"	4-1/8"	.3438	C 97122
1/8"	2-1/2"	.1250	F 97108	23/64"	4-3/16"	.3594	C 97123
9/64"	2-5/8"	.1406	F 97109	3/8"	4-1/4"	.3750	C 97124
5/32"	2-3/4"	.1562	F 97110	25/64"	4-5/16"	.3906	C 97125
11/64"	2-7/8"	.1719	F 97111	13/32"	4-3/8"	.4062	C 97126
3/16"	3"	.1875	F 97112	27/64"	4-7/16"	.4219	C 97127
13/64"	3-1/8"	.2031	F 97113	7/16"	4-1/2"	.4375	C 97128
7/32"	3-1/4"	.2188	D 97114	29/64"	4-5/8"	.4531	C 97129
15/64"	3-3/8"	.2344	D 97115	15/32"	4-3/4"	.4688	C 97130
1/4"	3-1/2"	.2500	D 97116	31/64"	4-7/8"	.4844	C 97131
17/64"	3-5/8"	.2656	D 97117	1/2"	5"	.5000	C 97132
9/32"	3-3/4"	.2812	D 97118	-	-	-	-

## FRACTIONAL DRILL ORGANIZER

### CIC 200™ PRO™ DRILL ORGANIZERS



- ONE CONVENIENT LOCATION FOR ALL YOUR DRILLS
- THE RIGHT SIZE ALWAYS AVAILABLE
- PROVIDES INSTANT CONTROL OF YOUR INVENTORY
- STORES HUNDREDS OF DRILLS IN ONE PLACE
- ELIMINATES MISPLACED DRILLS
- EASY ACCESS FOR YOUR STAFF

#### **BASIC**

- Contains 45 CIC 200™ Pro™ Drills
- 23 of the most popular fractional sizes
- One 29-piece Index for filling

#### **STARTER**

- Contains 25 CIC 200™ Pro™ Drills
- 13 of the most popular fractional sizes
- One 29-piece Index for filling

#### **MEGA**

- Contains 58 CIC 200™ Pro™ Drills
- 29 of the most popular fractional sizes
- Two (2) 29-piece Indexes for filling

CONTENTS		PART
BASIC	1 each: 13/64, 7/32, 15/64, 17/64, 9/32, 5/16, 21/64, 11/32, 3/8, 25/64, 27/64, 7/16 and 1/2 2 each: 11/64 3 each: 1/16, 5/64, 3/32, 7/64, 9/64, 5/32 and 1/4 4 each: 3/16 5 each: 1/8	A 61699
STARTER	1 each: 9/32, 5/16, 11/32, 3/8, 7/16 and 1/2 2 each: 7/32 and 1/4 3 each: 1/16, 3/32, 1/8, 5/32 and 3/16	A 61699S
MEGA	2 each: 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 11/64, 3/16, 13/64, 7/32, 15/64, 1/4, 17/64, 9/32, 19/64, 5/16, 21/64, 11/32, 23/64, 3/8, 25/64, 13/32, 27/64, 7/16, 29/64, 15/32, 31/64 and 1/2	A 61699M

# CIC 200™ PROFESSIONAL DRILLS (Cont'd.)

## MECHANICS LENGTH INDEXES AND CADDY



INDEX



CADDY

### DRILL INDEXES

DESCRIPTION	PART
13 DRILLS: 1/16 to 1/4 by 64ths	A 61632
15 DRILLS: 1/16 to 1/2 by 32nds	A 61634
21 DRILLS: 1/16 to 3/8 by 64ths	A 61636
29 DRILLS: 1/16 to 1/2 by 64ths	A 61638

### DRILL CADDY

29 DRILLS: 1/16 to 1/2 by 64ths	A 61643
---------------------------------	---------

## 6 PIECE PRO FRACTIONAL ORGANIZER "COMPLETER KIT"



CONTENTS	PART
1 each: 19/64, 23/64, 13/32, 29/64, 15/32 and 31/64	A 61689

## 3/8" REDUCED SHANK DRILLS

All sizes from 27/64" to 1/2" with shanks machined down to 3/8" for use with standard 3/8" shop drill motors.



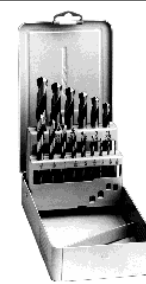
DIAMETER	LENGTH	DECIMAL EQUIVALENT	PART
27/64	4-7/16	.4219	c 98027
7/16	4-1/2	.4375	c 98028
29/64	4-5/8	.4531	c 98029
15/32	4-3/4	.4688	c 98030
31/64	4-7/8	.4844	c 98031
1/2	5	.5000	c 98032

## 3/8" REDUCED SHANK INDEXES

### 29 PIECE



### 15 PIECE

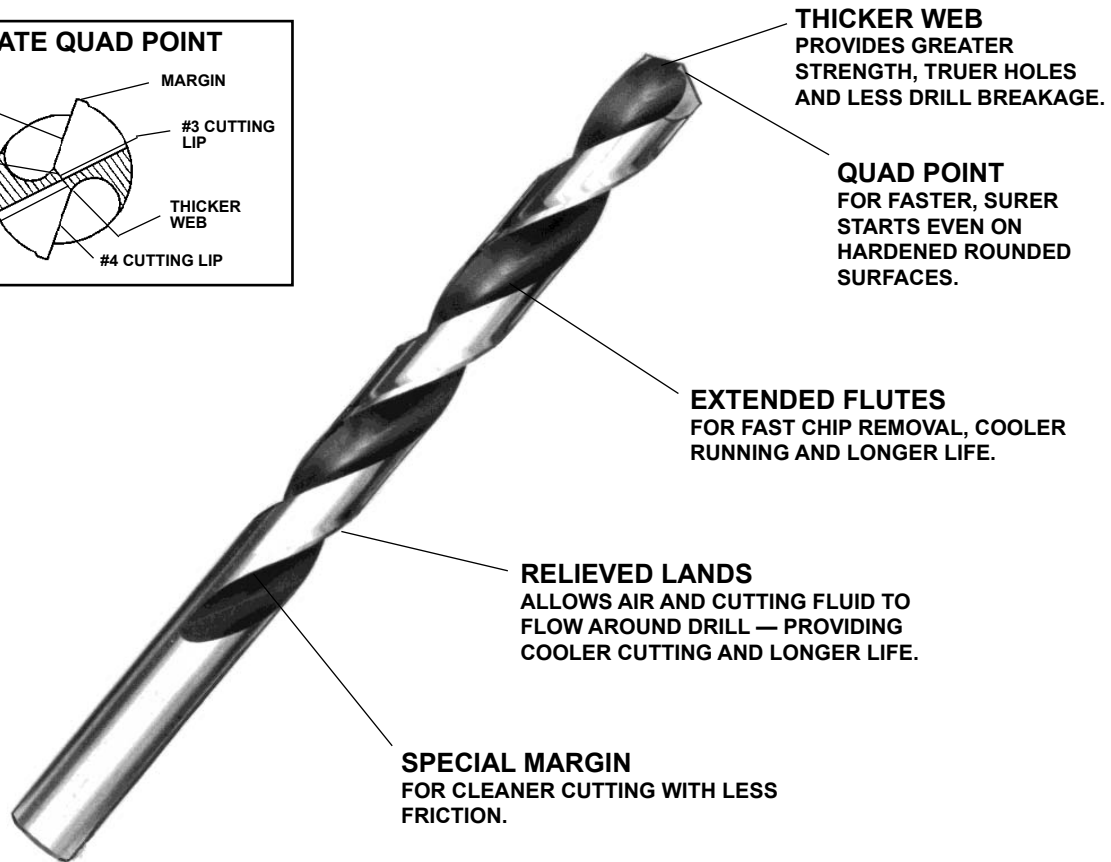
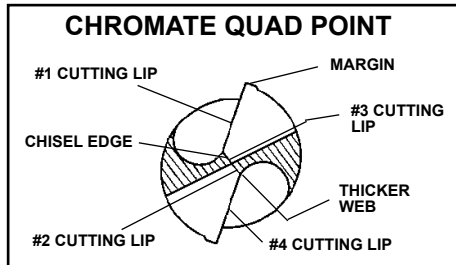


DESCRIPTION	PART	DESCRIPTION	PART
29 DRILLS 1/16 to 1/2 by 64ths	A 61685	15 DRILLS 1/16 to 1/2 by 32nds	A 61680

# CIC 200™ QUAD POINT DRILLS

THE ONE DRILL FOR ALL YOUR CUTTING REQUIREMENTS

Constructed of special tool steel — a metallurgical blend of chromium, vanadium and molybdenum. CIC 200 Quad Point Drills offer superior strength, faster heat dissipation and longer life.



CIC 200™ QUAD POINT DRILLS CUT UP TO 55 ROCKWELL "C"

## SPECIAL FEATURES

- **Cuts standard, stainless, tool and exotic steels**
  - **Won't snap or chip weld**
  - **No need to center punch prior to drilling**
  - **Use in drill press or hand drill**
- **Stays sharp longer – outlasting ordinary drills ten to one**

When you purchase a drill you are actually buying holes.  
CIC 200™ QUAD POINT DRILLS will outlast ordinary drills up to 10 to 1,  
giving you many more holes per drill, thus reducing your per hole cost to a minimum!

**LET US SHOW YOU HOW WELL IT WORKS!**

# CIC 200™ QUAD POINT DRILLS (Cont'd.)

## JOBBER AND STUBBY LENGTHS — FRACTIONAL SIZES



DIA.	DEC. EQUIV.	JOBBER		STUBBY		DIA.	DEC. EQUIV.	JOBBER		STUBBY	
		LTH.	PART	LTH.	PART			LTH.	PART	LTH.	PART
1/64	.0156	3/4	J 91001	-	-	17/64	.2656	4-1/8	F 91017	2-5/8	F 81017
1/32	.0312	1-3/8	J 91002	-	-	9/32	.2812	4-1/4	F 91018	2-11/16	F 81018
3/64	.0469	1-3/4	J 91003	-	-	19/64	.2969	4-3/8	F 91019	2-3/4	F 81019
1/16	.0625	1-7/8	J 91004	1-5/8	J 81004	5/16	.3125	4-1/2	F 91020	2-13/16	F 81020
5/64	.0781	2	J 91005	1-11/16	J 81005	21/64	.3281	4-5/8	F 91021	2-15/16	F 81021
3/32	.0938	2-1/4	J 91006	1-3/4	J 81006	11/32	.3438	4-3/4	D 91022	3	D 81022
7/64	.1094	2-5/8	J 91007	1-13/16	J 81007	23/64	.3594	4-7/8	D 91023	3-1/16	D 81023
1/8	.1250	2-3/4	J 91008	1-7/8	J 81008	3/8	.3750	5	D 91024	3-1/8	D 81024
9/64	.1406	2-7/8	J 91009	1-15/16	J 81009	25/64	.3906	5-1/8	D 91025	3-1/4	D 81025
5/32	.1562	3-1/8	J 91010	2-1/16	J 81010	13/32	.4062	5-1/4	D 91026	3-5/16	D 81026
11/64	.1719	3-1/4	J 91011	2-1/8	J 81011	27/64	.4219	5-3/8	C 91027	3-3/8	C 81027
3/16	.1875	3-1/2	J 91012	2-3/16	J 81012	7/16	.4375	5-1/2	C 91028	3-7/16	C 81028
13/64	.2031	3-5/8	J 91013	2-1/4	J 81013	29/64	.4531	5-5/8	C 91029	3-9/16	C 81029
7/32	.2188	3-3/4	J 91014	2-3/8	J 81014	15/32	.4688	5-3/4	C 91030	3-5/8	C 81030
15/64	.2344	3-7/8	F 91015	2-7/16	F 81015	31/64	.4844	5-7/8	C 91031	3-11/16	C 81031
1/4	.2500	4	F 91016	2-1/2	F 81016	1/2	.5000	6	C 91032	3-3/4	C 81032

23

## JOBBER LENGTHS — LETTER SIZES

DIA.	DEC. EQUIV.	JOBBER		DIA.	DEC. EQUIV.	JOBBER	
		LENGTH	PART			LENGTH	PART
A	.234	3-7/8	c 10201	N	.302	4-3/8	c 10214
B	.238	4	c 10202	O	.316	4-1/2	c 10215
C	.242	4	c 10203	P	.323	4-5/8	c 10216
D	.246	4	c 10204	Q	.332	4-3/4	c 10217
E	.250	4	c 10205	R	.339	4-3/4	c 10218
F	.257	4-1/8	c 10206	S	.348	4-7/8	c 10219
G	.261	4-1/8	c 10207	T	.358	4-7/8	c 10220
H	.266	4-1/8	c 10208	U	.368	5	c 10221
I	.272	4-1/8	c 10209	V	.377	5	c 10222
J	.277	4-1/8	c 10210	W	.386	5-1/8	c 10223
K	.281	4-1/4	c 10211	X	.397	5-1/8	c 10224
L	.290	4-1/4	c 10212	Y	.404	5-1/4	c 10225
M	.295	4-3/8	c 10213	Z	.413	5-1/4	c 10226

# CIC 200™ QUAD POINT DRILLS (Cont'd.)

## JOBBER AND STUBBY LENGTHS - NUMBER SIZES



DIA.	DEC. EQUIV.	JOBBER		STUBBY		DIA.	DEC. EQUIV.	JOBBER		STUBBY	
		LTH.	PART	LTH.	PART			LTH.	PART	LTH.	PART
80	.0135	3/4	J 10080	-	-	40	.0980	2-3/8	J 10040	1-13/16	J 80040
79	.0145	3/4	J 10079	-	-	39	.0995	2-3/8	J 10039	1-13/16	J 80039
78	.0160	7/8	J 10078	-	-	38	.1015	2-1/2	J 10038	1-13/16	J 80038
77	.0180	7/8	J 10077	-	-	37	.1040	2-1/2	J 10037	1-13/16	J 80037
76	.0200	7/8	J 10076	-	-	36	.1065	2-1/2	J 10036	1-13/16	J 80036
75	.0210	1	J 10075	-	-	35	.1100	2-5/8	J 10035	1-7/8	J 80035
74	.0225	1	J 10074	-	-	34	.1110	2-5/8	J 10034	1-7/8	J 80034
73	.0240	1-1/8	J 10073	-	-	33	.1130	2-5/8	J 10033	1-7/8	J 80033
72	.0250	1-1/8	J 10072	-	-	32	.1160	2-3/4	J 10032	1-7/8	J 80032
71	.0260	1-1/4	J 10071	-	-	31	.1200	2-3/4	J 10031	1-7/8	J 80031
70	.0280	1-1/4	J 10070	-	-	30	.1285	2-3/4	J 10030	1-15/16	J 80030
69	.0292	1-3/8	J 10069	-	-	29	.1360	2-7/8	J 10029	1-15/16	J 80029
68	.0310	1-3/8	J 10068	-	-	28	.1405	2-7/8	J 10028	1-15/16	J 80028
67	.0320	1-3/8	J 10067	-	-	27	.1440	3	J 10027	2-1/16	J 80027
66	.0330	1-3/8	J 10066	-	-	26	.1470	3	J 10026	2-1/16	J 80026
65	.0350	1-1/2	J 10065	-	-	25	.1495	3	J 10025	2-1/16	J 80025
64	.0360	1-1/2	J 10064	-	-	24	.1520	3-1/8	J 10024	2-1/16	J 80024
63	.0370	1-1/2	J 10063	-	-	23	.1540	3-1/8	J 10023	2-1/16	J 80023
62	.0380	1-1/2	J 10062	-	-	22	.1570	3-1/8	J 10022	2-1/8	J 80022
61	.0390	1-5/8	J 10061	-	-	21	.1590	3-1/4	J 10021	2-1/8	J 80021
60	.0400	1-5/8	J 10060	-	-	20	.1610	3-1/4	J 10020	2-1/8	J 80020
59	.0410	1-5/8	J 10059	-	-	19	.1660	3-1/4	J 10019	2-1/8	J 80019
58	.0420	1-5/8	J 10058	-	-	18	.1695	3-1/4	J 10018	2-1/8	J 80018
57	.0430	1-3/4	J 10057	-	-	17	.1730	3-3/8	J 10017	2-3/16	J 80017
56	.0465	1-3/4	J 10056	-	-	16	.1770	3-3/8	J 10016	2-3/16	J 80016
55	.0520	1-7/8	J 10055	-	-	15	.1800	3-3/8	J 10015	2-3/16	J 80015
54	.0550	1-7/8	J 10054	-	-	14	.1820	3-3/8	J 10014	2-3/16	J 80014
53	.0595	1-7/8	J 10053	-	-	13	.1850	3-1/2	J 10013	2-3/16	J 80013
52	.0635	1-7/8	J 10052	-	-	12	.1890	3-1/2	J 10012	2-1/4	J 80012
51	.0670	2	J 10051	-	-	11	.1910	3-1/2	J 10011	2-1/4	J 80011
50	.0700	2	J 10050	-	-	10	.1935	3-5/8	F 10010	2-1/4	F 80010
49	.0730	2	J 10049	-	-	9	.1960	3-5/8	F 10009	2-1/4	F 80009
48	.0760	2	J 10048	-	-	8	.1990	3-5/8	F 10008	2-1/4	F 80008
47	.0785	2	J 10047	-	-	7	.2010	3-5/8	F 10007	2-1/4	F 80007
46	.0810	2-1/8	J 10046	-	-	6	.2040	3-3/4	F 10006	2-3/8	F 80006
45	.0820	2-1/8	J 10045	-	-	5	.2055	3-3/4	F 10005	2-3/8	F 80005
44	.0860	2-1/8	J 10044	1-3/4	J 80044	4	.2090	3-3/4	F 10004	2-3/8	F 80004
43	.0890	2-1/4	J 10043	1-3/4	J 80043	3	.2130	3-3/4	F 10003	2-3/8	F 80003
42	.0935	2-1/4	J 10042	1-3/4	J 80042	2	.2210	3-7/8	F 10002	2-7/16	F 80002
41	.0960	2-3/8	J 10041	1-13/16	J 80041	1	.2280	3-7/8	F 10001	2-7/16	F 80001

# CIC 200™ QUAD POINT DRILLS (Cont'd.)

## 6" LENGTH - FRACTIONAL SIZES



DIAMETER	DEC. EQUIV.	PART	DIAMETER	DEC. EQUIV.	PART
3/64	.0469	c 82081	5/32	.1562	c 82088
1/16	.0625	c 82082	11/64	.1719	c 82089
5/64	.0781	c 82083	3/16	.1875	c 82090
3/32	.0938	c 82084	13/64	.2031	c 82091
7/64	.1094	c 82085	7/32	.2188	c 82092
1/8	.1250	c 82086	15/64	.2344	c 82093
9/64	.1406	c 82087	1/4	.2500	c 82094

## 6" LENGTH - NUMBER SIZES

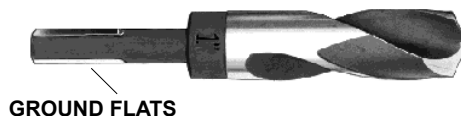


DIAMETER	DEC. EQUIV.	PART	DIAMETER	DEC. EQUIV.	PART
60	.0400	c 82060	30	.1285	c 82030
59	.0410	c 82059	29	.1360	c 82029
58	.0420	c 82058	28	.1405	c 82028
57	.0430	c 82057	27	.1440	c 82027
56	.0465	c 82056	26	.1470	c 82026
55	.0520	c 82055	25	.1495	c 82025
54	.0550	c 82054	24	.1520	c 82024
53	.0595	c 82053	23	.1540	c 82023
52	.0635	c 82052	22	.1570	c 82022
51	.0670	c 82051	21	.1590	c 82021
50	.0700	c 82050	20	.1610	c 82020
49	.0730	c 82049	19	.1660	c 82019
48	.0760	c 82048	18	.1695	c 82018
47	.0785	c 82047	17	.1730	c 82017
46	.0810	c 82046	16	.1770	c 82016
45	.0820	c 82045	15	.1800	c 82015
44	.0860	c 82044	14	.1820	c 82014
43	.0890	c 82043	13	.1850	c 82013
42	.0935	c 82042	12	.1890	c 82012
41	.0960	c 82041	11	.1910	c 82011
40	.0980	c 82040	10	.1935	c 82010
39	.0995	c 82039	9	.1960	c 82009
38	.1015	c 82038	8	.1990	c 82008
37	.1040	c 82037	7	.2010	c 82007
36	.1065	c 82036	6	.2040	c 82006
35	.1100	c 82035	5	.2055	c 82005
34	.1110	c 82034	4	.2090	c 82004
33	.1130	c 82033	3	.2130	c 82003
32	.1160	c 82032	2	.2210	c 82002
31	.1200	c 82031	1	.2280	c 82001

# CIC 200™ QUAD POINT DRILLS (Cont'd.)

## REDUCED SHANK DRILLS

### 1/2" SHANK — 6" LENGTH



DIA.	DEC.	PART	DIA.	DEC.	PART	DIA.	DEC.	PART
33/64	.5156	A 91235	3/4	.7500	A 91250	63/64	.9844	A 91265
17/32	.5312	A 91236	49/64	.7656	A 91251	1	1.0000	A 91266
35/64	.5469	A 91237	25/32	.7812	A 91252	1-1/32	1.0312	A 91267
9/16	.5625	A 91238	51/64	.7969	A 91253	1-1/16	1.0625	A 91268
37/64	.5781	A 91239	13/16	.8125	A 91254	1-3/32	1.0938	A 91269
19/32	.5938	A 91240	53/64	.8281	A 91255	1-1/8	1.1250	A 91270
39/64	.6094	A 91241	27/32	.8438	A 91256	1-5/32	1.1562	A 91271
5/8	.6250	A 91242	55/64	.8594	A 91257	1-3/16	1.1875	A 91272
41/64	.6406	A 91243	7/8	.8750	A 91258	1-7/32	1.2188	A 91273
21/32	.6562	A 91244	57/64	.8906	A 91259	1-1/4	1.2500	A 91274
43/64	.6719	A 91245	29/32	.9062	A 91260	1-5/16	1.3125	A 91276
11/16	.6875	A 91246	59/64	.9219	A 91261	1-3/8	1.3750	A 91278
45/64	.7031	A 91247	15/16	.9375	A 91262	1-7/16	1.4375	A 91280
23/32	.7188	A 91248	61/64	.9531	A 91263	1-1/2	1.5000	A 91282
47/64	.7344	A 91249	31/32	.9688	A 91264	-	-	-

### 1/4 INCH SHANK



DIAMETER	DEC. EQUIV.	JOBBER		STUBBY	
		LENGTH	PART	LENGTH	PART
17/64	.2656	3-1/2	A 91417	2-5/8	A 61401
9/32	.2812	3-19/32	A 91418	2-11/16	A 61404
19/64	.2969	3-23/32	A 91419	2-3/4	A 61408
5/16	.3125	3-27/32	A 91420	2-13/16	A 61412
21/64	.3281	3-15/16	A 91421	2-15/16	A 61416
11/32	.3438	4-1/32	A 91422	3	-
23/64	.3594	4-5/32	A 91423	3-1/16	A 61424
3/8	.3750	4-1/4	A 91424	3-1/8	A 61428
25/64	.3906	4-11/32	A 91425	3-1/4	A 61432
13/32	.4062	4-15/32	A 91426	3-5/16	A 61436
27/64	.4219	4-9/16	A 91427	3-3/8	A 61440
7/16	.4375	4-11/16	A 91428	3-7/16	A 61444
29/64	.4531	4-25/32	A 91429	3-9/16	A 61448
15/32	.4688	4-7/8	A 91430	3-5/8	A 61452
31/64	.4844	5	A 91431	3-11/16	-
1/2	.5000	5-3/32	A 91432	3-3/4	A 61460

# CIC 200™ QUAD POINT DRILLS (Cont'd.)

## DOUBLE-END

### STANDARD



### WITH COUNTERSINKS



DRILL ENDS ARE EQUAL DIAMETER.  
INCLUDED ANGLE IS 60°.

SIZE	DECIMAL EQUIV.	LENGTH	PART	BODY DIA.	DRILL DIA.	DRILL LENGTH	OVERALL LENGTH	TYPE	PART
3/32	.0937	1-3/4	F 61498	1/8	.025	.040	1-7/32	00	A 61530
7/64	.1093	1-15/16	F 61499	1/8	1/32	3/64	1-7/32	0	A 61531
1/8	.1250	1-15/16	F 61500	1/8	3/64	3/64	1-1/4	1	A 61532
9/64	.1410	2"	F 61503	3/16	5/64	5/64	1-7/8	2	A 61533
5/32	.1562	2-1/8	F 61505	1/4	7/64	7/64	2	3	A 61534
3/16	.1875	2-5/16	F 61510	5/16	1/8	1/8	2-1/8	4	A 61535
7/32	.2188	2-9/16	F 61515	7/16	3/16	3/16	2-3/4	5	A 61536
1/4	.2500	2-5/8	D 61520	1/2	7/32	7/32	3	6	A 61537
#30	.1285	2"	F 61525	5/8	1/4	1/4	3-1/4	7	A 61538
#20	.1610	2-1/8	F 61527	3/4	5/16	5/16	3-1/2	8	A 61539
#11	.1910	2-5/16	D 61528	-	-	-	-	-	-
#10	.1935	2-5/16	D 61529	-	-	-	-	-	-

23

## 12" LENGTH - FRACTIONAL SIZES

### 9" EXTENDED FLUTES



- 135° SPLIT POINT
- HARDENED FULL LENGTH OF FLUTES
- DEEP DRILLING — UP TO 8"

DIAMETER	PART
1/8	A 11030
5/32	A 11031
3/16	A 11032
7/32	A 11033
1/4	A 11034
9/32	A 11035
5/16	A 11036
3/8	A 11038
7/16	A 11040
1/2	A 11042

### STANDARD AIRCRAFT FLUTES



- 135° SPLIT POINT
- SPRING TEMPERED CONSTRUCTION
- DRILLS HARD-TO-REACH AREAS
- HIGH SPEED STEEL

DIAMETER	FLUTE LENGTH	PART
1/8	1-5/8	A 11052
5/32	2	A 11054
3/16	2-5/16	A 11056
7/32	2-1/2	A 11058
1/4	2-3/4	A 11060
9/32	2-15/16	A 11062
5/16	3-3/16	A 11064
3/8	3-5/8	A 11066
7/16	4-1/16	A 11068
1/2	4-1/2	A 11070



# CIC 200™ QUAD POINT DRILLS (Cont'd.)

## DRILL ORGANIZERS AND DISPENSERS

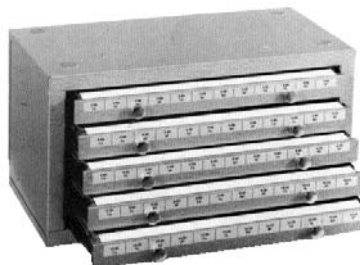
One convenient location for all your CIC 200™ Quad Point Drills. The right size available every time. Provides instant control of your drill inventory.

### 50 PIECE FRACTIONAL ORGANIZER



CONTENTS	PART
1 each: 21/64, 11/32, 25/64, 27/64, 7/16 and 1/2	A 61695
2 each: 9/64, 5/32, 11/64, 13/64, 7/32, 15/64, 17/64, 9/32, 5/16 and 3/8	
3 each: 1/16, 5/64, 3/32 and 7/64	
4 each: 1/8, 3/16 and 1/4	

### 75 PIECE NUMBER ORGANIZER



CONTENTS	PART
3 each: #3, #5, #6, #7, #8, #9, #10, #11, #15, #20, #21, #22, #25, #26, #28, #29, #30, #33, #35, #36, #38, #39, #40, #43 and #44	A 61697

### FRACTIONAL ORGANIZER "COMPLETER KIT"



CONTENTS	PART
<b>1 each:</b> 19/64, 23/64, 13/32, 29/64, 15/32 and 31/64	A 6169

### MASTER DRILL DISPENSER - COMPLETE



CONTENTS	PART
<b>Total of 115 CIC 200™ Quad Point Drills</b> 1 each of 29 fractional sizes: 1/16 through 1/2 1 each of 60 number sizes: #1 through #60 1 each of 26 letter sizes: A through Z	A 61654

### MASTER DRILL DISPENSER - STARTER



CONTENTS	PART
<b>Total of 50 CIC 200™ Quad Point Drills</b> 4 each: 1/8, 3/16 and 1/4 3 each: 1/16, 5/64, 3/32, and 7/64 2 each: 9/64, 5/32, 11/64, 13/64, 7/32, 15/64, 17/64, 9/32, 5/16 and 3/8 1 each: 21/64, 11/32, 25/64, 27/64, 7/16, 1/2	A 61653

# CIC 200™ QUAD POINT DRILLS (Cont'd.)

## DRILL INDEXES



INDEX



CADDY

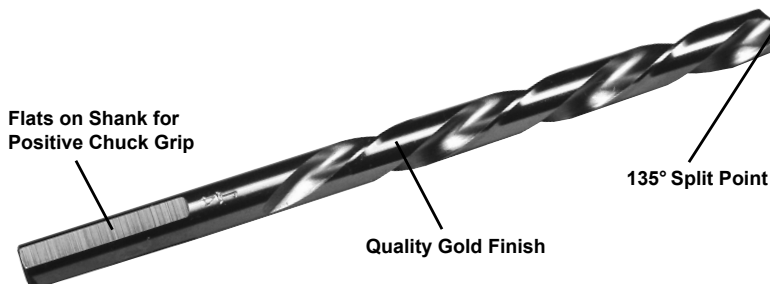
DESCRIPTION	# OF DRILLS	PART	
1/16 to 1/4 by 64ths	13	A	61600
1/16 to 1/2 by 32nds	15	A	61605
1/16 to 3/8 by 64ths	21	A	61610
1/16 to 1/2 by 64ths	29	A	61615
1 to 60 Numbers	60	A	61620
A to Z Letters	26	A	61625
61 to 80 Numbers	20	A	61630
Left Hand Drills 1/8, 3/16, 1/4, 5/16	4	A	61631
Left Hand Drills 1/6 to 1/2 by 32nds	15	A	61633
Stubby Drill Index 1/16 to 1/2 by 64ths	29	A	61678
<b>1/4" REDUCED SHANK INDEXES</b>			
1/16 to 1/2 by 32nds	15	A	61640
1/16 to 3/8 by 64ths	21	A	61645
1/16 to 1/2 by 64ths	29	A	61650
1/16 to 1/2 by 64ths (stubby)	29	A	61678
<b>1/2" REDUCED SHANK INDEXES</b>			
9/16" to 1" by 16ths	8	A	61648
<b>JOBBER LENGTH - DRILL CADDY INDEX</b>			
1/16 to 1/2 by 64ths	29	A	61642

# CIC 200™ QUAD POINT PLUS DRILLS

## JOBBER LENGTH – FRACTIONAL SIZE DRILLS

### FEATURES

- **Stops Chuck Slippage**  
Flats on drill shanks allow easy positive chuck grip.\*
- **Made of Special Hi-moly Tool Steel**  
Tougher than cobalt steel.
- **Substantially Longer Cutting Life**  
The nitro-carburized flute has an increased Rockwell hardness.
- **Cuts Harder Materials**  
The flatter point takes a smaller chip. More torque is directed to a smaller area. Allows drilling into materials with hardness over 30 on the Rockwell "C" Scale.
- **Stops Drill Walking**  
The split point design gives accurate starting. No need for a center punch.
- **Holds Tighter Hole Size**  
The split point design is self centering. This limits the normal oversize drilling characteristics.
- **Outstanding Quality Appearance**  
A rich gold color sets it apart from commodity cutting tools.
- **Runs Cooler, Uses Less Torque**  
135° point takes a smaller chip resulting in less heat. Friction is reduced by the gold surface treatment.
- **Made in U.S.A.**



DIA.	LENGTH	DEC. EQUIV.	PART	
1/16"	1-7/8"	.0625	C	93004
5/64"	2"	.0781	C	93005
3/32"	2-1/4"	.0938	C	93006
7/64"	2-5/8"	.1094	C	93007
1/8"	2-3/4"	.1250	C	93008
9/64"	2-7/8"	.1406	C	93009
5/32"	3-1/8"	.1562	C	93010
11/64"	3-1/4"	.1719	C	93011
<b>3/16"</b>	<b>3-1/2"</b>	<b>.1875</b>	C	<b>93012</b>
<b>13/64"</b>	<b>3-5/8"</b>	<b>.2031</b>	C	<b>93013</b>
<b>7/32"</b>	<b>3-3/4"</b>	<b>.2188</b>	C	<b>93014</b>
<b>15/64"</b>	<b>3-7/8"</b>	<b>.2344</b>	C	<b>93015</b>
<b>1/4"</b>	<b>4"</b>	<b>.2500</b>	C	<b>93016</b>
<b>17/64"</b>	<b>4-1/8"</b>	<b>.2656</b>	C	<b>93017</b>
<b>9/32"</b>	<b>4-1/4"</b>	<b>.2812</b>	C	<b>93018</b>
<b>19/64"</b>	<b>4-3/8"</b>	<b>.2969</b>	A	<b>93019</b>
<b>5/16"</b>	<b>4-1/2"</b>	<b>.3125</b>	A	<b>93020</b>
<b>21/64"</b>	<b>4-5/8"</b>	<b>.3281</b>	A	<b>93021</b>
<b>11/32"</b>	<b>4-3/4"</b>	<b>.3438</b>	A	<b>93022</b>
<b>23/64"</b>	<b>4-7/8"</b>	<b>.3594</b>	A	<b>93023</b>
<b>3/8"</b>	<b>5"</b>	<b>.3750</b>	A	<b>93024</b>
<b>25/64"</b>	<b>5-1/8"</b>	<b>.3906</b>	A	<b>93025</b>
<b>13/32"</b>	<b>5-1/4"</b>	<b>.4062</b>	A	<b>93026</b>
<b>27/64"</b>	<b>5-3/8"</b>	<b>.4219</b>	A	<b>93027</b>
<b>7/16"</b>	<b>5-1/2"</b>	<b>.4375</b>	A	<b>93028</b>
<b>29/64"</b>	<b>5-5/8"</b>	<b>.4531</b>	A	<b>93029</b>
<b>15/32"</b>	<b>5-3/4"</b>	<b>.4688</b>	A	<b>93030</b>
<b>31/64"</b>	<b>5-7/8"</b>	<b>.4844</b>	A	<b>93031</b>
<b>1/2"</b>	<b>6"</b>	<b>.5000</b>	A	<b>93032</b>

Bold type in table indicates 3-flat design (3/16" diameter & larger).

### APPLICATIONS

- **Work Hardening Grades of Stainless Steel**  
300 series stainless steel
- **Free Machining Grades of Stainless Steel**  
400 series and type 303 stainless steel
- **Titanium Alloys**
- **Other High Tensile Strength Materials**

# CIC 200™ QUAD POINT PLUS DRILLS

## DRILL ORGANIZER

FRACTIONAL SIZES - 1/16" TO 1/2" BY 64<sup>THS</sup>

- 3-Drawer organizer
- 50 Drills
- Holds 29 Sizes (23 sizes included)
- Sizes labeled on front of each drawer
- One convenient location for your drills
- The right size drill is always available
- Controls your drill inventory
- Can store hundreds of drills in one place
- Eliminates misplaced drills
- Easy access for your staff
- Cabinet: 14-1/2" W x 7-1/4" H x 7-1/4" D

CONTENTS	PART
1 each: 21/64, 11/32, 25/64, 27/64, 7/16 & 1/2	A 61569
2 each: 9/64, 5/32, 11/64, 13/64, 7/32, 15/64, 17/64, 9/32, 5/16 and 3/8	
3 each: 1/16, 5/64, 3/32 and 7/64	
4 each: 1/8, 3/16 and 1/4	

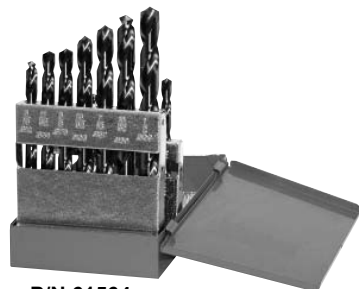


23

## DRILL INDEXES AND CADDY



P/N 61563

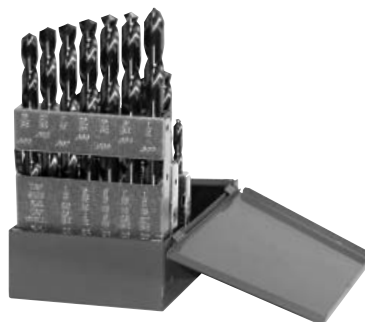


P/N 61564

TYPE	SIZES	# OF DRILLS	P/N
Index	1/16 to 1/4 by 64ths	13	A 61563
Index	1/16 to 1/2 by 32nds	15	A 61564
Index	1/16 to 3/8 by 64ths	21	A 61566
Index	1/16 to 1/2 by 64ths	29	A 61567
Caddy	1/16 to 1/2 by 64ths	29	A 61568



P/N 61566



P/N 61567



P/N 61568

# CIC 200™ LEFT HAND DRILLS

REMOVES BROKEN STUDS AND CAP SCREWS

Threads out broken studs or cap screws, saving hours of work retapping or fighting with an E-Z out.

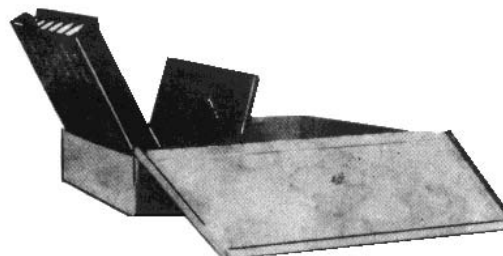
## DRILLS



- USE WITH A VSR DRILL MOTOR
- RECOMMENDED RPM: 300-500
- CENTER-PUNCH TO KEEP DRILL IN CENTER OF STUD AND TO AVOID THREAD DAMAGE. THE JARRING ACTION FROM CENTER PUNCHING WILL HELP TO LOOSEN THE BROKEN PIECE.

DIA.	PART	DIA.	PART
1/16	A 11003	9/32	A 11018
5/64	A 11002	19/64	A 11010
3/32	A 11001	5/16	A 11011
7/64	A 11004	11/32	A 11012
1/8	A 11005	3/8	A 11013
5/32	A 11006	13/32	A 11014
3/16	A 11007	7/16	A 11015
7/32	A 11008	15/32	A 11016
1/4	A 11009	1/2	A 11017

## LEFT-HAND DRILL INDEXES



CONTENTS	PART
1 each 1/8, 3/16, 1/4 and 5/16	A 61631
5-Piece Index includes: 1 each 1/8, 3/16, 1/4, 11/32 and 7/16	A 61629
15-Piece Index includes: 1 each 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32 and 1/2	A 61633

# TRI-CARB DRILLS

DESIGNED FOR DRILLING HIGHLY ALLOYED FERROUS METALS

- DESIGNED FOR USE ON HEAT-TREATED, HARDENED MATERIAL UP TO 65 RC
- THREE FLUTE GEOMETRY REDUCES CHIPLOAD PER CUTTING EDGE AND INCREASES TOOL LIFE, TORSIONAL STRENGTH AND RIGIDITY
- SUITABLE FOR DRILLING MATERIALS WHICH PRODUCE POWDER LIKE CHIPS SUCH AS CAST IRON
- SUPERIOR HOLE SIZE TOLERANCE, HOLE ROUNDNESS AND SURFACE FINISH
- ACCURATE SELF-CENTERING CAPABILITY ELIMINATES NEED FOR SEPARATE CENTERING
- NOT RECOMMENDED FOR NON-FERROUS MATERIALS

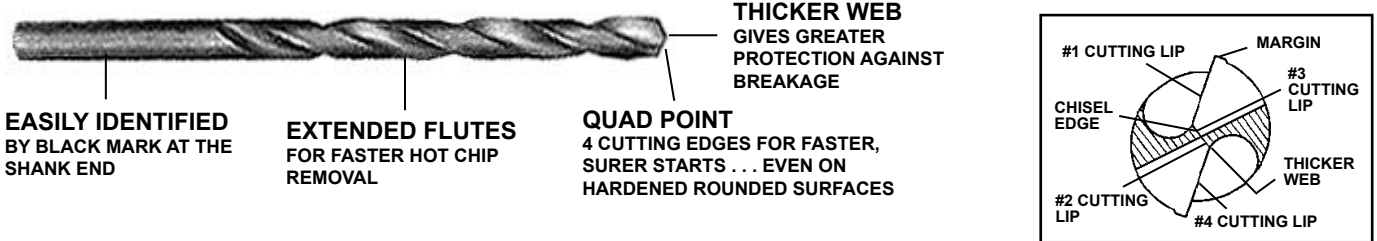


DIA.	OVERALL LENGTH	DEC. EQUIV.	FLUTE LENGTH	PART	DIA.	OVERALL LENGTH	DEC. EQUIV.	FLUTE LENGTH	PART
1/8	1-7/8	.1250	3/4	A 77400	3/8	3-1/8	.3750	1-19/32	A 77408
3/16	2-3/16	.1875	15/16	A 77402	7/16	3-7/16	.4375	1-3/4	A 77410
1/4	2-1/2	.2500	1-3/16	A 77404	1/2	3-3/4	.5000	2	A 77412
5/16	2-13/16	.3125	1-7/16	A 77406	INDEX - Contains one each: 1/8, 3/16, 1/4 & 5/16				A 61652

# CIC 200™ SUPER COBALT DRILLS

OUTSTANDING PERFORMANCE – FOR DIFFICULT CUTTING JOBS

An 8% cobalt content drill with excellent resistance to strong abrasives and heat.



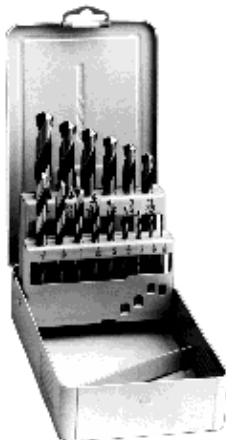
- CUTS THROUGH:**
- WORK HARDENING STAINLESS STEEL • 400 SERIES STAINLESS STEEL • IRON ALLOY STEELS • TITANIUM ALLOYS
  - TOOL STEELS • HIGH TEMPERATURE ALLOYS • HIGH ABRASIVE PLASTICS AND FIBERGLASS MATERIALS

## JOBBER LENGTH — FRACTIONAL SIZES

DIAMETER	OVERALL LENGTH	FLUTE LENGTH	PART	DIAMETER	OVERALL LENGTH	FLUTE LENGTH	PART
3/64	1-3/4	3/4	A 96203*	9/32	4-1/4	2-15/16	A 96218
1/16	1-3/4	3/4	A 96204	19/64	4-3/8	3-1/16	A 96219
5/64	2	1	A 96205	5/16	4-1/2	3-3/16	A 96220
3/32	2-1/4	1-1/4	A 96206	21/64	4-5/8	3-5/16	A 96221
7/64	2-5/8	1-1/2	A 96207	11/32	4-3/4	3-7/16	A 96222
1/8	2-3/4	1-5/8	A 96208	23/64	4-7/8	3-1/2	A 96223
9/64	2-7/8	1-3/4	A 96209	3/8	5	3-5/8	A 96224
5/32	3-1/8	2	A 96210	25/64	5-1/8	3-3/4	A 96225
11/64	3-1/4	2-1/8	A 96211	13/32	5-1/4	3-7/8	A 96226
3/16	3-1/2	2-5/16	A 96212	27/64	5-3/8	3-15/16	A 96227
13/64	3-5/8	2-7/16	A 96213	7/16	5-1/2	4-1/16	A 96228
7/32	3-3/4	2-1/2	A 96214	29/64	5-5/8	4-3/16	A 96229
15/64	3-7/8	2-5/8	A 96215	15/32	5-3/4	4-5/16	A 96230
1/4	4	2-3/4	A 96216	31/64	5-7/8	4-3/8	A 96231
17/64	4-1/8	2-7/8	A 96217	1/2	6	4-1/2	A 96232

\* Size smaller than 1/16 have non-split point.

**NOTE:** Cobalt is normally a very brittle material – caution should be used when a hand drill motor is in use. Keep from side thrusting which may result in drill breakage. Always store in proper cabinet to eliminate hitting drills together.



## JOBBER LENGTH INDEX

CONTENTS	PART
15 DRILLS – 1/16 to 1/2 by 32nds	A 61692
29 DRILLS – 1/16 to 1/2 by 64ths	A 61690

# CIC 200™ CARBIDE TIPPED DRILLS

LONGER TOOL LIFE AND BETTER ABRASION RESISTANCE

- BRIGHT FINISH
- EXCELLENT FOR NONFERROUS APPLICATIONS AND LOW TENSILE STEELS
- HEAVY DUTY CONSTRUCTION FOR INCREASED TOOL STRENGTH
- CAM RELIEVED 118° POINT-GENERAL PURPOSE ANGLE WITH RADIAL RELIEF FOR ACCURATE HOLES



DIAMETER	OVERALL LENGTH	FLUTE LENGTH	PART	DIAMETER	OVERALL LENGTH	FLUTE LENGTH	PART
1/8	2-3/4	1-5/8	A 61360	3/8	5"	3-5/8	A 61376
3/16	3-1/2	2-5/16	A 61364	7/16	5-1/2	4-1/16	A 61380
1/4	4"	2-3/4	A 61368	1/2	6"	4-1/2	A 61384
5/16	4-1/2	3-3/16	A 61372	7-PIECE INDEX			A 61622

# CARBIDE TIPPED HARD STEEL BITS

A LONGER CARBIDE TIP PREVENTS CHIPPING

- STRAIGHT FLUTE DESIGN DISSIPATES HEAT QUICKLY
- DRILLS EXTRA TOUGH MATERIALS SUCH AS SAFES, BEARING RACES, DIES, ETC.



SIZE	SHANK DIA.	PART	SIZE	SHANK DIA.	PART
1/8 x 2-3/4	1/8	A 77480	1/4 x 4	1/4	A 77485
5/32 x 3	5/32	A 77481	5/16 x 6	5/16	A 77489
3/16 x 3	3/16	A 77483	3/8 x 6	3/8	A 77491
7/32 x 4	7/32	A 77484	1/2 x 6	1/2	A 77493
POUCH ASSORTMENT - Contains 8 Bits: 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8 and 1/2					
					A 61665

# CARBIDE TIPPED DRILL BITS

FOR USE WITH CEMENT SCREWS ON BRICK, CEMENT AND CINDER BLOCK



SIZE	USE WITH CEMENT SCREW PART NO.	DRILL PART NO.
5/32 x 3-1/2	9050, 9051, 9064, 9065	A 9086
5/32 x 4-1/2	9052, 9053, 9066, 9067	A 9088
5/32 x 5-1/2	9054, 9055, 9056, 9068, 9069, 9070	A 9090
3/16 x 3-1/2	9057, 9058, 9071, 9072	A 9083
3/16 x 4-1/2	9059, 9060, 9073, 9074	A 9084
3/16 x 5-1/2	9061, 9062, 9063, 9075, 9076, 9077	A 9087

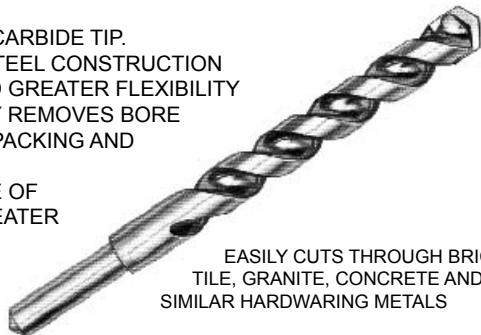
# CIC 200™ CARBIDE MASONRY DRILLS

## TUNGSTEN CARBIDE TIP

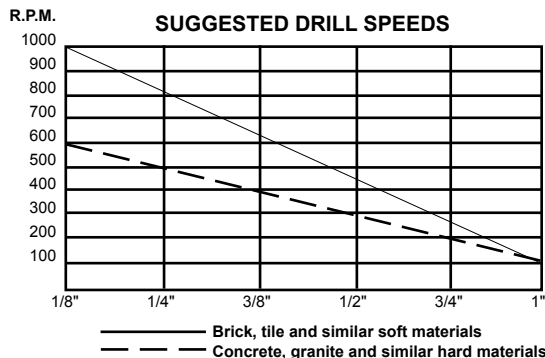
The only drill that will satisfy all your masonry drill needs. A longer lasting, faster cutting drill which can be used with either a 3/8" or 1/2" rotary or percussion drill motor.

### FEATURES

- DURABLE TUNGSTEN CARBIDE TIP.
- CHROME VANADIUM STEEL CONSTRUCTION FOR LONGER LIFE AND GREATER FLEXIBILITY
- SPIRAL DESIGN EASILY REMOVES BORE MATERIAL REDUCING PACKING AND HEATING OF DRILL
- SPECIAL CONFLUENCE OF SPIRAL PROVIDES GREATER STRENGTH TO DRILL



EASILY CUTS THROUGH BRICK, TILE, GRANITE, CONCRETE AND SIMILAR HARDWARE METALS



DRILL DIA.	SHANK DIA.	OVERALL LENGTH	PART	DRILL DIA.	SHANK DIA.	OVERALL LENGTH	PART	DRILL DIA.	SHANK DIA.	OVERALL LENGTH	PART
1/8	1/8	3	A 77501	3/8	3/8	4-1/2	A 77598	9/16	3/8	7	A 77550
5/32	5/32	3-1/8	A 77502	3/8	1/4	4-1/2	A 77599	5/8	1/2	6	A 77561
11/64	11/64	3	A 77503	3/8	3/8	6	A 77530	5/8*	3/8	6	A 77563
3/16	3/16	3-1/2	A 77504	3/8	1/4	6	A 77531	5/8	3/8	10	A 77565
3/16	3/16	6	A 77505	3/8	3/8	13	A 77532	5/8	3/8	20	A 77568
13/64	13/64	3	A 77506	3/8	3/8	20	A 77536	5/8	1/2	24	A 77569
7/32	7/32	4	A 77507	3/8	3/8	24	A 77538	3/4	1/2	6	A 77571
15/64	15/64	4	A 77508	7/16	3/8	6	A 77541	3/4*	3/8	6-1/4	A 77572
1/4	1/4	4	A 77509	1/2	1/2	6	A 77545	3/4	1/2	10	A 77573
1/4	1/4	6	A 77510	1/2	3/8	6	A 77546	3/4	3/8	13	A 77574
1/4	1/4	13	A 77511	1/2	1/4	6	A 77547	3/4	1/2	16	A 77575
1/4	1/4	16	A 77512	1/2	3/8	13	A 77549	3/4	1/2	20	A 77576
1/4	1/4	20	A 77513	1/2	1/4	13	A 77562	3/4	3/8	20	A 77577
1/4	1/4	24	A 77514	1/2	3/8	20	A 77555	3/4	1/2	24	A 77578
9/32	1/4	4	A 77516	1/2	3/8	24	A 77558	7/8	1/2	6-1/4	A 77581
9/32	1/4	6	A 77517					7/8	1/2	13	A 77580
5/16	5/16	4-3/4	A 77518					7/8	1/2	20	A 77582
5/16	1/4	4-3/4	A 77519					1	1/2	6-1/4	A 77584
5/16	5/16	6	A 77520					1	1/2	13	A 77585
5/16	5/16	13	A 77522					1	1/2	20	A 77586
5/16	5/16	20	A 77526					1-1/8	1/2	12	A 77589
								1-1/4	1/2	13	A 77590



**CARBIDE MASONRY DRILLS POUCH ASSORTMENT** - Contains 8 Masonry Drills  
 1/8 x 3 x 1/8, 3/16 x 6 x 3/16, 1/4 x 6 x 1/4, 5/16 x 6 x 5/16, 3/8 x 6 x 3/8,  
 7/16 x 6-1/4 x 3/8, 1/2 x 6-3/4 x 3/8 and 5/8 x 6 x 3/8

\* Ground flats on shank for non-slip chucking.

A 61664

## CIC 200™ CARBIDE MASONRY DRILL ORGANIZER



### CONTENTS

7 Carbide Masonry Drill "Fractional Sizes" include:  
 1/8 x 3 x 1/8, 3/16 x 6 x 3/16, 1/4 x 6 x 1/4, 5/16 x 6 x 5/16,  
 3/8 x 6 x 3/8, 1/2 x 6-3/4 x 3/8 and 5/8 x 6 x 3/8

26 Carbide Masonry Drill Fractional Sizes includes 1/8 to 3/4

### PART

A 61612

A 61611



# CIC 200™ H.D. MASONRY DRILLS

## H.D. CARBIDE TIP FOR ROTO HAMMER

For use on all tile, marble, terrazzo, brick, stone, slate, cement and cinder block.

### "A" TAPER SHANK DRILLS



DRILL DIA.	OVERALL LENGTH	MAX. DRILL DEPTH	PART	DRILL DIA.	OVERALL LENGTH	MAX. DRILL DEPTH	PART
3/16	3-3/8	1-3/16	A 20401	1/2	12	9	A 20418
3/16	4-3/4	2-9/16	A 20402	1/2	18	15-1/2	A 20419
1/4	4	1-3/4	A 20403	9/16	6	3-1/2	A 20420
1/4	6	4	A 20404	9/16	9	6-1/2	A 20421
9/32	4-1/2	2-3/8	A 20405	9/16	18	15-1/2	A 20422
5/16	4-1/2	2-3/8	A 20406	5/8	9	6-1/2	A 20424
5/16	5-7/8	4	A 20407	5/8	12	9	A 20425
5/16	7	5	A 20408	5/8	18	15-1/2	A 20426
3/8	5-5/16	3	A 20409	11/16	9	6-1/2	A 20428
3/8	9	6-1/2	A 20410	3/4	6	3-1/2	A 20429
3/8	12	9	A 20411	3/4	9	6-1/2	A 20430
3/8	18	15-1/2	A 20412	3/4	12	9	A 20431
7/16	5	3	A 20413	3/4	18	15-1/2	A 20432
7/16	12	9	A 20414	27/32	6	3-1/2	A 20433
1/2	5-1/2	3-3/8	A 20416	7/8	9	6-1/2	A 20434
1/2	9	6-1/2	A 20417	-	-	-	-

### "B" TAPER SHANK DRILLS



DRILL DIA.	OVERALL LENGTH	MAX. DRILL DEPTH	PART	DRILL DIA.	OVERALL LENGTH	MAX. DRILL DEPTH	PART
1/2	9	6-1/2	A 20380	3/4	12	9	A 20364
1/2	12	9	A 20352	3/4	18	15-1/2	A 20365
1/2	18	15-1/2	A 20353	3/4	24	21	A 20366
9/16	9	6-1/2	A 20354	27/32	6	3-1/2	A 20367
9/16	18	15-1/2	A 20355	7/8	6	3-1/2	A 20368
5/8	6	3-1/2	A 20356	7/8	9	6-1/2	A 20369
5/8	9	6-1/2	A 20357	7/8	12	9	A 20370
5/8	12	9	A 20358	7/8	18	15-1/2	A 20371
5/8	18	15-1/2	A 20359	1	6	3-1/2	A 20372
11/16	9	6-1/2	A 20360	1	9	6-1/2	A 20373
11/16	18	15-1/2	A 20361	1	12	9	A 20374
3/4	6	3-1/2	A 20362	1	18	15-1/2	A 20375
3/4	9	6-1/2	A 20363	-	-	-	-

# H.D. MASONRY DRILLS (Cont'd.)

## SDS PLUS HAMMER DRILL BITS

### Features

- Made in Germany – world renowned for quality of product
- Versatile slot drive system hammer bits fit most rotary hammers
- Aggressive, durable carbide tip (1) allows easy centering and fast drilling
- Dynamic, chisel shaped bit head (2) ensures swift penetration
- Patented, reinforced flute geometry reduces vibration, transfers more impact energy to the cutting face and quickly channels debris from the hole
- Balance of tip and flute geometry ensure perfectly round holes giving superior anchoring
- Versatile slot drive system hammer bits fit most rotary hammers.
- Vacuum brazed with pure copper at 1900°F.
- Vacuum heat treated tool body to 50RC. BC20 grade carbide.
- Reinforced flutes and chisel shaped carbide tip.

### Applications

- Highway rails
- Structural supports
- Pipe mounts
- Electrical mounts
- Bridge construction
- HVAC mounts
- Machinery mounts
- Door and window frames
- Roofing
- Brackets

### Drills Materials

- Concrete & stone
- Masonry
- Grout filled block
- Hollow block
- Solid brick
- Hollow brick
- Cement board
- Granite



### 7-Piece Set P/N 61898

Contains these drill diameters:

- 5/32" X 4" X 6" P/N 77001
- 3/16" X 4" X 6" P/N 77003
- 1/4" X 4" X 6" P/N 77013
- 3/8" X 4" X 6" P/N 77021
- 1/2" X 4" X 6" P/N 77028

Includes Rebar Hammer Bits:

- 1/4" X 4" X 6" P/N 77053
- 3/8" X 4" X 6" P/N 77066

PART NUMBER	DRILL DIAMETER	MAX. DRILL DEPTH	OVERALL LENGTH	PART NUMBER	DRILL DIAMETER	MAX. DRILL DEPTH	OVERALL LENGTH
A 77000	5/32"	2"	4"	A 77026	7/16"	4"	6"
A 77001	5/32"	4"	6"	A 77027	7/16"	10"	12"
A 77002	3/16"	2"	4"	A 77028	1/2"	4"	6"
A 77003	3/16"	4"	6"	A 77029	1/2"	8"	10"
A 77004	3/16"	6"	8"	A 77030	1/2"	10"	12"
A 77005	3/16"	10"	12"	A 77031	1/2"	16"	18"
A 77006	7/32"	4"	6"	A 77032	1/2"	22"	24"
A 77007	7/32"	6"	8"	A 77033	3/4"	22"	24"
A 77008	7/32"	9"	11"	A 77034	5/8"	22"	24"
A 77010	7/32"	12"	14"	A 77036	5/8"	6"	8"
A 77011	7/32"	14"	16"	A 77039	11/16"	6"	8"
A 77012	1/4"	2"	4"	A 77037	5/8"	10"	12"
A 77013	1/4"	4"	6"	A 77035	9/16"	4"	6"
A 77014	1/4"	6"	8"	A 77038	9/16"	16"	18"
A 77015	1/4"	8"	10"	A 77040	3/4"	6"	8"
A 77016	1/4"	9"	11"	A 77041	3/4"	10"	12"
A 77017	1/4"	12"	14"	A 77042	3/4"	16"	18"
A 77018	1/4"	14"	16"	A 77043	27/32"	6"	8"
A 77019	5/16"	4"	6"	A 77044	7/8"	6"	8"
A 77020	5/16"	10"	12"	A 77045	7/8"	10"	12"
A 77021	3/8"	4"	6"	A 77046	1"	8"	10"
A 77022	3/8"	8"	10"	A 77047	1"	16"	18"
A 77023	3/8"	10"	12"				
A 77024	3/8"	16"	18"				
A 77025	3/8"	22"	24"				

# H.D. MASONRY DRILLS (Cont'd.)

## SDS PLUS REBAR HAMMER DRILL BITS

### Features

- Made in Germany – world renowned for quality of product
- "Solid-Tip" Technology cuts through rebar (1)
- 4 Cutter head cuts faster and lasts longer (2)
- Modern heat treat and brazing processes ensuring proper hardness, toughness, and durability for maximum life
- Centering point for improved positioning
- Shortened conical-shaped dust tracks for fast debris removal (3)
- Reinforced core and special flute for maximum energy transfer and reduced vibration
- Solid tip cross head design with centering tips for strength and easy start up
- "Solid-Tip" technology cuts through rebar
- 4 cutter head cuts faster and lasts longer
- Reinforced flutes and chisel shaped carbide tip

### Applications

- Highway rails
- Structural supports
- Pipe mounts
- Electrical mounts
- Bridge construction
- HVAC mounts
- Machinery mounts
- Door and window frames
- Roofing
- Brackets

### Drills Materials

- Concrete & stone
- Masonry
- Grout filled block
- Hollow block
- Solid brick
- Hollow brick
- Cement board
- Granite



### 5-Piece Set P/N 61899

Contains these drill diameters:

- 3/16" x 4" x 6" P/N 77060
- 1/4" x 4" x 6" P/N 77053
- 5/16" x 4" x 6" P/N 77069
- 3/8" x 4" x 6" P/N 77066
- 1/2" x 4" x 6" P/N 77050

PART NUMBER	DRILL DIAMETER	MAX. DRILL DEPTH	OVERALL LENGTH	PART NUMBER	DRILL DIAMETER	MAX. DRILL DEPTH	OVERALL LENGTH
A 77059	3/16"	2"	4"	A 77074	7/16"	4"	6"
A 77060	3/16"	4"	6"	A 77072	7/16"	10"	12"
A 77061	3/16"	6"	8"	A 77073	7/16"	16"	18"
A 77062	3/16"	8"	10"	A 77050	1/2"	4"	6"
A 77058	3/16"	10"	12"	A 77048	1/2"	10"	12"
A 77052	1/4"	2"	4"	A 77049	1/2"	16"	18"
A 77053	1/4"	4"	6"	A 77078	9/16"	4"	6"
A 77054	1/4"	6"	8"	A 77076	9/16"	10"	12"
A 77055	1/4"	8"	10"	A 77077	9/16"	16"	18"
A 77051	1/4"	10"	12"	A 77070	5/8"	10"	12"
A 77069	5/16"	4"	6"	A 77071	5/8"	16"	18"
A 77067	5/16"	10"	12"	A 77063	3/4"	16"	18"
A 77068	5/16"	16"	18"	A 77075	7/8"	16"	18"
A 77066	3/8"	4"	6"	A 77057	1"	16"	18"
A 77064	3/8"	10"	12"	A 77056	1-1/4"	16"	18"
A 77065	3/8"	16"	18"				

# H.D. MASONRY DRILLS (Cont'd.)

## SDS MAX HAMMER DRILL BITS – 4 CUTTER CROSS-HEAD

### Features

- Made in Germany – world renowned for quality of product
- 4 Cutter head cuts faster and lasts longer
- Unique carbide geometry and centering tips – fast start up and drilling
- Modern heat-treating and brazing process ensures proper combination of product hardness, toughness and durability resulting in maximum life
- BC20 grade of carbide

### Applications

- Concrete
- Hard masonry materials
- Pipe, electrical, cable and wiring clearances
- Ceiling and wall cavities

### Quick Change Adaptors

Quickly and easily adapt SDS-Max and spline drive roto-hammer power tools to use standard SDS-Plus hammer bits.

- P/N 77104 – SDS-Max to SDS-Plus
- P/N 77105 – Spline to SDS-Plus



4 Cutter SDS-Max / Spline



Reinforced Flutes



Maximum energy transfer from power tool to drill bit tip.



### 5-Piece Set P/N 8807

Contains these drill diameters:

- 1/2" x 8" x 13" P/N 77079
- 5/8" x 8" x 13" P/N 77083
- 3/4" x 8" x 13" P/N 77087
- 7/8" x 8" x 13" P/N 77090
- 1" x 8" x 13" P/N 77093

PART NUMBER	DRILL DIAMETER	MAX. DRILL DEPTH	OVERALL LENGTH	PART NUMBER	DRILL DIAMETER	MAX. DRILL DEPTH	OVERALL LENGTH
A 77079	1/2"	8"	13"	A 77093	1"	8"	13"
A 77080	1/2"	16"	21"	A 77094	1"	17"	21"
A <b>77081</b>	<b>9/16"</b>	<b>8"</b>	<b>13"</b>	A <b>77095</b>	<b>1"</b>	<b>31"</b>	<b>36"</b>
A <b>77082</b>	<b>9/16"</b>	<b>16"</b>	<b>21"</b>	A <b>77096</b>	<b>1-1/8"</b>	<b>10"</b>	<b>15"</b>
A 77083	5/8"	8"	13"	A 77097	1-1/8"	12"	17"
A 77084	5/8"	16"	21"	A <b>77098</b>	<b>1-1/8"</b>	<b>17"</b>	<b>21"</b>
A <b>77085</b>	<b>5/8"</b>	<b>31"</b>	<b>36"</b>	A 77099	1-1/4"	10"	15"
A <b>77086</b>	<b>11/16"</b>	<b>16"</b>	<b>21"</b>	A <b>77100</b>	<b>1-1/4"</b>	<b>18"</b>	<b>23"</b>
A 77087	3/4"	8"	13"	A <b>77101</b>	<b>1-1/4"</b>	<b>31"</b>	<b>36"</b>
A 77088	3/4"	17"	21"	A <b>77102</b>	<b>1-3/8"</b>	<b>18"</b>	<b>23"</b>
A <b>77089</b>	<b>3/4"</b>	<b>31"</b>	<b>36"</b>	A 77103	1-1/2"	18"	23"
A 77090	7/8"	8"	13"				
A 77091	7/8"	17"	21"				
A <b>77092</b>	<b>7/8"</b>	<b>31"</b>	<b>36"</b>				

**Bold italic text** = Non-stock item  
Please allow 1 week for delivery.

# H.D. MASONRY DRILLS (Cont'd.)

## SPLINE SHANK HAMMER DRILL BITS - SINGLE POINT

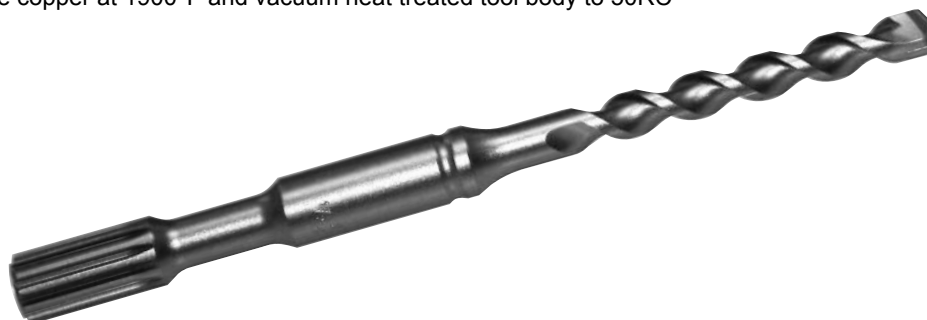
### Features

- Made in Germany – world renowned for quality of product
- Splines held to very close tolerances assure perfect fit and improve impact transmission for faster drilling
- Vacuum brazed with pure copper at 1900°F and vacuum heat treated tool body to 50RC
- HL20 grade carbide



### Applications

- Concrete
- Hard masonry materials



PART NUMBER	DRILL DIAMETER	MAX. DRILL DEPTH	OVERALL LENGTH	PART NUMBER	DRILL DIAMETER	MAX. DRILL DEPTH	OVERALL LENGTH
A <b>77106</b>	<b>3/8"</b>	<b>3"</b>	<b>8"</b>	A 77127	3/4"	11"	16"
A <b>77107</b>	<b>3/8"</b>	<b>5"</b>	<b>10"</b>	A 77128	3/4"	17"	22"
A <b>77108</b>	<b>3/8"</b>	<b>8"</b>	<b>13"</b>	A <b>77129</b>	<b>3/4"</b>	<b>24"</b>	<b>29"</b>
A <b>77109</b>	<b>3/8"</b>	<b>11"</b>	<b>16"</b>	A <b>77130</b>	<b>3/4"</b>	<b>31"</b>	<b>36"</b>
A <b>77110</b>	<b>7/16"</b>	<b>8"</b>	<b>13"</b>	A <b>77131</b>	<b>7/8"</b>	<b>11"</b>	<b>16"</b>
A 77111	1/2"	5"	10"	A 77132	7/8"	17"	22"
A <b>77112</b>	<b>1/2"</b>	<b>8"</b>	<b>13"</b>	A 77133	7/8"	31"	36"
A 77113	1/2"	11"	16"	A 77134	1"	11"	16"
A <b>77114</b>	<b>1/2"</b>	<b>17"</b>	<b>22"</b>	A 77135	1"	17"	22"
A <b>77115</b>	<b>1/2"</b>	<b>24"</b>	<b>29"</b>	A <b>77136</b>	<b>1"</b>	<b>31"</b>	<b>36"</b>
A <b>77116</b>	<b>1/2"</b>	<b>31"</b>	<b>36"</b>	A 77137	1-1/8"	11"	16"
A <b>77117</b>	<b>9/16"</b>	<b>5"</b>	<b>10"</b>	A <b>77138</b>	<b>1-1/8"</b>	<b>17"</b>	<b>22"</b>
A <b>77118</b>	<b>9/16"</b>	<b>8"</b>	<b>13"</b>	A 77139	1-1/4"	11"	16"
A 77119	5/8"	5"	10"	A <b>77140</b>	<b>1-1/4"</b>	<b>17"</b>	<b>22"</b>
A 77120	5/8"	8"	13"	A <b>77141</b>	<b>1-1/4"</b>	<b>31"</b>	<b>36"</b>
A <b>77121</b>	<b>5/8"</b>	<b>11"</b>	<b>16"</b>	A <b>77142</b>	<b>1-3/8"</b>	<b>11"</b>	<b>16"</b>
A <b>77122</b>	<b>5/8"</b>	<b>17"</b>	<b>22"</b>	A <b>77143</b>	<b>1-3/8"</b>	<b>17"</b>	<b>22"</b>
A <b>77123</b>	<b>5/8"</b>	<b>24"</b>	<b>29"</b>	A 77144	1-1/2"	11"	16"
A <b>77124</b>	<b>5/8"</b>	<b>31"</b>	<b>36"</b>	A 77145	1-1/2"	17"	22"
A <b>77125</b>	<b>11/16"</b>	<b>8"</b>	<b>13"</b>	A <b>77146</b>	<b>1-3/4"</b>	<b>17"</b>	<b>22"</b>
A <b>77126</b>	<b>3/4"</b>	<b>5"</b>	<b>10"</b>	A <b>77147</b>	<b>2"</b>	<b>17"</b>	<b>22"</b>

**Bold italic text** = Non-stock item  
Please allow 1 week for delivery.

# H.D. MASONRY DRILLS (Cont'd.)

## SPLINE SHANK HAMMER DRILL BITS – QUAD POINT

### Features

- Made in Germany – world renowned for quality of product
- Splines held to very close tolerances assure perfect fit and improve impact transmission for faster drilling
- Vacuum brazed with pure copper at 1900°F
- Vacuum heat treated tool body to 50RC
- HL20 grade carbide

### Benefits

- Quad Point Advantages (*over single point versions*)
  - 50% improved bit life
  - Rounder, more accurate holes
  - 60% less vibration
  - 30% less noise
  - Resists rebar hits
  - Extends hammer life
  - Less operator fatigue

### Applications

- Concrete
- Hard masonry materials



PART NUMBER	DRILL DIAMETER	MAX. DRILL DEPTH	OVERALL LENGTH	PART NUMBER	DRILL DIAMETER	MAX. DRILL DEPTH	OVERALL LENGTH
A 77148	5/8"	5"	10"	A 77160	1"	11"	16"
A 77149	5/8"	11"	16"	A 77161	1"	17"	22"
A 77150	5/8"	17"	22"	A <b>77162</b>	<b>1"</b>	<b>31"</b>	<b>36"</b>
A <b>77151</b>	<b>5/8"</b>	<b>24"</b>	<b>29"</b>	A 77163	1-1/8"	11"	16"
A <b>77152</b>	<b>5/8"</b>	<b>31"</b>	<b>36"</b>	A 77164	1-1/8"	17"	22"
A 77153	3/4"	5"	10"	A 77165	1-1/4"	11"	16"
A 77154	3/4"	11"	16"	A <b>77166</b>	<b>1-1/4"</b>	<b>17"</b>	<b>22"</b>
A <b>77155</b>	<b>3/4"</b>	<b>17"</b>	<b>22"</b>	A <b>77167</b>	<b>1-3/8"</b>	<b>11"</b>	<b>16"</b>
A <b>77156</b>	<b>3/4"</b>	<b>24"</b>	<b>29"</b>	A <b>77168</b>	<b>1-3/8"</b>	<b>17"</b>	<b>22"</b>
A 77157	3/4"	31"	36"	A 77169	1-1/2"	17"	22"
A 77158	7/8"	11"	16"	A <b>77170</b>	<b>1-3/4"</b>	<b>18"</b>	<b>23"</b>
A 77159	7/8"	17"	22"	A <b>77171</b>	<b>2"</b>	<b>18"</b>	<b>23"</b>

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Please allow 1 week for delivery.

# H.D. MASONRY DRILLS (Cont'd.)

## HAMMER CORE BITS – CARBIDE TIPPED/HEAVY WALL

### Features

- Made in Germany – World renowned for quality of product
- Used in rotary hammers operating in the rotary hammer mode
- Produce holes significantly larger than the rated power drive
- Heat treated tool steel; core bodies are machined from one single piece of steel
- Teeth set with negative and positive rake to cut concrete and screening
- Tooth edges faced to act as secondary cutter area to reduce snagging
- Pilot Drill/Centering bit is recommended for best results (Pilot Drill/Centering bit is included with core bit)

### Benefits

- Cutting the circumference of the hole leaves the center as a solid, so concrete removal is reduced for large size holes
- Cutting tips are put in at irregular intervals to avoid setting up a sympathetic vibration when producing the hole
- Each tooth presents itself to a random & new section of concrete as opposed to the piece previously hit by another tooth
- Multiple teeth assure faster cutting and debris evacuation from cutting path

### Applications

- Light to medium hard building materials



Hammer Core Bit shown with SDS Max Adaptor

### Pipe Sizes & Types

Bit Diameter	Pipe Sizes	Pipe Types
1-3/4"	1-1/4"	Cu, EMT, 1" Rigid, IMC Sched. 40
2"	1-1/2"	Cu, EMT, Rigid, IMC Sched. 40
2-5/8"	2"	Cu, EMT, Rigid, IMC Sched. 40
3"	2-1/2"	Cu, EMT, Rigid, IMC Sched. 40
3-1/8"	3"	Cu, EMT, Rigid, IMC Sched. 40
4"	3-1/2"	Cu, EMT, Rigid, IMC Sched. 40
5"	4"	Cu, EMT, Rigid, IMC Sched. 40



PART NUMBER	BIT DIAMETER	USABLE LENGTH	CORE TOLERANCE	PART NUMBER	BIT DIAMETER	USABLE LENGTH	CORE TOLERANCE
A 77172	1-3/4"	4"	1.61-1.55	A 77176	3-1/2"	4"	3.58-3.52
A 77173	2"	4"	2.08-2.03	A 77177	4"	4"	4.13-4.07
A 77174	2-5/8"	4"	2.63-2.58	A 77178	5"	4"	5.12-5.06
A 77175	3-1/8"	4"	3.19-3.13				

### SHANK ADAPTORS AND EXTENSIONS



DESCRIPTION	OVERALL LENGTH	PART
SDS Max Adaptor	7"	A 77180
Spline Adaptor	7"	A 77181
Extension	11"	A 77182

### PILOT DRILL/CENTERING BIT



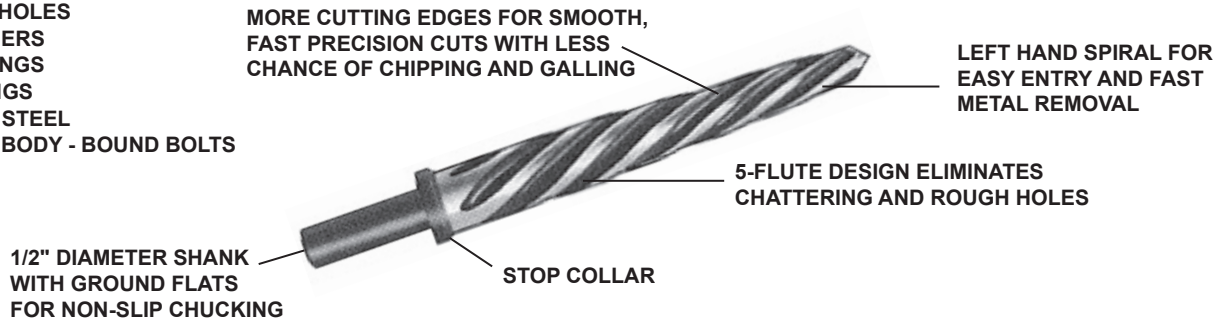
DIAMETER	PART
15/32"	A 77179

# CIC 200™ REAMERS

## "SPIRAL TAPER" FRAME AND STEEL REAMER

For enlarging, finishing and making precision holes in sheet steel, frames, tubing, alloy and stainless steel sections.

- TRUCK FRAMES
- 5TH WHEEL MOUNTS
- MIS-ALIGNED HOLES
- SPRING HANGERS
- TANK MOUNTINGS
- BOX MOUNTINGS
- STRUCTURAL STEEL
- MACK TRUCK BODY - BOUND BOLTS



SIZE DIAMETER	PILOT DRILL SIZE	DRILL PART		PART
1/4	3/16	91012	A	91458
5/16	7/32	91014	A	91459
3/8	1/4	91016	A	91460
1/2	5/16	91020	A	91461
5/8	3/8	91024	A	91462
3/4	7/16	91028	A	91463
7/8	1/2	91032	A	91464
1	5/8	91242	A	91465
.653	3/8	91024	A	91470
.776	1/2	91032	A	91475

**NOTE:** Use Tool Cool II (P/N 74185) for greater cutting power and longer reamer life. Use 1/2" heavy duty drill motor – 4.5 amps minimum. Step reaming is recommended for larger size holes.

## TAPER PIN REAMERS

- SLOW SPIRAL – MORE EFFECTIVE CUTTING AND TAPERING OF HOLE
- 1/4" TAPER PER FOOT
- END HAS 45° CHAMFER FOR EASY HOLE ENTRY
- RECOMMENDED FOR USE WITH HAND TAP WRENCHES

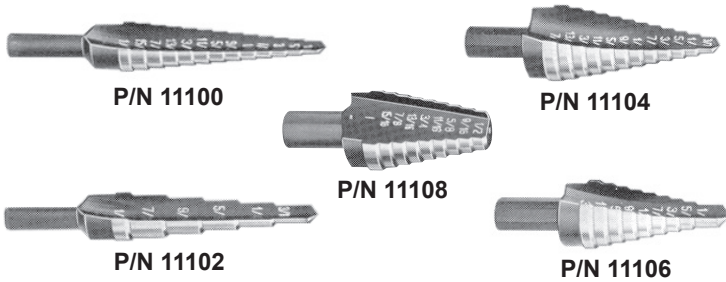


SIZE	SMALL END	LARGE END	FLUTE LENGTH	OVERALL LENGTH		PART
#0	.1287	.1638	1-11/16	2-15/16	A	91486
#1	.1447	.1798	1-11/16	2-15/16	A	91487
#2	.1605	.2008	1-15/16	3-3/16	A	91488
#3	.1813	.2294	2-5/16	3-11/16	A	91489
#4	.2071	.2604	2-9/16	4-1/16	A	91490
#5	.2409	.2994	2-13/16	4-5/16	A	91491
#6	.2773	.3540	3-11/16	5-7/16	A	91492
#7	.3297	.4220	4-7/16	6-5/16	A	91493



# CIC 200™ STEP DRILLS

**UNIFORMLY DISTRIBUTES THE CUTTING FORCE PROVIDING SMOOTHER, ROUNDER HOLES**



P/N 61672

- SINGLE RADIAL CONCAVE FLUTE DESIGN
- NON-SKID TIP – PROVIDES FAST, SURE STARTS ON ANY SURFACE
- AUTOMATIC DEBURRING – FINISHES THE TOP SIDE OF THE HOLE SMOOTHLY
- LASER MARKED – FOR EASY READING OF HOLE SIZES RIGHT ON THE BIT

HOLE SIZE	INCREMENTS	NO. OF HOLES	SHANK SIZE	STEP THICKNESS	PART
1/8" to 1/2"	in 1/32 increments	13	1/4"	1/8"	B 11100
3/16" to 1/2"	in 1/16 increments	6	1/4"	3/8"	B 11102
1/4" to 3/4"	in 1/16 increments	9	3/8"	1/8"	A 11104
3/16" to 7/8"	in 1/16 increments	12	3/8"	1/8"	A 11106
1/2" to 1"	in 1/16 increments	8	1/2"	1/8"	A 11108
13/16" to 1-3/8"	in 1/16 increments	10	1/2"	1/8"	A 11110
CIC 200 STEP DRILL INDEX – 4 drill set drills holes 1/16" to 7/8"					A 61672

# HEX SHANK MULTI STEP DRILLS

**UNIFORMLY DISTRIBUTES THE CUTTING FORCE TO PROVIDE FASTER, CLEANER HOLES**

An entire drill set in one cutting tool, and a must for all professional electricians and sheet metal contractors. The 11116 drill, for example, can drill thirteen diameters from 1/8" to 1/2". These drills feature two flutes (and two cutting edges) for fast drilling.

SPEED RECOMMENDATIONS		
Diameter	Ferrous	Non-Ferrous
1/2"	400-800	900-2000
3/4"	200-600	500-1500
7/8"	175-500	450-1250
1-1/8"	150-400	400-1000

- Titanium Nitride Coated
- Cuts steel plate, stainless steel, sheet metal, tubing
- 1/4" hex shank for use in quick change adapters
- Step sizes laser marked on tools
- Self starting tip eliminates need for pilot hole drilling
- Perfect for use in battery powered drills because they cut quickly with low power consumption
- Great in cordless impact drivers



P/N 61644  
P/N 61646

INCREMENTS	NUMBER OF STEPS	HOLE SIZE RANGE	PART
in 1/32" increments	13	1/8" to 1/2"	A 11116
in 1/16" increments	9	1/4" to 3/4"	A 11117
in 1/16" increments	12	3/16" to 7/8"	A 11118
in 1/8" increments	13	1/4" to 1-1/8"	A 11119
Hex Shank Multi Step Drill Set – 3 drills and 1 quick change adapter (Includes P/Ns 11116, 11117, 11118)			A 61644
Hex Shank Multi Step Drill Set – 3 drills and 1 quick change adapter (Includes P/Ns 11116, 11118, 11119)			A 61646

# CIC 200™ CONE DRILLS

FOR HOLES 1/8" - 1-15/16" (3mm - 50mm)



- DRILLS SHEET METAL, PIPE, MILD STEEL, STAINLESS STEEL, PLEXIGLASS, PLASTIC AND WOOD WITH A WALL THICKNESS OF UP TO 5MM
- HOLE DIAMETER (INCH AND METRIC) IS LASERMARKED IN THE FLUTES
- PATENTED SHANK SYSTEM FEATURES ANTI-ROTATION DESIGN AND ALLOWS EASY TOOL CHANGING WITHIN SECONDS



HOLE SIZE	SHANK	PART	HOLE SIZE	SHANK	PART
1/8" to 9/16" (3-14mm)	1/4	A 11111	1" to 1-5/8" (24-40mm)	3/8	A 11114
1/4" to 13/16" (6-20mm)	5/16	A 11112	1-3/8" to 1-15/16" (36-50mm)	1/2	A 11115
5/8" to 1-3/16" (16-30.5mm)	3/8	A 11113	CONE DRILL INDEX - 3 drill set		A 61627

# BEAVER SAW DRILL

FOR USE IN 1/4" DRILL AND DRILL PRESS

- HIGH SPEED STEEL BIT
- 135° SPLIT POINT
- SELF-CENTERING POINT

### THE ORIGINAL SAW DRILL

- DRILLS
- SAWS
- REAMS
- CUTS BRASS, WOOD, METAL, PLASTIC, ALUMINUM AND STAINLESS

2" CUTTING, SAWING AND REAMING SECTION



DESCRIPTION	PART
BEAVER SAW DRILL	A 61579

# MULTI-PURPOSE ROTARY BITS

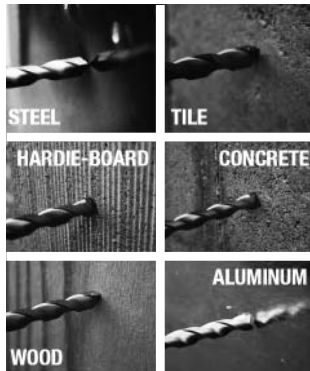
## MULTI MATERIAL DRILL BIT

IDEAL FOR CORDLESS DRILLS, CORDED DRILLS AND DRILL PRESSES

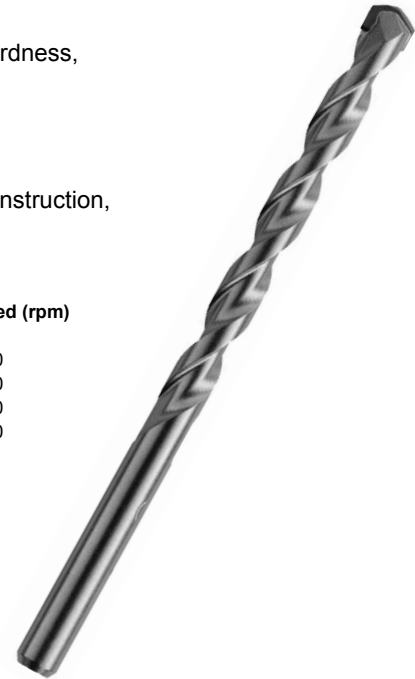
- Perfect balance between tip and flute geometry; allows fast and immediate debris removal, also provides smoother, faster drilling.
- No center punch needed – eliminates “walking”.
- Unique carbide geometry and centering tips for fast start up and drilling.
- Modern heat-treatment and brazing process ensures proper combination of product hardness, toughness and durability resulting in long life.
- BC20 grade of carbide, diamond ground – designed specifically for relevant materials.
- For use in a huge variety of materials and applications.
- For drilling highway rails, structural supports, pipe mounts, electrical mounts, bridge construction, HVAC mounts, machinery mounts, door and window frames, roofing, brackets.

### Drills Materials

- Concrete & Stone
- Masonry
- Ceramic Tile
- Marble
- Brick
- Granite
- Plastics & Fiberglass
- Plexiglass
- Glass
- Cast Metals
- Hardened Steel
- Wood



Material Type	Cutting Speed (rpm)
Tile	750
Metals	1,000
Masonry	1,500
Plastics	1,750
Wood	2,000



DRILL DIAMETER	FLUTE LENGTH	OVERALL LENGTH	PART	SETS
1/8"	1-1/4"	2-3/4"	A 47451	<b>P/N 61577 = 5-Pieces</b> <b>P/N 61578 = 7-Pieces</b> (See Below)
5/32"	2"	3-1/4"	A 47452	
3/16"	2"	3-1/4"	A 47453	
3/16"	3-1/2"	6"	A 47449	
1/4"	2-1/4"	4"	A 47454	
1/4"	3-1/2"	6"	A 47450	
5/16"	3"	4-3/4"	A 47455	
3/8"	3"	4-3/4"	A 47456	
1/2"	3-1/2"	6"	A 47457	

### 5-Piece Set P/N 61577

5 piece set contains these drill diameters:

- 1/8" P/N 47451
- 5/32" P/N 47452
- 3/16" P/N 47453
- 1/4" P/N 47454
- 5/16" P/N 47455



### 7-Piece Set P/N 61578

7 piece set contains these drill diameters:

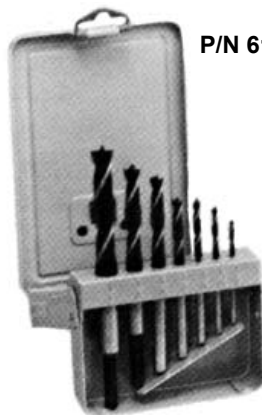
- 1/8" P/N 47451
- 5/32" P/N 47452
- 3/16" x 6" P/N 47449
- 1/4" x 6" P/N 47450
- 5/16" P/N 47455
- 3/8" P/N 47456
- 1/2" x 6" P/N 47457



# CIC 200™ SMOOTH-BORE™ PLASTIC DRILLS

HI-MOLYBDENUM TOOL STEEL – GOLD FINISH

SMOOTH, CLEAN CHIP-FREE HOLES IN ALL PLASTICS, ACRYLICS, FIBERGLASS & LAMINATES



P/N 61673



- **SPECIAL HI-MOLYBDENUM TOOL STEEL WITH GOLD SURFACE TREATING PROVIDES MAXIMUM STRENGTH AND LUBRICITY**
- **PRECISION GROUND 60° POINT ASSURES SMOOTH, GRADUAL PENETRATION WITHOUT CRACKING OR CHIPPING**
- **UNIQUE 0° RAKE ANGLE ELIMINATES GRABBING WHEN BREAKING THROUGH PLASTICS, ACRYLICS AND LAMINATES**

NOTE: ALL SIZES 1/4" AND OVER HAVE 1/4" SHANKS

SIZE DIAMETER	OVERALL LENGTH	FLUTE LENGTH	PART		INDEX
1/8	2-1/2	1-3/8	G	61480	<b>CIC 200™ SMOOTH BORE™ PLASTIC DRILL INDEX</b> 7 Drill Set: 1/8" to 1/2" by 16ths <b>P/N 61673</b>
5/32	2-7/8	1-3/4	F	61482	
3/16	3-3/16	2	F	61484	
1/4	3-9/16	2-5/16	D	61486	
5/16	3-5/16	1-5/8	D	61488	
3/8	3-5/8	1-15/16	C	61490	
7/16	4	2-3/16	C	61492	
1/2	4-1/4	2-7/16	B	61494	

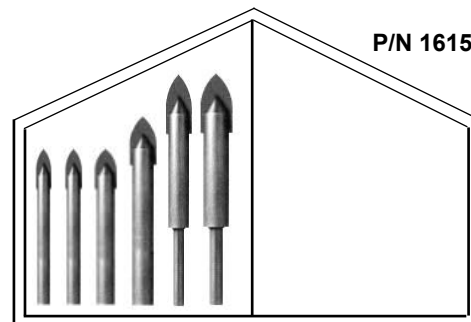
# CARBIDE-TIPPED GLASS AND TILE DRILLS

FOR DRILLING GLASS, TILE, MIRRORS, CERAMIC, BRICKS AND MASONRY



P/N 16151

- **SPECIFICALLY ENGINEERED FOR DRILLING GLASS, TILE, MIRRORS, CERAMIC, BRICKS AND MASONRY**
- **SPEAR POINT REDUCES CUTTING PRESSURE FOR CLEANER HOLES**



SIZE DIAMETER	OVERALL LENGTH	MIN. ACTUAL DIA. SIZE	PART		INDEX
1/8	2-1/4	.135	c	61570	<b>GLASS AND TILE DRILL INDEX</b> 6 Drill Set: 1/8" to 1/2" <b>P/N 61651</b>
3/16	2-9/32	.197	c	61571	
1/4	2-9/32	.260	c	61572	
5/16	3	.322	c	61573	
3/8	3-7/8	.385	c	61574	
1/2	3-7/8	.515	c	61575	

# CIC 200™ COUNTERSINK DRILLS

## COUNTERSINK DRILLS

- 6-FLUTE, 82° ANGLE DESIGN ASSURES SMOOTHER, ROUNDER CUTTING
- SELF-CENTERING FOR EASY USE
- RECOMMENDED FOR BOTH MACHINE AND PORTABLE TOOLS
- CHATTER-FREE PERFORMANCE IN COUNTERSINKING, CHAMFERING AND DEBURRING OPERATIONS



BODY DIA.	SHANK DIA.	OVERALL LENGTH	PART	INDEX
1/4"	1/4"	2"	A 62450	<b>CIC 200 COUNTERSINK DRILL INDEX</b> • Holds 1/4" to 5/8" Countersinks <b>P/N 61607</b>
3/8"	1/4"	2"	A 62452	
1/2"	3/8"	2"	A 62454	
5/8"	3/8"	2-1/4"	A 62456	
3/4"	1/2"	2-3/4"	A 62458	
1"	1/2"	2-3/4"	A 62460	

## COUNTERSINK DRILLS

- SNAPS INTO QUICK RELEASE CHUCK FOR FAST & EASY CHANGE
- ACCEPTS STANDARD JOBBER SIZE DRILLS
- CAN ADJUST DRILL LENGTH FOR DIFFERENT LENGTH SCREWS
- COUNTERSINK PORTION IS MANUFACTURED FROM STRESS-PROOF STEEL FOR EXTENDED LIFE
- 82° CUTTING ANGLE FOR STANDARD FLAT HEAD SCREWS
- TWO SHARP CUTTING FLUTES WON'T PLUG UP WITH WOOD FIBERS
- DRILL NOT INCLUDED



## SELF-CENTERING DRILL BIT AND GUIDE

- ACCURATE DRILLING OF HOLES FOR HINGES, HANDLES AND DRAWER SLIDES
- STANDARD 1/4" HEX SHANK FITS ALL POWER BIT AND QUICK CHANGE CHUCKS FOR FAST, KEYLESS OPERATION
- HIGH SPEED STEEL DRILL BIT



**NOTE: CLEAR JAMS EASILY BY TWISTING OFF GUIDE TOP**



DRILL SIZE	COUNTERSINK DIAMETER	HEX SIZE	SCREW SIZE	PART
3/32	3/8	1/4	#6	A 62466
7/64	3/8	1/4	#8	A 62467
1/8	3/8	1/4	#10	A 62468
9/64	1/2	1/4	#12	A 62469

DRILL BIT SIZE	SCREW SIZE	PART	REPLACEMENT DRILL
5/64	#2 and #3	A 62462	62462D
7/64	#5 and #6	A 62463	91007
9/64	#8, #9 and #10	A 62464	91009
11/64	#12	A 62465	91011

# CIC 200™ SUPER CUT™ SPOTWELD DRILLS

## SUPER COBALT HIGH SPEED STEEL - GOLD FINISH

Rugged, high performance drill effectively cuts autobody panel spot welds, rivet heads and screw heads. Also ideal for drilling precision, burr-free holes in sheet metal.

- HIGH HARDNESS COBALT STEEL - PERMITS 30% GREATER DRILLING SPEEDS THAN HIGH SPEED STEEL DRILLS
- ABRASION RESISTANT ALLOY - RESULTS IN EXTREMELY LONG LASTING CUTTING EDGES
- UNIQUE SPUR POINT - REMOVES SPOTWELDS, SCREW HEADS AND RIVET HEADS WITHOUT DAMAGING PANELS BEHIND



DIAMETER	SPOTWELD SIZE	OVERALL LENGTH	DOUBLE/SINGLE END	PART
6.5 MM	1/4	1.75"	Single	C 61540
6.5 MM	1/4	3.62"	Double	A 61545
8.0 MM	5/16	1.75"	Single	B 61550
8.0 MM	5/16	3.62"	Double	A 61555
10.0 MM	3/8	1.75"	Single	A 61560
10.0 MM	3/8	3.62"	Double	A 61565

# "BIT KEEPER" AND "BIT BUDDY" SETS

NEATLY STORED IN THE POCKETS OF A BUCKET BOSS® POUCH

Lighter and more versatile than a full tool belt, this pouch is designed to hold the necessities of the job!

- 12 INTERIOR ELASTIC POCKETS STORE BOTH DRILL & SCREWDRIVER BITS
- TRI-FOLD COMPARTMENT OPENS FLAT
- VELCRO® FLAP SECURELY CLOSES AT BOTTOM
- 2 EXTRA LONG POCKETS FOR SPADE BITS OR LARGER TOOLS
- 2" SPRING STEEL CLIPS HOLDS SECURELY TO BELT

"BIT KEEPER" POUCH ONLY – Part #7999



**APPLICATIONS:**  
Use for hundreds of small maintenance jobs such as door hinges/ knobs/jamb, light switches, wall anchors, etc.

## "BIT KEEPER" SET

CONTENTS	PART
<b>"BIT KEEPER" SET</b>	A 61686
Quad Point Drills: 3/32, 7/64, 1/8, 9/64, 3/16, 1/4 and 5/16 Razor-Back Wood Spade Bits: 3/4 and 1" Snappy Countersinks: 3/32, 7/64, 1/8 and 9/64 1-15/16 Phillips Power Bits: 6-8 and 5-10 Slotted Power Bits w/Finder: 5F-6R and 6F-8R 1" Phillips Insert Bits: 6-8, 8-10 and 12-14 Slotted Insert Bits: 3F-4R, 6F-8R and 10F-12R Mag Nutsetter: 1/4 x 1-3/4 1/8 Hex Socket Key – Short	

## ELECTRICIAN'S "BIT KEEPER" SET

CONTENTS	PART
<b>ELECTRICIAN'S "BIT KEEPER" SET</b>	A 61683
AC Sensor Magnetic Bit Holder: 1/4 x 6" Combo Drill & Taps: 8/32, 10-24, 10-32, 1/4-20 Black Beauty Drills: 3/16 x 3-1/2 x 3/16, 1/4 x 4-1/8 x 1/4 and 5/16 x 4-3/4 x 5/16 Mag Nutsetter: 1/4 x 1-3/4, 5/16 x 1-3/4 and 3/8 x 1-3/4 Phillips Power Bits: 1-15/16 5-10 and 6" 8-10 Slotted Power Bit w/Finder: 10F-12R Slotted Insert Bits: 3F-4R, 6F-8R and 10F-12 1" Phillips Insert Bits – 6-8, 8-10 and 12-14	

## QUICK CHANGE DRILL BIT "BIT KEEPER" SET

CONTENTS	PART
<b>QUICK CHANGE DRILL BIT "BIT KEEPER" SET</b>	A 61682
#8 Drill and Driver 4-5/16" Screw Guide Hex Shank Drill Bits: 3/32, 7/64, 1/8, 9/64, 5/32, 11/64 and 3/16 Power Groove Countersinks: #6, #10, #12 1-15/16 Phillips Power Bits: 6-8 and 5-10 Quick Change Chuck Adapter 1" Slotted Insert Bits: 3F-4R and 6F-8R 1" Phillips Insert Bits: 6-8, 8-10 and 12-14	

## SELF-CENTERING DRILL "BIT KEEPER" SET

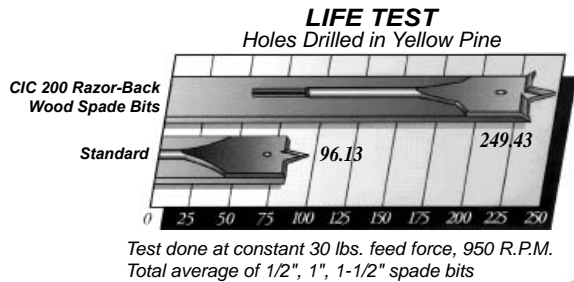
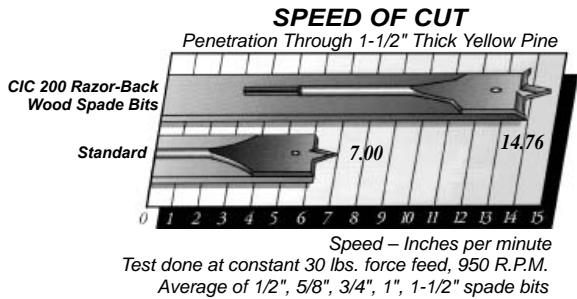
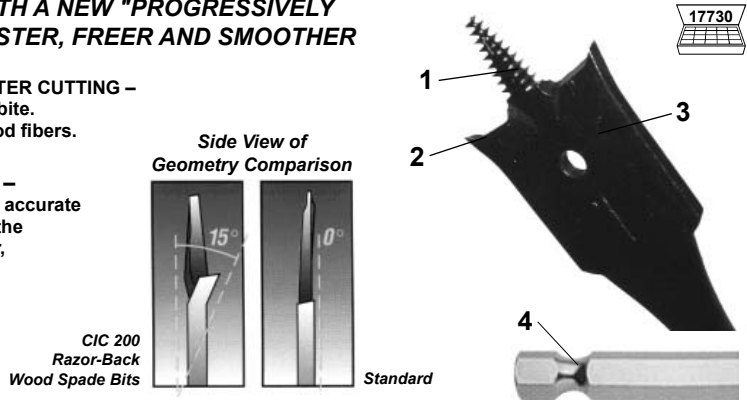
CONTENTS	PART
<b>SELF-CENTERING DRILL "BIT KEEPER" SET</b>	A 61670
1" Phillips Insert Bits: 6-8, 8-10 and 12-14 1-15/16" Phillips Power Bits: 2-4 and 5-10 Carpenter's Pencil (GSA) Razor-Back Wood Spade Bit: 7/8" Magnetic Bit Holder Adapter: 1/4 x 3" Quick Change Chuck Adapter Self Centering Drill Bit and Guide: 5/64, 7/64, 9/64 and 11/64 Slotted Power Bit w/Finder: 5F-6R and 6F-8R Slotted Insert Bits: 3F-4R, 6F-8R and 10F-12R	

# CIC 200™ RAZOR-BACK WOOD SPADE BITS

SHARPNESS AND DURABILITY FOR ALL WOOD BORING APPLICATIONS

OUTPERFORMS ALL STANDARD WOOD SPADE BITS WITH A NEW "PROGRESSIVELY ANGLED" GEOMETRY THAT CUTS THROUGH WOOD FASTER, FREER AND SMOOTHER

- CHISEL EDGE DESIGN FOR CLEANER, SMOOTHER HOLES AND FASTER CUTTING –**  
15° cutting edge attacks wood at a sharper angle, so it takes a bigger bite. This slicing action digs into the wood instead of scraping away at wood fibers. It even blasts through wood knots that stop standard bits dead.
- ANGLED SPURS MAKE BIGGER CHIPS WITH LESS BINDING –**  
The spurs, cocked slightly forward of the cutting edge, scribe a clean, accurate hole and guide the bit through the wood. This shearing action allows the chisel edge to knock out bigger chips and run through the work faster, with less effort.
- EXCLUSIVE TEMPERING PROCESS –**  
Toughens bits to last up to 6 times longer than standard wood bits.
- HEX SHANK –** Fits all drills and 1/4" Quick-Change holders and also prevents spinning in drill chuck or in bit extension.



- QUICK CHANGE EXTENSION ALLOWS FOR FAST AND EASY BIT CHANGES – SAVES TIME & MONEY
- SLIM DIAMETER QUICK CHANGE CHUCK PASSES THROUGH 11/16 AND LARGER HOLES



DIAMETER	PART	DIAMETER	PART	DIAMETER	PART	DIAMETER	PART	
1/4"	F 61580	9/16"	F 61585	7/8"	F 61590	1-3/8"	D 61595	
5/16"	F 61581	5/8"	F 61586	15/16"	F 61591	1-1/2"	D 61596	
3/8"	F 61582	11/16"	F 61587	1"	F 61592	12" Quick Change Extension*	C 61576	
7/16"	F 61583	3/4"	F 61588	1-1/8"	D 61593			
1/2"	F 61584	13/16"	F 61589	1-1/4"	D 61594	*5/8" smallest hole extension fits through		
RAZOR-BACK WOOD SPADE BIT POUCH ASSORTMENT WITH 7 BITS – 1/4", 3/8", 1/2", 5/8", 3/4", 7/8" and 1"							A	61661

## FORSTNER BITS

PRECISION-SHARPENED HIGH SPEED STEEL BIT WITH CENTER GUIDE POINT

- PROVIDES SMOOTHER CUTS
- FULLY HARDENED MACHINED BODIES FOR INCREASED STRENGTH, SAFETY AND LIFE
- USED TO DRILL CLEAN ACCURATE, FLAT-BOTTOMED HOLES IN WOOD
- FOR COUNTERBOARD SCREWS, POCKET HOLES, PILOT HOLES AND DECORATIVE EDGES
- USE IN PORTABLE DRILLS AS WELL AS DRILL PRESSES



ALL SIZES  
3/8" SHANK

DIAMETER	PART	DIAMETER	PART	DIAMETER	PART	DIAMETER	PART	
1/4"	A 63500	3/4"	A 63508	1-1/4"	A 63516	1-3/4"	A 63524	
3/8"	A 63502	7/8"	A 63510	1-3/8"	A 63518	1-7/8"	A 63526	
1/2"	A 63504	1"	A 63512	1-1/2"	A 63520	2"	A 63528	
5/8"	A 63506	1-1/8"	A 63514	1-5/8"	A 63522	2-1/8"	A 63530	
7-PIECE FORSTNER BIT SET – 1/4" to 1" x 1/8"							A	61649

# CIC 200™ MECHANIC LENGTH HEX SHANK DRILLS

## HIGH PERFORMANCE INDUSTRIAL DRILL BITS AND ACCESSORIES

### CIC 200™ MECHANIC LENGTH HEX SHANK DRILLS

#### Features

- Quick Release 1/4" Hex Shank
- 135° split point for fast penetration and accurate starting without center punch.
- Special Hi-Molybdenum tool steel.
- Recommended use in work hardening grades of stainless steel and other hard metal drill applications.

#### Benefits

- Especially designed for hand held drills and impacters.
- Quick release eases changing of cutting tools.
- Body and clearance are treated for maximum lubricity.



DIAMETER (INCHES)	OVERALL LENGTH	FLUTE LENGTH	PART	
1/16"	2-5/8"	7/8"	C	47429
3/32"	3-1/4"	1-1/4"	C	47430
1/8"	3-1/2"	1-7/16"	C	47431
5/32"	3-1/2"	1-11/16"	C	47432
3/16"	3-3/4"	1-7/8"	C	47433
7/32"	4"	2"	C	47434
1/4"	4-1/4"	2"	C	47435
9/32"	3-13/16"	2-1/4"	C	47436
5/16"	4"	2-1/2"	A	47437
11/32"	4-7/32"	2-5/8"	A	47438
3/8"	4-1/4"	2-11/16"	A	47439
13/32"	4-1/2"	2-13/16"	A	47440
7/16"	4-1/2"	2-15/16"	A	47441
15/32"	4-7/8"	3-1/8"	A	47442
1/2"	5"	3-3/8"	A	47443

23

## CIC 200™ MECHANIC LENGTH HEX SHANK DRILL INDEXES AND ADAPTER



### CIC 200™ 12 PIECE INDEX "HARD PLASTIC CASE" P/N 47444

12 piece set contains these drill diameters:

- 1/16"
- 3/32"
- 1/8"
- 5/32"
- 3/16"
- 7/32"
- 1/4"
- 5/16"
- 3/8"
- 7/16"
- 1/2"
- Quick release adapter

All drills are packed in a rugged plastic case.

### CIC 200™ 7 PIECE INDEX "SOFT POUCH" P/N 47445

7 piece set contains these drill diameters:

- 1/16"
- 3/32"
- 1/8"
- 5/32"
- 3/16"
- 7/32"
- 1/4"



### CIC 200™ EMPTY SOFT POUCH P/N 47446



### QUICK CHANGE ADAPTER P/N 51166

- Dual 1/4" and 3/8" drill and drive chuck
- Industrial quality with minimal runout (wobble)
- Fits all accessory types, all brands
- Fits old and new hex shanks with or without power groove



# HEX SHANK DRILL BITS

## HIGH PERFORMANCE INDUSTRIAL DRILL BITS AND ACCESSORIES

### HEX SHANK DRILL BITS

- HEX SHANK DRILL BITS MAKE DRILL CHANGES FAST AND EASY
- SAVES TIME AND MONEY
- HEX SHANK INCREASES TORQUE AND STOPS BIT FROM SLIPPING IN CHUCK
- INDUSTRIAL-GRADE M7 HIGH SPEED STEEL – FOR DURABILITY
- PRECISION GROUND FLUTES – FOR FASTER, MORE EFFICIENT CHIP REMOVAL
- 135° QUAD POINT – CUTS THE TOUGHEST MATERIALS



1. Pull back on body of the quick change chuck adapter and insert Hex Shank Drill Bit.

2. Drill is locked in place and ready.

DIA.	FLUTE LENGTH	OVERALL LENGTH	HEX SIZE	PART	DIA.	FLUTE LENGTH	OVERALL LENGTH	HEX SIZE	PART
1/16	7/8"	2-1/2"	1/4"	C 47400	5/32	2"	3-3/4"	1/4"	C 47406
5/64	1"	2-5/8"	1/4"	C 47401	11/64	2-1/8"	3-7/8"	1/4"	C 47407
3/32	1-1/4"	2-3/4"	1/4"	C 47402	3/16	2-5/16"	4"	1/4"	C 47408
7/64	1-1/2"	3-1/4"	1/4"	C 47403	7/32	2-1/2"	4-3/8"	1/4"	C 47410
1/8	1-5/8"	3-3/8"	1/4"	C 47404	1/4	2-3/4"	4-5/8"	1/4"	C 47412
9/64	1-3/4"	3-1/2"	1/4"	C 47405	1/4" Quick Change Chuck Adapter			A	83066

### DRILL AND DRIVER

- BUILT-IN HEX KEY ALLOWS EASY CHANGE OF COUNTERSINKS AND DRILL BITS ON THE SPOT
- DRILL AND DRIVER COMES IN 4 STANDARD SCREW SIZES – #6, #8, #10 AND #12 TO COVER THE MOST COMMON SCREW INSTALLATIONS
- ONE SIDE HOUSES THE DRILL PLUS COUNTERSINK/COUNTERBORE COMBINATION – ALLOWS FOR DRILLING AND COUNTERSINKING OR COUNTERBORING IN ONE SMOOTH STEP
- THE OPPOSITE SIDE COMES STANDARD WITH THE APPROPRIATE SIZE PHILLIPS INSERT BIT – JUST UNLOCK THE DRILL AND DRIVER BY SLIDING THE BRASS SLEEVE FORWARD AND SLIP IT AROUND TO EXPOSE THE PHILLIPS BIT. LOCK BACK IN PLACE BY SLIDING THE BRASS SLEEVE BACK IN PLACE
- INSERT "DRILL AND DRIVER" INTO QUICK CHANGE ADAPTER OR DIRECTLY INTO DRILL MOTOR



1. Insert "Drill & Driver" into Quick Change adapter or directly into drill motor. Drill and Countersink/Counterbore base material.



2. Push brass collar forward to release "Drill & Driver". Flip around and pull back the brass collar to lock in place with phillips bit now exposed.



3. Drive screw into hole.



COUNTERSINK SIZE	COUNTERSINK DIAMETER	DRILL BIT/PILOT HOLE SIZE	OVERALL LENGTH	PART
#6	5/16"	3/32"	6"	A 62470
#8	5/16"	7/64"	6"	A 62471
#10	3/8"	1/8"	6"	A 62472
#12	3/8"	1/8"	6"	A 62473

### POWER GROOVE COUNTERSINK

- DRILL, COUNTERSINK/COUNTERBORE ALL IN ONE
- HEAT TREATED FOR LONGER LIFE
- DRILL BIT FEATURES PRECISION GROUND FLUTES THAT CUT FAST AND STAY SHARP LONGER
- OTHER SIZE HOLDS APPROPRIATE SIZE PHILLIPS INSERT BIT



SIZE	DIA.	DRILL BIT/PILOT HOLE SIZE	PART	DRILL PART	SIZE	DIA.	DRILL BIT/PILOT HOLE SIZE	PART	DRILL PART
#6	5/16"	3/32"	A 62478	A 62478D	#10	3/8"	1/8"	A 62480	A 62480D
#8	5/16"	7/64"	A 62479	A 62479D	#12	3/8"	1/8"	A 62481	A 62480D

# CIC 150™ 118° SPLIT POINT DRILLS

## JOBBER LENGTH - FRACTIONAL SIZES

• BLACK-OXIDE SURFACE TREATMENT RETAINS LUBRICANTS FOR IMPROVED CHIP FLOW, REDUCED CHIP WELDING AND INCREASED ABRASION RESISTANCE

• FOR USE IN FERROUS MATERIALS SUCH AS STEEL AND IRON



DIA.	DEC. EQUIV.	JOBBER		DIA.	DEC. EQUIV.	JOBBER	
		LENGTH	PART			LENGTH	PART
1/16	.0625	1-7/8	J 91104	19/64	.2969	4-3/8	F 91119
5/64	.0781	2	J 91105	5/16	.3125	4-1/2	F 91120
3/32	.0938	2-1/4	J 91106	21/64	.3281	4-5/8	F 91121
7/64	.1094	2-5/8	J 91107	11/32	.3438	4-3/4	F 91122
1/8	.1250	2-3/4	J 91108	23/64	.3594	4-7/8	F 91123
9/64	.1406	2-7/8	J 91109	3/8	.3750	5	F 91124
5/32	.1562	3-1/8	J 91110	25/64	.3906	5-1/8	F 91125
11/64	.1719	3-1/4	J 91111	13/32	.4062	5-1/4	F 91126
3/16	.1875	3-1/2	J 91112	27/64	.4219	5-3/8	F 91127
13/64	.2031	3-5/8	J 91113	7/16	.4375	5-1/2	F 91128
7/32	.2188	3-3/4	J 91114	29/64	.4531	5-5/8	F 91129
15/64	.2344	3-7/8	J 91115	15/32	.4688	5-3/4	F 91130
1/4	.2500	4	J 91116	31/64	.4844	5-7/8	F 91131
17/64	.2656	4-1/8	F 91117	1/2	.5000	6	F 91132
9/32	.2812	4-1/4	F 91118	-	-	-	-

23

### 29 PIECE DRILL INDEX



DESCRIPTION	PART
29-PIECE DRILL INDEX 1/16 to 1/2 by 64ths	A 61679

### 50 PIECE FRACTIONAL ORGANIZER



CONTENTS	PART
1 each: 21/64, 11/32, 25/64, 27/64, 7/16 and 1/2	A 61677
2 each: 9/64, 5/32, 11/64, 13/64, 7/32, 15/64, 17/64, 9/32, 5/16 and 3/8	
3 each: 1/16, 5/64, 3/32 and 7/64	
4 each: 1/8, 3/16 and 1/4	

# HAMMER CHISELS

## HIGH PERFORMANCE MASONRY REMOVAL IN ELECTRIC POWER TOOLS

### Features and Benefits

- Forged from high quality steel and ground using CNC machinery
- Hardened and tempered under strictly controlled manufacturing process for optimal masonry removal and long tool life
- Oil quenched and shot blasted for additional stress relief
- Anti-rust lacquered in natural finish
- Laser marked shanks ensure positive identification

### Applications

- Demolition
- Road construction
- Bridge construction
- Pavement work
- Utility installation
- Variety of maintenance functions








### HEADS









- **Bull (moil) Point:** General concrete demolition.
- **Flat Chisels:** General concrete demolition. Available in narrow (1") and wide (2", 3") versions for cutting pavement overlay.
- **Clay Spade:** Clay and other rock-free soil cutting.
- **Asphalt Cutter:** Asphalt, hardpan and compacted soil cutting.
- **Bushing Tool:** Roughing up or concrete surface removal.

### SHANKS

- **SDS-Max Chisels:** For large rotary hammers with SDS-Max drive.
- **Spline Shank Chisels:** For large rotary hammers with spline drive.
- **SDS-Plus Chisels:** For SDS-Plus Hammer Drills.

## SDS-MAX CHISELS

Description	Size	P/N	Weight (lbs./ea.)	
				
<b><i>Bull Point</i></b>	<b><i>11"</i></b>	<b><i>77209</i></b>	<b><i>1.07 lb.</i></b>	<b><i>A</i></b>
Bull Point	12"	77210	1.16 lb.	A
Bull Point	16"	77211	1.57 lb.	A
<b><i>Bull Point</i></b>	<b><i>18"</i></b>	<b><i>77212</i></b>	<b><i>1.82 lb.</i></b>	<b><i>A</i></b>
				
<b><i>Flat</i></b>	<b><i>1" x 11"</i></b>	<b><i>77213</i></b>	<b><i>1.12 lb.</i></b>	<b><i>A</i></b>
Flat	1" x 12"	77214	1.16 lb.	A
Flat	1" x 16"	77215	1.57 lb.	A
<b><i>Flat</i></b>	<b><i>1" x 18"</i></b>	<b><i>77216</i></b>	<b><i>1.82 lb.</i></b>	<b><i>A</i></b>
<b><i>Flat</i></b>	<b><i>1" x 24"</i></b>	<b><i>77217</i></b>	<b><i>1.82 lb.</i></b>	<b><i>A</i></b>
				
Scaler	1-5/8" x 12"	77218	1.26 lb.	A
Scaler	2" x 12"	77219	1.34 lb.	A
Scaler	3" x 12"	77220	1.58 lb.	A
				
<b><i>Mortar</i></b>	<b><i>1-1/8" x 12"</i></b>	<b><i>77221</i></b>	<b><i>1.16 lb.</i></b>	<b><i>A</i></b>
				
<b><i>Slotter</i></b>	<b><i>1-1/4" x 12"</i></b>	<b><i>77222</i></b>	<b><i>1.18 lb.</i></b>	<b><i>A</i></b>

Description	Size	P/N	Weight (lbs./ea.)	
				
<b><i>Scraper</i></b>	<b><i>2" x 12"</i></b>	<b><i>77223</i></b>	<b><i>1.34 lb.</i></b>	<b><i>A</i></b>
				
<b><i>Gouge</i></b>	<b><i>1" x 12"</i></b>	<b><i>77224</i></b>	<b><i>1.29 lb.</i></b>	<b><i>A</i></b>
				
<b><i>Ground Rod Driver</i></b>	<b><i>3/4" x 10"</i></b>	<b><i>77225</i></b>	<b><i>1.17 lb.</i></b>	<b><i>A</i></b>
				
Bushing Tool	1-3/4" x 10"	77226	2.63 lb.	A
				
<b><i>Bushing Shank</i></b>	<b><i>16"</i></b>	<b><i>77227</i></b>	<b><i>1.75 lb.</i></b>	<b><i>A</i></b>
				
<b><i>Bushing Head</i></b>	<b><i>16 Teeth</i></b>	<b><i>77228</i></b>	<b><i>0.59 lb.</i></b>	<b><i>A</i></b>
				
<b><i>Asphalt Cutter</i></b>	<b><i>5" x 20"</i></b>	<b><i>77229</i></b>	<b><i>0.59 lb.</i></b>	<b><i>A</i></b>
				
<b><i>Clay Spade</i></b>	<b><i>4-1/2" x 20"</i></b>	<b><i>77230</i></b>	<b><i>0.59 lb.</i></b>	<b><i>A</i></b>

Note: ***Bold italic text*** = Non-stock item. Please allow for up to 2 weeks for delivery.

# HAMMER CHISELS

## HIGH PERFORMANCE MASONRY REMOVAL IN ELECTRIC POWER TOOLS

SPLINE SHANK CHISELS					SDS-PLUS CHISELS				
Description	Size	P/N	Weight (lbs./ea.)		Description	Size	P/N	Weight (lbs./ea.)	
Bull Point	12"	77231	1.32 lb.	A	Bull Point	10"	77206	0.52 lb.	A
Bull Point	16"	77232	1.90 lb.	A					
Bull Point	18"	77233	2.16 lb.	A					
Flat	1" x 12"	77234	1.45 lb.		Flat	3/4" x 10"	77207	0.57 lb.	A
Flat	1" x 16"	77235	1.98 lb.						
Flat	1" x 18"	77236	2.23 lb.		Scaler	1-5/8" x 10"	77208	0.70 lb.	A
<b>Slotter</b>	<b>1-1/4" x 12"</b>	<b>77237</b>	<b>1.54 lb.</b>						
<b>Clay Spade</b>	<b>4-1/2" x 20"</b>	<b>77238</b>	<b>4.91 lb.</b>						
<b>Scaler</b>	<b>1-5/8" x 12"</b>	<b>77239</b>	<b>1.45 lb.</b>						
<b>Scaler</b>	<b>2" x 12"</b>	<b>77240</b>	<b>1.54 lb.</b>						
<b>Scaler</b>	<b>3" x 12"</b>	<b>77241</b>	<b>1.85 lb.</b>						
<b>Scraper</b>	<b>2" x 12"</b>	<b>77242</b>	<b>1.54 lb.</b>						
<b>Ground Rod Driver</b>	<b>3/4" x 10"</b>	<b>77243</b>	<b>2.48 lb.</b>						
<b>Bushing Tool</b>	<b>1-3/4" x 10"</b>	<b>77244</b>	<b>2.69 lb.</b>						
Bushing Shank	16"	77245	1.98 lb.						
<b>Mortar</b>	<b>1-1/8" x 12"</b>	<b>77246</b>	<b>1.54 lb.</b>						

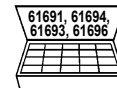
FLOOR SCRAPERS				
Description	Size	P/N	Weight (lbs./ea.)	
Scraper with Blade & Handle* (shank not included)	2.0mm	77200		
<b>Complete Scrapers</b>				
With 3/4" Hex Shank	16"	77203		
With Spline Shank	16"	77204		
With SDS-Max Shank	16"	77205		
Scraper - Replacement Blade	2.0mm	77201	0.86 lb.	A
Scraper - Repair Kit	2.0mm	77202	0.44 lb.	A

Note: ***Bold italic text*** = Non-stock item. Please allow for up to 2 weeks for delivery.



# CIC 200™ METRIC QUAD POINT DRILLS

## JOBBER LENGTH - METRIC SIZES



DIA.		PART	DIA.		PART	DIA.		PART
M1.0	J	68510	M5.5	F	68555	M10.0	C	68600
M1.5	J	68515	M6.0	D	68560	M10.2	C	68602
M2.0	J	68520	M6.2	D	68562	M10.3	C	68603
M2.05	J	68521	M6.5	D	68565	M10.5	C	68605
M2.1	J	68522	M6.7	D	68567	M10.8	C	68608
M2.5	J	68525	M6.8	D	68568	M11.0	C	68611
M2.9	J	68529	M7.0	D	68570	M11.2	C	68612
M3.0	J	68530	M7.2	D	68572	M11.3	C	68613
M3.1	J	68531	M7.5	D	68575	M11.5	C	68615
M3.3	J	68533	M8.0	C	68580	M11.8	C	68618
M3.5	F	68535	M8.2	C	68582	M12.0	C	68620
M4.0	F	68540	M8.3	C	68583	M12.2	C	68622
M4.1	F	68541	M8.5	C	68585	M12.4	C	68624
M4.2	F	68542	M8.7	C	68587	M12.5	C	68625
M4.5	F	68545	M9.0	C	68590	M13.0	C	68630
M5.0	F	68550	M9.3	C	68593	-		-
M5.2	F	68552	M9.5	C	68595	-		-

## METRIC DRILL ORGANIZER

One convenient location for all your CIC 200™ Quad Point Metric Drills.  
The right size available every time. Provides instant control of your inventory.

25 PIECE



- TOTAL OF 25 MOST POPULAR DRILLS.
- STORES HUNDREDS OF DRILLS IN ONE CONVENIENT LOCATION, ELIMINATING MISPLACED DRILLS.

CONTENTS	PART
1 each: M1.0, M1.5, M2.0, M2.5, M3.0, M3.5, M4.0, M4.5, M5.0, M5.5, M6.0, M6.5, M7.0, M7.5, M8.0, M8.5, M9.0, M9.5, M10.0, M10.5, M11.0, M11.5, M12.0, M12.5 and M13.0	A 61696

# CIC 200™ METRIC QUAD POINT DRILLS (Cont'd.)

## METRIC DRILL INDEXES

### 19 PIECE DRILL INDEX



• TOTAL OF 19 MOST POPULAR DRILLS.

#### CONTENTS

1 each: M1.0, M1.5, M2.0, M2.5, M3.0, M3.5, M4.0, M4.5, M5.0, M5.5, M6.0, M6.5, M7.0, M7.5, M8.0, M8.5, M9.0, M9.5 and M10.0

#### PART

A 61691

### 25 PIECE DRILL INDEX



• TOTAL OF 25 MOST POPULAR DRILLS.

#### CONTENTS

1 each: M1.0, M1.5, M2.0, M2.5, M3.0, M3.5, M4.0, M4.5, M5.0, M5.5, M6.0, M6.5, M7.0, M7.5, M8.0, M8.5, M9.0, M9.5, M10.0, M10.5, M11.0, M11.5, M12.0, M12.5 and M13.0

#### PART

A 61693

# ***MOST COMMON CAUSES OF DRILL FAILURE***

*The CIC 200™ Quad Point is the finest drill available.  
It will out-perform almost any drill in use today.*

**To get maximum performance from the CIC 200™ Quad Point Drill, practice the following recommendations:**

1. Tighten all 3 holes on holding chuck.
2. Operate at the proper speed 500-700 RPMs. Drill will work at speeds up to 1800 RPMs, but is not recommended.
3. Cutting fluids such as Red Lion™ Tool Cool II should always be used. Stay away from tarlow based cutting oils.
4. Proper feed is important, never over-power by forcing high cutting pressures or not enough pressure. When you see a spiral chip, you know you have proper feed and are allowing the drill to work.

**By following the above recommendations, you will obtain excellent results and long life from the CIC 200™ Quad Point Drill.**

**Follow proper operating procedures or a drill may fail.**

**Below are signs to look for and the probable cause of failure:**

Signs	Cause	Recommendations
1. Point black or burnt.	Too high a speed Material too hard Feed too fast No lubrication	Lower RPM Use Tool Cool II Check type of material Less pressure
2. Chipped or broken. Slippaged marks on shank.	Chuck not properly tightened.	Tighten all 3 holes on chuck Replace worn chuck
3. Edges of Drill chipped.	Used for step drilling	Use proper size drill for finished hole size desired

**Remember, the CIC 200™ Quad Point Drill is a professional cutting tool, and must always be used that way.**

- NEVER:**
1. Step drill or enlarge a hole.
  2. Use it as a reamer.
  3. Use it as a drift punch.
  4. Throw them loosely in tool box. Always place them back in organizer or index.

**Proper use and care of the CIC 200™ Quad Point Drill will give you far more "holes per drill" than you have experienced in the past with an ordinary drill.**



# DRILL FEEDS AND SPEEDS

Different drilling conditions make it impossible to develop any rigid rules for feeds and speeds. The following tables contain guidelines which can be utilized when drilling standard materials. Also, the following "rules of thumb" can be used to determine proper feeds and speeds for drilling ferrous materials.

**NOTE:** varying conditions can easily require adjustments:

1. Feeds equal .001" per revolution for every 1/16" of drill diameter, plus or minus .001" on the total.
2. Speed equals 80 surface feet per minute in 100 Brinell hardness material, and the speed should be reduced 10 surface feet per minute for each additional 50 points Brinell hardness.
3. Feed and speed rates should be reduced up to 45 to 50% when drilling holes deeper than 4 drill diameters.

RECOMMENDED FEEDS FOR VARIOUS DIAMETER DRILLS	
DIAMETER OF DRILL (INCHES)	FEED INCHES PER REVOLUTION
Under 1/8	.001 to .003
1/8 to 1/4	.002 to .006
1/4 to 1/2	.004 to .010
1/2 to 1	.007 to .015
1 inch and over	.015 to .025

**NOTE:** It is best to start with a moderate speed and feed, increasing either one, or both, after observing the action and condition of the drill.

RECOMMENDED SPEEDS FOR STANDARD MATERIALS WITH H.S.S. DRILLS	
MATERIAL	RECOMMENDED SPEED (SFM)
Aluminum and its Alloys	200-300
Brass and Bronze (ordinary)	150-300
Bronze (High Tensile)	70-150
Die Castings (Zinc Base)	300-400
Iron — Cast (soft)	75-125
Cast (medium hard)	50-100
Hard Chilled	10-20
Malleable	80-90
Magnesium and its Alloys	250-400
Monel Metal or High-Nickel Steel	30-50
Plastics or Similar Materials	100-300
Steel —	
Mild .2 carbon to .3 carbon	80-110
Steel .4 carbon to .5 carbon	70-80
Tool 1.2 carbon	50-60
Forgings	40-50
Alloy — 300 to 400 Brinell	20-30
High Tensile (Heat Treated)	
35 to 40 Rockwell "C"	30-40
40 to 45 Rockwell "C"	25-35
45 to 50 Rockwell "C"	15-25
50 to 55 Rockwell "C"	7-15
Stainless Steel	
Free Machining Grades	30-80
Work Hardening Grades	15-50
Titanium Alloy Sheet	50-60
Titanium Alloys	
Ti-75A (Commercially Pure)	50-60
RS-120	40-60
Ti-150A	40-50
Ti-140A	30-40
RC-130B	30-40
MST 6A1-4 Va.	20-35
MST 3A1-5 Cr.	10-20

CUTTING SPEED — FEET PER MINUTE					
DRILL SIZE	20	40	60	80	100
	REVOLUTIONS PER MINUTE (x 1000)				
1/64	4.89	9.78	14.78	19.72	24.45
1/16	1.22	2.44	3.70	4.93	6.11
1/8	.61	1.22	1.83	2.44	3.06
3/16	.41	.82	1.23	1.63	2.04
1/4	.30	.61	.92	1.22	1.53
5/16	.24	.49	.74	.98	1.22
3/8	.20	.41	.61	.81	1.02
7/16	.18	.35	.52	.70	.87
1/2	.15	.31	.46	.61	.76
9/16	.14	.27	.41	.54	.68
5/8	.12	.24	.37	.49	.61
11/16	.11	.22	.34	.45	.56
3/4	.10	.20	.31	.41	.51
13/16	.09	.19	.28	.38	.47
7/8	.09	.18	.26	.35	.44
15/16	.08	.16	.25	.33	.41
1	.08	.15	.23	.30	.38

# TWIST DRILL TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
<b>BROKEN DRILL</b>	1. Flutes clogged with chips, drill binds in hole (common in deep holes).	<ul style="list-style-type: none"> <li>- Use drill with wider flutes and/or faster helix angle.</li> <li>- Consider polished flutes.</li> <li>- Withdraw drill at regular intervals to clear chips.</li> <li>- If chips are not broken up, consider heavier feeds or a chip breaker design.</li> </ul>
	2. Drill binding due to worn outer corners.	<ul style="list-style-type: none"> <li>- Repoint or replace drill.</li> <li>- Check for excessive speed, inadequate or incorrect coolant, excessive run out as drill enters work.</li> </ul>
	3. Work insecurely held	<ul style="list-style-type: none"> <li>- Use adequate holding or clamping devices.</li> </ul>
	4. Excessive feed.	<ul style="list-style-type: none"> <li>- Reduce feed.</li> </ul>
	5. Improper point.	<ul style="list-style-type: none"> <li>- Check for correct lip clearance.</li> <li>- Use proper type of drill and point for the application.</li> </ul>
	6. Drill is dull.	<ul style="list-style-type: none"> <li>- Replace before dulling occurs. Check feeds, speed, and No. 5 for premature dulling.</li> </ul>
<b>BROKEN TANG</b>	1. Shank or socket damaged.	<ul style="list-style-type: none"> <li>- Repair or replace.</li> </ul>
	2. Drill not properly seated in socket.	<ul style="list-style-type: none"> <li>- Check for positive, secure fit.</li> </ul>
<b>CHIP NOT BREAKING UP</b>	1. Insufficient feed.	<ul style="list-style-type: none"> <li>- Increase feed.</li> </ul>
	2. Improper style of drill and/or point.	<ul style="list-style-type: none"> <li>- Consider use of chip-breaker design drill and/or chip-breaker point grind.</li> </ul>
<b>DAMAGED POINT</b>	1. Using hard object to tap drill into socket.	<ul style="list-style-type: none"> <li>- Use soft lead, brass, plastic, etc. hammer.</li> </ul>
	2. Dropping, mishandling drill.	<ul style="list-style-type: none"> <li>- Handle with care.</li> </ul>
<b>OVERSIZE HOLE</b>	1. Drill point off center.	<ul style="list-style-type: none"> <li>- Repoint accurately or replace with properly pointed drill.</li> </ul>
	2. Machine spindle not rigid or not running true	<ul style="list-style-type: none"> <li>- Repair if possible; consider use of bushing.</li> </ul>
	3. Work piece loose and/or vibrating.	<ul style="list-style-type: none"> <li>- Tighten and hold securely.</li> </ul>
<b>ROUGH HOLE</b>	1. Incorrect point grind and/or dull drill.	<ul style="list-style-type: none"> <li>- Repoint or replace with properly pointed drill.</li> </ul>
	2. Excessive feed.	<ul style="list-style-type: none"> <li>- Reduce feed.</li> </ul>
	3. Incorrect or insufficient coolant.	<ul style="list-style-type: none"> <li>- Correct and adjust.</li> </ul>
<b>POOR TOOL LIFE</b>	1. Coolant not reaching drill point or insufficient or incorrect coolant.	<ul style="list-style-type: none"> <li>- Correct and adjust.</li> </ul>
	2. Speed too high and/or feed too low.	<ul style="list-style-type: none"> <li>- Review and adjust.</li> </ul>
	3. Wrong type of point and/or drill for application.	<ul style="list-style-type: none"> <li>- Review requirements and conditions.</li> </ul>
<b>WEB SPLITS</b>	1. Insufficient lip clearance.	<ul style="list-style-type: none"> <li>- Repoint or replace with properly pointed drill.</li> </ul>
	2. Point thinned too much.	<ul style="list-style-type: none"> <li>- Repoint or replace with properly pointed drill.</li> </ul>
	3. Excessive feed.	<ul style="list-style-type: none"> <li>- Reduce feed.</li> </ul>
<b>CHIPPED LIPS</b>	1. Excessive lip clearance and/or heel relief.	<ul style="list-style-type: none"> <li>- Repoint or replace with properly pointed drill.</li> </ul>
<b>BROKEN OUTER CORNERS</b>	1. Insufficient or incorrect coolant..	<ul style="list-style-type: none"> <li>- Correct and adjust.</li> </ul>
	2. Excessive speed.	<ul style="list-style-type: none"> <li>- Reduce speed.</li> </ul>
	3. Scale, hard spots encountered in material.	<ul style="list-style-type: none"> <li>- No final remedy if this condition is prevalent; lower feeds and speeds may help.</li> </ul>

# DRILL NOMENCLATURE AND DEFINITIONS

**AXIS** is the longitudinal centerline through the drill.

**BACK TAPER** (longitudinal relief) drills are generally made slightly smaller in diameter at the shank end than at the cutting end. This difference is known as back taper.

**BODY** is the portion of the drill starting at the cutting lips and extending to the shank or neck.

**BODY CLEARANCE** (radial relief) is the portion of the outer diameter cut away to provide clearance between the land of the drill and the walls of the hole being produced. It is commonly called land clearance. Its purpose is to reduce friction.

**CHISEL EDGE** is the edge at the end of the web that connects the cutting lips.

**CHISEL EDGE ANGLE** is the included angle between the chisel edge and the cutting edge or lip, as viewed from the end of the drill.

**CLEARANCE DIAMETER** is the diameter of the relieved or cleared portion of the land.

**DRILLS** generally consist of a shank, neck, body and point. In some cases the neck is omitted.

**FLUTE LENGTH** is measured from the outer corners of the cutting lips to the extreme back end of the flutes.

**FLUTES** are grooves cut or formed in the body of the drill to provide cutting edges, to permit ejection of chips and to carry coolant to the cutting area. Flutes are most commonly helical, but may be straight.

**HELIX ANGLE** is the angle of the leading edge of the land to the axis of the drill. The helix angle is the same as the rake angle of the cutting edges at the periphery of the drill. Therefore a straight fluted drill has zero degrees helix.

**LAND** is that portion of the outside of the drill body not cut away by the flutes.

**LIP RELIEF ANGLE** is the angle as measured between a line tangent to the surface back of the cutting edge at the periphery and a line at right angles to the axis of the drill.

**LIPS** are the cutting edges of the drill which extend from the chisel edge to the periphery.

**MARGIN** is that full diameter portion of the land not cut away to provide clearance.

**NECK** is the smaller diameter area between the body and the shank of the drill.

**OVER-ALL-LENGTH** is measured from the extreme end of shank to the outer corners of the cutting lips. It does not, however, include the conical point at either end of the drill.

**POINT** is the cutting end of the drill, consisting of the ends of the lands and web. It is usually conical in form.

**POINT ANGLE** is the included angle as measured between the cutting lips.

**RAKE ANGLE** is the angle between the leading edge of the land and the axis of the drill at the point.

**SHANK** is the portion of the drill by which it is held and driven.

**TANG** is the flattened end of the shank, intended to fit into a slot in the drill holder or socket.

**WEB** is the central part of the body of the drill that connects the lands and at the cutting end, and forms the chisel edge.

**WEB THICKNESS** is usually considered the thickness at extreme end of the web and is usually the minimum thickness.

**WEB THINNING** is the reduction of the web thickness at the cutting end to minimize the drilling thrust pressure.

