

ICS  **Cutting Tools, Inc.**

REVISED FEB 2025

REAMING TOOLS



ICS CUTTING TOOLS, INC
511 Main Street • Casco, WI 54205-0125 USA
(920) 837-2526 • Fax (920) 837-2530
www.icscuttingtools.com • info@icscuttingtools.com

TABLE OF CONTENTS

Combined Drill & Countersinks

| | |
|-----------------------------------|---|
| Cobalt (M42) | 6 |
| HSS | 5 |
| HSS - Long Length | 6 |
| HSS - Metric | 7 |
| Solid Carbide | 7 |
| Solid Carbide (Long Length) | 7 |
| Sets..... | 6 |

Counterbores

| | |
|--|---|
| Cap Screw Counterbores | |
| Metric | 4 |
| Set..... | 4 |
| Set - Metric | 2 |
| Counterbore Pilots - Interchangeable | 3 |
| Fillister Head Screw Counterbores | 2 |
| Sets..... | 2 |
| Interchangeable Counterbores | 1 |
| Interchangeable Pilot Counterbore Set..... | 1 |

Countersinks

| | |
|-----------------------------------|----|
| Zero Flute (Deburring)..... | 10 |
| Single Flute..... | 10 |
| Single Flute - Long Reach | 16 |
| Single Flute - Solid Carbide..... | 13 |
| Three Flute (Center Reamer) | 11 |
| Three Flute - Long Reach | 16 |
| Three Flute (Quick Change) | 15 |
| Three Flute - Solid Carbide..... | 13 |
| Four Flute (Machine) | 11 |
| Six Flute (Chatterless) | 12 |
| Six Flute - Long Reach..... | 16 |
| Six Flute - Solid Carbide | 13 |
| Indexable Countersinks | 14 |
| Sets..... | 14 |
| Inserts - Carbide..... | 14 |

Drills

| | |
|---------------------------------------|----|
| Drill Mills - Solid Carbide 60° & 90° | |
| 2 Flute - Single End..... | 49 |
| 4 Flute - Single End..... | 49 |
| Step Drills | |
| 45° Angle | 8 |
| 82° Angle | 9 |
| 90° Angle | 8 |
| Sets..... | 9 |

Drill/Reamers

| | |
|------------------------------|----|
| Taper Pin Drill/Reamers..... | 46 |
|------------------------------|----|

Reamers

| | |
|---|----|
| Automotive Steering And Suspension..... | 39 |
| Sets | 39 |
| Body Bound Bolt | 41 |
| Bridge | |
| Combination Hex/Round Shank | 43 |
| Hex Shank..... | 44 |
| Round Shank | 45 |
| Taper Shank..... | 45 |
| Bridge Reamer Adapter/Socket..... | 43 |

Reamers

Car

| | |
|-----------------------------------|----|
| 1/2" Round Shank | 40 |
| 1/2" Round Shank - Metric..... | 41 |
| Combination Hex/Round Shank | 42 |
| Hex Shank..... | 42 |
| Hex Shank - Metric..... | 41 |
| Car Reamer Adapter/Socket..... | 43 |

Chucking

| | |
|---|----|
| Carbide Tipped..... | 19 |
| Cobalt (M42) | 19 |
| Dowel Pin Sizes | 20 |
| Expansion | 29 |
| Extra Length | 25 |
| Non-Standard Decimal Sizes .0100 to 2.0000 Dia..... | 23 |
| Over & Under Sizes..... | 20 |
| Solid Carbide | 26 |
| Letter Sizes "A" to "Z" Dia..... | 26 |
| Wire Gauge Sizes #1 to #70 Dia | 27 |
| Metric Sizes 1.0mm to 12.5mm Dia..... | 27 |
| Standard Intermediate Decimal Sizes .1230 to .2830 Dia... | 21 |
| Standard Intermediate Decimal Sizes .2840 to .7580 Dia... | 22 |
| Straight Shank | 17 |
| Fractional Sizes (Straight Shank) 3/64" to 2" Dia. | 17 |
| Wire Gauge Sizes (Straight Shank) #1 to #60 Dia. | 18 |
| Letter Sizes (Straight Shank) "A" to "Z" Dia. | 18 |
| Taper Shank..... | 28 |
| Sets..... | 25 |
| Hand | 36 |
| Metric | 35 |
| Adjustable - Long Pilot..... | 33 |
| Sets - Adjustable - Long Pilot | 33 |
| Hand Expansion | 34 |
| Jobber Reamer Set - Taper Shank..... | 40 |
| Machine | |
| Taper Shank - Extra Long Flute | 30 |
| Taper Shank - Extra Long Flute - Metric | 31 |
| Pipe..... | 37 |
| Repairman's Taper | 15 |
| Shell..... | 38 |
| Arbors..... | 38 |
| Silver & Deming - 1/2" Shank - 6" Length | 24 |
| Sets - 1/2" Shank..... | 24 |
| Taper Pin..... | 47 |
| Metric | 48 |
| Tower Bolt..... | 37 |
| Set | 37 |

Wrenches

| | |
|---|----|
| Tap And Reamer Wrenches - Adjustable..... | 34 |
|---|----|

INTERCHANGEABLE COUNTERBORES

RT-1

ICS USA

GENERAL PURPOSE

RIGHT HAND CUT



STRAIGHT SHANK

SHORT SERIES



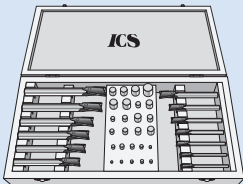
TAPER SHANK

High Speed Steel Interchangeable Counterbores are designed to create a recess for a cap screw, spring or bolt. They are used with interchangeable pilots ground to fit various hole sizes to be counterbored.

| SIZE | PILOT HOLE DIA. | NO. OF FLUTES | OVERALL LENGTH | STRAIGHT SHANK | | | TAPER SHANK | | |
|--------|-----------------|---------------|----------------|-------------------|----------|--------|-------------|----------|--------|
| | | | | SHANK SIZE/LENGTH | ITEM NO. | PRICE | MORSE TAPER | ITEM NO. | PRICE |
| 3/16 | 3/32 | 3 | 3-1/2 | 15/64 x 2-3/8 | ICSS012 | 37.64 | | | |
| 7/32 | 3/32 | 3 | 3-5/8 | 15/64 x 2-3/4 | ICSS014 | 37.64 | | | |
| 1/4 | 3/32 | 3 | 3-13/16 | 15/64 x 3-1/16 | ICSS016 | 33.88 | 1 | ICTS016 | 33.88 |
| 9/32 | 3/32 | 3 | 3-13/16 | 17/64 x 3-1/16 | ICSS018 | 33.88 | 1 | ICTS018 | 33.88 |
| 5/16 | 3/32 | 3 | 3-13/16 | 19/64 x 3-1/16 | ICSS020 | 34.82 | 1 | ICTS020 | 34.82 |
| 11/32 | 3/32 | 3 | 3-13/16 | 5/16 x 3-1/16 | ICSS022 | 35.54 | 1 | ICTS022 | 35.54 |
| 3/8 | 5/32 | 3 | 4-1/16 | 5/16 x 3-1/16 | ICSS024 | 35.54 | 1 | ICTS024 | 35.54 |
| 13/32 | 5/32 | 3 | 4-1/16 | 3/8 x 3-1/16 | ICSS026 | 37.88 | 1 | ICTS026 | 37.88 |
| 7/16 | 5/32 | 3 | 4-1/16 | 3/8 x 3-1/16 | ICSS028 | 37.88 | 1 | ICTS028 | 37.88 |
| 15/32 | 3/16 | 3 | 4-5/16 | 7/16 x 3-1/16 | ICSS030 | 39.76 | 1 | ICTS030 | 39.76 |
| 1/2 | 3/16 | 3 | 4-5/16 | 7/16 x 3-1/16 | ICSS032 | 39.76 | 1 | ICTS032 | 39.76 |
| 17/32 | 3/16 | 3 | 4-5/16 | 1/2 x 3-1/16 | ICSS034 | 44.24 | 1 | ICTS034 | 44.24 |
| 9/16 | 3/16 | 3 | 4-5/16 | 1/2 x 3-1/16 | ICSS036 | 44.24 | 1 | ICTS036 | 44.24 |
| 19/32 | 3/16 | 3 | 5-1/8 | 1/2 x 3-7/8 | ICSS038 | 47.28 | 2 | ICTS038 | 47.28 |
| 5/8 | 3/16 | 3 | 5-1/8 | 1/2 x 3-7/8 | ICSS040 | 47.68 | 2 | ICTS040 | 47.68 |
| 21/32 | 3/16 | 3 | 5-1/8 | 1/2 x 3-7/8 | ICSS042 | 52.24 | 2 | ICTS042 | 52.24 |
| 11/16 | 3/16 | 3 | 5-1/8 | 1/2 x 3-7/8 | ICSS044 | 52.24 | 2 | ICTS044 | 52.24 |
| 23/32 | 1/4 | 3 | 5-3/8 | 1/2 x 3-7/8 | ICSS046 | 54.36 | 2 | ICTS046 | 54.36 |
| 3/4 | 1/4 | 3 | 5-3/8 | 1/2 x 3-7/8 | ICSS048 | 54.36 | 2 | ICTS048 | 54.36 |
| 25/32 | 1/4 | 3 | 5-3/8 | 5/8 x 3-7/8 | ICSS050 | 57.40 | 2 | ICTS050 | 57.40 |
| 13/16 | 1/4 | 3 | 5-3/8 | 5/8 x 3-7/8 | ICSS052 | 55.52 | 2 | ICTS052 | 55.52 |
| 27/32 | 1/4 | 3 | 5-3/8 | 3/4 x 3-7/8 | ICSS054 | 60.92 | 2 | ICTS054 | 60.92 |
| 7/8 | 1/4 | 3 | 5-3/8 | 3/4 x 3-7/8 | ICSS056 | 58.34 | 2 | ICTS056 | 58.34 |
| 29/32 | 1/4 | 3 | 6-1/8 | 3/4 x 4-5/8 | ICSS058 | 61.16 | 3 | ICTS058 | 61.16 |
| 15/16 | 1/4 | 3 | 6-1/8 | 3/4 x 4-5/8 | ICSS060 | 61.16 | 3 | ICTS060 | 61.16 |
| 31/32 | 5/16 | 3 | 6-3/8 | 3/4 x 4-5/8 | ICSS062 | 72.92 | 3 | ICTS062 | 72.92 |
| 1 | 5/16 | 3 | 6-3/8 | 3/4 x 4-5/8 | ICSS100 | 72.92 | 3 | ICTS100 | 72.92 |
| 1-1/16 | 5/16 | 3 | 6-3/8 | 3/4 x 4-5/8 | ICSS104 | 82.32 | 3 | ICTS104 | 82.32 |
| 1-1/8 | 5/16 | 3 | 6-3/8 | 1 x 4-5/8 | ICSS108 | 82.32 | 3 | ICTS108 | 82.32 |
| 1-3/16 | 5/16 | 3 | 6-3/8 | 1 x 4-5/8 | ICSS112 | 89.38 | 3 | ICTS112 | 89.38 |
| 1-1/4 | 3/8 | 5 | 6-5/8 | 1 x 4-5/8 | ICSS116 | 103.50 | 3 | ICTS116 | 103.50 |
| 1-3/8 | 3/8 | 5 | 6-5/8 | 1 x 4-5/8 | ICSS124 | 119.96 | 3 | ICTS124 | 119.96 |
| 1-1/2 | 3/8 | 5 | 7-7/8 | 1-1/4 x 5-7/8 | ICSS132 | 134.06 | 3 | ICTS132 | 134.06 |
| 1-5/8 | 7/16 | 5 | 8-1/8 | 1-1/4 x 5-7/8 | ICSS140 | 181.10 | 4 | ICTS140 | 181.10 |
| 1-3/4 | 7/16 | 5 | 8-1/8 | 1-1/4 x 5-7/8 | ICSS148 | 195.22 | 4 | ICTS148 | 195.22 |
| 1-7/8 | 7/16 | 5 | 8-1/8 | 1-1/2 x 5-7/8 | ICSS156 | 214.04 | 4 | ICTS156 | 214.04 |
| 2 | 1/2 | 5 | 8-3/8 | 1-1/2 x 5-7/8 | ICSS200 | 242.26 | 4 | ICTS200 | 242.26 |
| 2-1/8 | 1/2 | 5 | 9-7/8 | 1-1/2 x 7-3/8 | ICSS208 | 317.52 | 5 | ICTS208 | 317.52 |
| 2-1/4 | 1/2 | 5 | 9-7/8 | 1-1/2 x 7-3/8 | ICSS216 | 331.80 | 5 | ICTS216 | 331.80 |
| 2-3/8 | 1/2 | 5 | 9-7/8 | 1-1/2 x 7-3/8 | ICSS224 | 354.90 | 5 | ICTS224 | 354.90 |
| 2-1/2 | 1/2 | 5 | 9-7/8 | 1-1/2 x 7-3/8 | ICSS232 | 367.50 | 5 | ICTS232 | 367.50 |
| 2-5/8 | 1/2 | 5 | 9-7/8 | 1-3/4 x 7-3/8 | ICSS240 | 463.06 | 5 | ICTS240 | 463.06 |
| 2-3/4 | 1/2 | 5 | 9-7/8 | 1-3/4 x 7-3/8 | ICSS248 | 492.46 | 5 | ICTS248 | 492.46 |
| 2-7/8 | 1/2 | 5 | 9-7/8 | 1-3/4 x 7-3/8 | ICSS256 | 512.40 | 5 | ICTS256 | 512.40 |
| 3 | 1/2 | 5 | 9-7/8 | 1-3/4 x 7-3/8 | ICSS300 | 530.26 | 5 | ICTS300 | 530.26 |

INTERCHANGEABLE PILOT COUNTERBORE SET

WOOD BOX

| DESCRIPTION | TYPE OF COUNTERBORE | ITEM NO. | PRICE |
|--|---|------------------|--------|
| 39 PIECE INTERCHANGEABLE PILOT & COUNTERBORE SET  | Straight Shank - 1/4 to 1" by 16ths Interchangeable Pilots 1/8, 5/32, 3/16, 1/4 with 3/32 Shank 3/16, 7/32, 1/4, 9/32, 5/16 with 5/32 Shank 1/4, 5/16, 3/8, 7/16, 1/2 with 3/16 Shank 5/16, 3/8, 7/16, 1/2, 9/16, 5/8 with 1/4 Shank 3/8, 7/16, 1/2, 9/16, 5/8, 3/4 with 5/16 Shank | CS-ICP-39 | 538.12 |

METRIC CAP SCREW COUNTERBORE SET**WOOD STAND**

| DESCRIPTION | TYPE OF COUNTERBORE | ITEM NO. | PRICE |
|--|--|-------------|--------|
| 7 PC METRIC CAP SCREW COUNTERBORE SET Sizes M3, M4, M5, M6 M8, M10, M12 (Not Illustrated) | Metric Cap Screw Counterbore 3 Flute - Straight Shank | CS-CSC3FM-7 | 282.98 |

HIGH SPEED STEEL
FILLISTER HEAD SCREW COUNTERBORES

ICS USA**SPECIAL PURPOSE****RIGHT HAND CUT**STRAIGHT
SHANKTWO FLUTE
SOLID PILOT

High Speed Steel Fillister Head Screw Counterbores are designed to create a recess for small fillister and flat head machine screws. Solid pilot will not score or damage pilot hole. Cutting action is chatterless.

| SCREW SIZE | PLOT SIZE | CUTTING DIAMETER | SHANK DIAMETER | OVERALL LENGTH | ITEM NO. |
|------------|-----------|------------------|----------------|----------------|----------|
| #2 | .085 | .155 | 3/16 | 2-1/2 | FHSC#02 |
| #3 | .098 | .176 | 3/16 | 2-1/2 | FHSC#03 |
| #4 | .111 | .198 | .198 | 2-1/2 | FHSC#04 |
| #5 | .124 | .220 | .220 | 2-1/2 | FHSC#05 |
| #6 | .137 | .241 | .241 | 2-1/2 | FHSC#06 |
| #8 | .163 | .285 | .285 | 2-3/4 | FHSC#08 |
| #10 | .189 | .328 | .328 | 2-3/4 | FHSC#10 |
| #12 | .215 | .372 | .372 | 3 | FHSC#12 |
| 1/4 | 1/4 | 13/32 | 5/16 | 3-5/8 | FHSC016 |
| 5/16 | 5/16 | 15/32 | 3/8 | 4 | FHSC020 |
| 3/8 | 3/8 | 19/32 | 7/16 | 4-3/8 | FHSC024 |
| 7/16 | 7/16 | 21/32 | 1/2 | 4-3/4 | FHSC028 |
| 1/2 | 1/2 | 9/16 | 9/16 | 5-1/4 | FHSC032 |

FILLISTER HEAD SCREW COUNTERBORE SETS**WOOD STAND**

| DESCRIPTION | TYPE OF COUNTERBORE | ITEM NO. | PRICE |
|---|--|-----------|--------|
| 5 PC FILLISTER HEAD COUNTERBORE SET Sizes #2, #4, #6, #8, #10 (Not Illustrated) | Fillister Head Screw Counterbore 2 Flute - Straight Shank | CS-FHSC-5 | 75.26 |
| 4 PC FILLISTER HEAD COUNTERBORE SET Sizes 1/4, 5/16, 3/8, 1/2 (Not Illustrated) | Fillister Head Screw Counterbore 2 Flute - Straight Shank | CS-FHSC-4 | 129.36 |

COUNTERBORE PILOTS - INTERCHANGEABLE

ICS USA

SPECIAL PURPOSE

SOLID PILOT



Interchangeable counterbore pilots are used with interchangeable pilot style counterbores and spot facers, including carbide tipped and aircraft counterbores to produce various combinations of sizes. All counterbore pilots have a flat on one side of the shank for the set screw to hold the pilot in place. To order, select a pilot with a shank diameter to fit the pilot hole diameter of the counterbore being used.

NOTE: Flatted shank may need an additional flat to work with all the different brands of counterbores, as there is no industry standard for where the set screws are placed. [See example and explanation here.](#)

| PILOT SIZE | ITEM NO. | PRICE |
|--------------------|------------|-------|
| 3/32" SHANK | | |
| 3/32 | ICP006X006 | 5.76 |
| 1/8 | ICP006X080 | 5.76 |
| 5/32 | ICP006X010 | 5.76 |
| 3/16 | ICP006X012 | 5.76 |
| 7/32 | ICP006X014 | 5.76 |
| 1/4 | ICP006X016 | 6.52 |
| 9/32 | ICP006X018 | 6.52 |
| 5/16 | ICP006X020 | 6.52 |
| 11/32 | ICP006X022 | 6.52 |
| 3/8 | ICP006X024 | 6.52 |
| 7/16 | ICP006X028 | 6.52 |
| 1/2 | ICP006X032 | 6.52 |
| 3/4 | ICP006X048 | 6.52 |
| 1/8" SHANK | | |
| 1/8 | ICP008X008 | 5.76 |
| 5/32 | ICP008X010 | 5.76 |
| 3/16 | ICP008X012 | 5.76 |
| 7/32 | ICP008X014 | 5.76 |
| 1/4 | ICP008X016 | 6.52 |
| 9/32 | ICP008X018 | 6.52 |
| 5/16 | ICP008X020 | 6.52 |
| 11/32 | ICP008X022 | 6.52 |
| 3/8 | ICP008X024 | 6.52 |
| 13/32 | ICP008X026 | 6.52 |
| 7/16 | ICP008X028 | 6.52 |
| 15/32 | ICP008X030 | 8.50 |
| 1/2 | ICP008X032 | 8.50 |
| 17/32 | ICP008X034 | 8.50 |
| 9/16 | ICP008X036 | 8.50 |
| 5/32" SHANK | | |
| 5/32 | ICP010X010 | 5.76 |
| 3/16 | ICP010X012 | 5.76 |
| 7/32 | ICP010X014 | 5.76 |
| 1/4 | ICP010X016 | 6.52 |
| 9/32 | ICP010X018 | 6.52 |
| 5/16 | ICP010X020 | 6.52 |
| 11/32 | ICP010X022 | 6.52 |
| 3/8 | ICP010X024 | 6.52 |
| 13/32 | ICP010X026 | 6.52 |
| 7/16 | ICP010X028 | 6.52 |
| 1/2 | ICP010X032 | 8.50 |
| 3/16" SHANK | | |
| 3/16 | ICP012X012 | 5.76 |
| 7/32 | ICP012X014 | 5.76 |
| 1/4 | ICP012X016 | 6.52 |
| 9/32 | ICP012X018 | 6.52 |
| 5/16 | ICP012X020 | 6.52 |
| 11/32 | ICP012X022 | 6.52 |

| PILOT SIZE | ITEM NO. | PRICE |
|--------------------|------------|-------|
| 3/16" SHANK | | |
| 3/8 | ICP012X024 | 6.52 |
| 13/32 | ICP012X026 | 6.52 |
| 7/16 | ICP012X028 | 6.52 |
| 15/32 | ICP012X030 | 8.50 |
| 1/2 | ICP012X032 | 8.50 |
| 17/32 | ICP012X034 | 8.50 |
| 9/16 | ICP012X036 | 8.50 |
| 5/8 | ICP012X040 | 8.50 |
| 11/16 | ICP012X044 | 8.50 |
| 3/4 | ICP012X048 | 8.50 |
| 1/4" SHANK | | |
| 1/4 | ICP016X016 | 6.52 |
| 9/32 | ICP016X018 | 6.52 |
| 5/16 | ICP016X020 | 6.52 |
| 11/32 | ICP016X022 | 6.52 |
| 3/8 | ICP016X024 | 6.52 |
| 13/32 | ICP016X026 | 6.52 |
| 7/16 | ICP016X028 | 6.52 |
| 15/32 | ICP016X030 | 8.50 |
| 1/2 | ICP016X032 | 8.50 |
| 17/32 | ICP016X034 | 8.50 |
| 9/16 | ICP016X036 | 8.50 |
| 19/32 | ICP016X038 | 8.50 |
| 5/8 | ICP016X040 | 8.50 |
| 21/32 | ICP016X042 | 8.50 |
| 11/16 | ICP016X044 | 8.50 |
| 3/4 | ICP016X048 | 8.50 |
| 13/16 | ICP016X052 | 8.50 |
| 7/8 | ICP016X056 | 13.50 |
| 15/16 | ICP016X060 | 13.50 |
| 1 | ICP016X100 | 13.50 |
| 5/16" SHANK | | |
| 5/16 | ICP020X020 | 8.50 |
| 11/32 | ICP020X022 | 8.50 |
| 3/8 | ICP020X024 | 8.50 |
| 13/32 | ICP020X026 | 8.50 |
| 7/16 | ICP020X028 | 8.50 |
| 15/32 | ICP020X030 | 12.26 |
| 1/2 | ICP020X032 | 12.26 |
| 17/32 | ICP020X034 | 12.26 |
| 9/16 | ICP020X036 | 12.26 |
| 19/32 | ICP020X038 | 12.26 |
| 5/8 | ICP020X040 | 12.26 |
| 21/32 | ICP020X042 | 12.26 |
| 11/16 | ICP020X044 | 12.26 |
| 3/4 | ICP020X048 | 12.26 |
| 13/16 | ICP020X052 | 12.26 |
| 7/8 | ICP020X056 | 14.76 |

| PILOT SIZE | ITEM NO. | PRICE |
|--------------------|------------|-------|
| 5/16" SHANK | | |
| 15/16 | ICP020X060 | 14.76 |
| 1 | ICP020X100 | 14.76 |
| 1-1/16 | ICP020X104 | 17.52 |
| 1-1/8 | ICP020X108 | 17.52 |
| 3/8" SHANK | | |
| 3/8 | ICP024X024 | 9.96 |
| 13/32 | ICP024X026 | 9.96 |
| 7/16 | ICP024X028 | 9.96 |
| 15/32 | ICP024X030 | 9.96 |
| 1/2 | ICP024X032 | 9.96 |
| 17/32 | ICP024X034 | 11.52 |
| 9/16 | ICP024X036 | 11.52 |
| 5/8 | ICP024X040 | 13.26 |
| 11/16 | ICP024X044 | 13.26 |
| 3/4 | ICP024X048 | 13.26 |
| 13/16 | ICP024X052 | 14.12 |
| 7/8 | ICP024X056 | 14.12 |
| 15/16 | ICP024X060 | 14.12 |
| 1 | ICP024X100 | 17.24 |
| 1-1/16 | ICP024X104 | 17.24 |
| 1-1/8 | ICP024X108 | 17.24 |
| 1-5/32 | ICP024X110 | 20.22 |
| 1-3/16 | ICP024X112 | 20.22 |
| 1-1/4 | ICP024X116 | 20.22 |
| 1-5/16 | ICP024X120 | 20.22 |
| 1-3/8 | ICP024X124 | 20.22 |
| 1-7/16 | ICP024X128 | 21.72 |
| 1-1/2 | ICP024X132 | 23.86 |
| 7/16" SHANK | | |
| 7/16 | ICP028X028 | 12.82 |
| 1/2 | ICP028X032 | 12.82 |
| 9/16 | ICP028X036 | 12.82 |
| 5/8 | ICP028X040 | 12.82 |
| 11/16 | ICP028X044 | 14.76 |
| 3/4 | ICP028X048 | 14.76 |
| 13/16 | ICP028X052 | 14.76 |
| 7/8 | ICP028X056 | 14.76 |
| 15/16 | ICP028X060 | 14.76 |
| 1 | ICP028X100 | 19.26 |
| 1-1/16 | ICP028X104 | 19.26 |
| 1-1/8 | ICP028X108 | 19.26 |
| 1-3/16 | ICP028X112 | 19.26 |
| 1-1/4 | ICP028X116 | 21.02 |
| 1-5/16 | ICP028X120 | 21.02 |
| 1-3/8 | ICP028X124 | 21.02 |
| 1-7/16 | ICP028X128 | 21.02 |
| 1-1/2 | ICP028X132 | 21.02 |
| 1-9/16 | ICP028X136 | 22.50 |

| PILOT SIZE | ITEM NO. | PRICE |
|--------------------|------------|-------|
| 7/16" SHANK | | |
| 1-5/8 | ICP028X140 | 22.50 |
| 1-11/16 | ICP028X144 | 22.50 |
| 1-3/4 | ICP028X148 | 22.50 |
| 1-13/16 | ICP028X152 | 22.50 |
| 1-7/8 | ICP028X156 | 22.50 |
| 1/2" SHANK | | |
| 1/2 | ICP032X032 | 12.02 |
| 17/32 | ICP032X034 | 12.02 |
| 9/16 | ICP032X036 | 12.02 |
| 5/8 | ICP032X040 | 12.02 |
| 11/16 | ICP032X044 | 12.02 |
| 3/4 | ICP032X048 | 12.02 |
| 13/16 | ICP032X052 | 14.98 |
| 7/8 | ICP032X056 | 14.98 |
| 15/16 | ICP032X060 | 14.98 |
| 1 | ICP032X100 | 21.76 |
| 1-1/16 | ICP032X104 | 19.26 |
| 1-1/8 | ICP032X108 | 19.26 |
| 1-3/16 | ICP032X112 | 21.76 |
| 1-1/4 | ICP032X116 | 21.76 |
| 1-5/16 | ICP032X120 | 21.76 |
| 1-3/8 | ICP032X124 | 26.04 |
| 1-7/16 | ICP032X128 | 26.04 |
| 1-1/2 | ICP032X132 | 26.04 |
| 1-9/16 | ICP032X136 | 26.04 |
| 1-5/8 | ICP032X140 | 30.30 |
| 1-11/16 | ICP032X144 | 30.30 |
| 1-3/4 | ICP032X148 | 30.30 |
| 1-13/16 | ICP032X152 | 33.42 |
| 1-7/8 | ICP032X156 | 33.42 |
| 1-15/16 | ICP032X160 | 33.42 |
| 2 | ICP032X200 | 40.46 |
| 2-1/16 | ICP032X204 | 40.46 |
| 2-1/8 | ICP032X208 | 40.46 |
| 2-3/16 | ICP032X212 | 46.30 |
| 2-1/4 | ICP032X216 | 46.30 |
| 2-5/16 | ICP032X220 | 46.30 |
| 2-3/8 | ICP032X224 | 57.94 |
| 2-7/16 | ICP032X228 | 57.94 |
| 2-1/2 | ICP032X232 | 57.94 |
| 2-9/16 | ICP032X236 | 61.00 |
| 2-5/8 | ICP032X240 | 61.00 |
| 2-11/16 | ICP032X244 | 61.00 |
| 2-3/4 | ICP032X248 | 79.74 |
| 2-13/16 | ICP032X252 | 79.74 |
| 2-7/8 | ICP032X256 | 87.10 |
| 2-15/16 | ICP032X260 | 87.10 |
| 3 | ICP032X300 | 87.10 |

| SHANK DIA. | SHANK LENGTH |
|------------|--------------|
| 3/32 | 1-1/4 |
| 1/8 | 1-1/2 |
| 5/32 | 1-1/2 |

| SHANK DIA. | SHANK LENGTH |
|------------|--------------|
| 3/16 | 1-3/4 |
| 1/4 | 1-7/8 |
| 5/16 | 2-1/8 |

| SHANK DIA. | SHANK LENGTH |
|------------|--------------|
| 3/8 | 2-3/8 |
| 7/16 | 2-5/8 |
| 1/2 | 2-3/4 |

Length of pilot head is equal to its diameter.

CAP SCREW COUNTERBORES

ICS USA

SPECIAL PURPOSE

RIGHT HAND CUT



STRAIGHT SHANK

3 FLUTE
SOLID PILOT

TAPER SHANK

High Speed Steel Cap Screw Counterbores are designed to create a recess for socket head cap screws and shoulder screws. They are also used for spot facing smaller spots, enlarging or cleaning holes. Solid pilot will not score or damage pilot hole. Cutting action is chatterless. They are available with a straight shank or a Morse taper shank.

| CAP SCREW SIZE | PILOT DIA. | CUTTING DIA. | SHANK DIA. | STRAIGHT SHANK | | TAPER SHANK | | |
|----------------|------------|--------------|------------|----------------|----------|-------------|----------------|------------|
| | | | | OVERALL LENGTH | ITEM NO. | MORSE TAPER | OVERALL LENGTH | ITEM NO. |
| 1/4 | 9/32 | 13/32 | 3/8 | 5 | CSC3F016 | 1 | 5-3/4 | CSC3FTS016 |
| 5/16 | 11/32 | 1/2 | 7/16 | 5 | CSC3F020 | 2 | 6 | CSC3FTS020 |
| 3/8 | 13/32 | 19/32 | 1/2 | 6 | CSC3F024 | 2 | 6-1/2 | CSC3FTS024 |
| 7/16 | 15/32 | 11/16 | 1/2 | 7 | CSC3F028 | 2 | 7 | CSC3FTS028 |
| 1/2 | 17/32 | 25/32 | 1/2 | 7-1/2 | CSC3F032 | 2 | 7-1/4 | CSC3FTS032 |
| 5/8 | 21/32 | 31/32 | 3/4 | 7-1/2 | CSC3F040 | 3 | 7-1/2 | CSC3FTS040 |
| 3/4 | 13/16 | 1-3/16 | 1 | 8 | CSC3F048 | 3 | 9 | CSC3FTS048 |
| 7/8 | 15/16 | 1-3/8 | 1 | 8 | CSC3F056 | 3 | 9 | CSC3FTS056 |
| 1 | 1-1/16 | 1-9/16 | 1 | 10 | CSC3F100 | 3 | 10 | CSC3FTS100 |

CAP SCREW COUNTERBORE SET

WOOD STAND

| DESCRIPTION | TYPE OF COUNTERBORE | ITEM NO. | PRICE |
|--|--|------------|--------|
| 4 PC CAP SCREW COUNTERBORE SET Sizes #8, #10, 1/4, 3/8 (Not Illustrated) | Cap Screw Counterbore - 3 Flute - Straight Shank | CS-CSC3F-4 | 105.84 |

HIGH SPEED STEEL CAP SCREW COUNTERBORES - METRIC

ICS USA

SPECIAL PURPOSE

RIGHT HAND CUT



STRAIGHT SHANK

3 FLUTE
SOLID PILOT

High Speed Steel Metric Cap Screw Counterbores are designed to create a recess for socket head cap screws and shoulder screws. They are also used for spot facing smaller spots, enlarging or cleaning holes. Solid pilot will not score or damage pilot hole. Cutting action is chatterless.

| CAP SCREW SIZE (mm) | PILOT DIA. (mm) | CUTTING DIA. (mm) | SHANK DIA. | STRAIGHT SHANK | |
|---------------------|-----------------|-------------------|------------|----------------|-------------|
| | | | | OVERALL LENGTH | ITEM NO. |
| 3.00 | 3.40 | 6.00 | 7/32 | 3 | CSC3FM03.00 |
| 4.00 | 4.50 | 8.00 | 5/16 | 3-1/2 | CSC3FM04.00 |
| 5.00 | 5.50 | 10.00 | 5/16 | 4-1/2 | CSC3FM05.00 |
| 6.00 | 6.60 | 11.00 | 3/8 | 5 | CSC3FM06.00 |
| 8.00 | 9.00 | 15.00 | 1/2 | 6 | CSC3FM08.00 |
| 10.00 | 11.00 | 18.00 | 1/2 | 7 | CSC3FM10.00 |
| 12.00 | 14.00 | 20.00 | 5/8 | 7-1/2 | CSC3FM12.00 |
| 14.00 | 15.00 | 24.00 | 3/4 | 8 | CSC3FM14.00 |
| 16.00 | 17.00 | 26.00 | 1 | 9 | CSC3FM16.00 |
| 20.00 | 21.00 | 26.00 | 1 | 10 | CSC3FM20.00 |

HIGH SPEED STEEL COMBINED DRILLS & COUNTERSINKS

ICS **WIS**

GENERAL PURPOSE

118° POINT

PLAIN
TYPE



60°, 82° & 90°
INCLUDED ANGLES

Plain Type Combined Drills & Countersinks are designed to produce accurate center holes in components which require machining between centers. Sizes #0 to #000 are often referred to as Missile & Aircraft Series.

| SIZE | BODY DIA. | DRILL DIA. | DRILL LENGTH | OVERALL LENGTH | ITEM NO. | | PRICE EACH | PKG. QTY. |
|-------|-----------|------------|--------------|----------------|-----------|-----------|------------|-----------|
| | | | | | 60° | | | |
| 000 | 1/8 | .020 | .020 | 1-1/4 | CDC#000 | | 4.68 | 10 |
| 00 | 1/8 | 0.25 | .025 | 1-1/4 | CDC#00 | | 4.68 | 10 |
| 0 | 1/8 | 1/32 | 1/32 | 1-1/4 | CDC#0 | | 4.68 | 10 |
| 1 | 1/8 | 3/64 | 3/64 | 1-1/4 | CDC#01 | | 1.76 | 10 |
| 2 | 3/16 | 5/64 | 5/64 | 1-7/8 | CDC#02 | | 1.98 | 10 |
| 3 | 1/4 | 7/64 | 7/64 | 2 | CDC#03 | | 1.98 | 10 |
| 4 | 5/16 | 1/8 | 1/8 | 2-1/8 | CDC#04 | | 2.12 | 10 |
| 4-1/2 | 3/8 | 9/64 | 9/64 | 2-1/2 | CDC#04.5 | | 3.68 | 10 |
| 5 | 7/16 | 3/16 | 3/16 | 2-3/4 | CDC#05 | | 4.82 | 10 |
| 6 | 1/2 | 7/32 | 7/32 | 3 | CDC#06 | | 8.40 | 5 |
| 7 | 5/8 | 1/4 | 1/4 | 3-1/4 | CDC#07 | | 14.90 | 1 |
| 8 | 3/4 | 5/16 | 5/16 | 3-1/2 | CDC#08 | | 20.44 | 1 |
| 9 | 7/8 | 11/32 | 11/32 | 3-5/8 | CDC#09 | | 46.20 | 1 |
| 10 | 1 | 3/8 | 3/8 | 3-3/4 | CDC#10 | | 63.00 | 1 |
| | | | | | 82° | 90° | | |
| 1 | 1/8 | 3/64 | 3/64 | 1-1/4 | CDC082#01 | CDC090#01 | 4.12 | 10 |
| 2 | 3/16 | 5/64 | 5/64 | 1-7/8 | CDC082#02 | CDC090#02 | 5.00 | 10 |
| 3 | 1/4 | 7/64 | 7/64 | 2 | CDC082#03 | CDC090#03 | 5.46 | 10 |
| 4 | 5/16 | 1/8 | 1/8 | 2-1/8 | CDC082#04 | CDC090#04 | 6.60 | 10 |
| 5 | 7/16 | 3/16 | 3/16 | 2-3/4 | CDC082#05 | CDC090#05 | 11.60 | 10 |
| 6 | 1/2 | 7/32 | 7/32 | 3 | CDC082#06 | CDC090#06 | 15.38 | 5 |
| 7 | 5/8 | 1/4 | 1/4 | 3-1/4 | CDC082#07 | CDC090#07 | 25.96 | 1 |
| 8 | 3/4 | 5/16 | 5/16 | 3-1/2 | CDC082#08 | CDC090#08 | 39.82 | 1 |

Available with Titanium Nitride (TiN) Coating. Inquire for pricing.

HIGH SPEED STEEL COMBINED DRILLS & COUNTERSINKS

ICS **WIS**

GENERAL PURPOSE

118° POINT

BELL
TYPE



60° & 82°
INCLUDED ANGLES

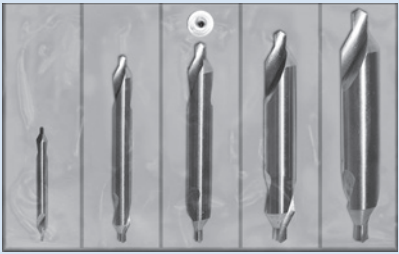
Bell Type Combined Drills & Countersinks are designed with an additional small 120° chamfer to protect the edges of the 60° hole.

| SIZE | BODY DIA. | DRILL DIA. | OVERALL LENGTH | ITEM NO. | PRICE EACH | PKG. QTY. |
|------|-----------|------------|----------------|----------|------------|-----------|
| 11 | 1/8 | 3/64 | 1-1/4 | CDC#11 | 3.62 | 10 |
| 12 | 3/16 | 1/16 | 1-7/8 | CDC#12 | 3.62 | 10 |
| 13 | 1/4 | 3/32 | 2 | CDC#13 | 3.62 | 10 |
| 14 | 5/16 | 7/64 | 2-1/8 | CDC#14 | 3.62 | 10 |

| SIZE | BODY DIA. | DRILL DIA. | OVERALL LENGTH | ITEM NO. | PRICE EACH | PKG. QTY. |
|------|-----------|------------|----------------|----------|------------|-----------|
| 15 | 7/16 | 5/32 | 2-3/4 | CDC#15 | 7.06 | 10 |
| 16 | 1/2 | 3/16 | 3 | CDC#16 | 10.54 | 5 |
| 17 | 5/8 | 7/32 | 3-1/4 | CDC#17 | 14.06 | 5 |
| 18 | 3/4 | 1/4 | 3-1/2 | CDC#18 | 18.86 | 5 |

COMBINED DRILL & COUNTERSINK SETS

VINYL POUCH

| ILLUSTRATION | DESCRIPTION | TYPE OF DRILL | ITEM NO. | PRICE |
|--|--|--|---|-------------------------|
|  | 5 PC SET Sizes #1 to #5 | HSS - Plain - 60° Titanium Nitride Coated - Plain - 60° Cobalt - Plain - 60° | DS-CDC-5 DS-CDCT-5 DS-CDCC-5 | 21.18 48.80 60.04 |
| | 5 PC SET Sizes #11 to #15 (Not Illustrated) | HSS - Bell - 60° | DS-CDC-5B | 25.00 |

HIGH SPEED STEEL LONG LENGTH COMBINED DRILL & COUNTERSINKS

ICS

WIS

GENERAL PURPOSE

118° POINT

PLAIN TYPE



60° INCLUDED ANGLE

Long Length Combined Drills & Countersinks are designed to provide access to areas where standard lengths will not reach.

| SIZE | BODY DIA. | DRILL DIA. | OVERALL LENGTH | ITEM NO. | PRICE EACH |
|------|-----------|------------|----------------|-----------------|------------|
| 1 | 1/8 | 3/64 | 3 | CDCL#103 | 13.24 |
| 1 | 1/8 | 3/64 | 4 | CDCL#104 | 14.04 |
| 1 | 1/8 | 3/64 | 5 | CDCL#105 | 19.38 |
| 1 | 1/8 | 3/64 | 6 | CDCL#106 | 25.34 |
| 2 | 3/16 | 5/64 | 4 | CDCL#204 | 15.36 |
| 2 | 3/16 | 5/64 | 5 | CDCL#205 | 19.38 |
| 2 | 3/16 | 5/64 | 6 | CDCL#206 | 25.52 |
| 3 | 1/4 | 7/64 | 4 | CDCL#304 | 16.12 |
| 3 | 1/4 | 7/64 | 5 | CDCL#305 | 21.14 |
| 3 | 1/4 | 7/64 | 6 | CDCL#306 | 25.52 |
| 4 | 5/16 | 1/8 | 4 | CDCL#404 | 17.60 |
| 4 | 5/16 | 1/8 | 5 | CDCL#405 | 22.72 |

| SIZE | BODY DIA. | DRILL DIA. | OVERALL LENGTH | ITEM NO. | PRICE EACH |
|-------|-----------|------------|----------------|-----------------|------------|
| 4 | 5/16 | 1/8 | 6 | CDCL#406 | 25.98 |
| 4-1/2 | 3/8 | 9/64 | 4 | CDCL#454 | 19.38 |
| 4-1/2 | 3/8 | 9/64 | 5 | CDCL#455 | 23.10 |
| 4-1/2 | 3/8 | 9/64 | 6 | CDCL#456 | 27.68 |
| 5 | 7/16 | 3/16 | 4 | CDCL#504 | 21.74 |
| 5 | 7/16 | 3/16 | 5 | CDCL#505 | 25.98 |
| 5 | 7/16 | 3/16 | 6 | CDCL#506 | 29.36 |
| 6 | 1/2 | 7/32 | 5 | CDCL#605 | 27.38 |
| 6 | 1/2 | 7/32 | 6 | CDCL#606 | 33.00 |
| 7 | 5/8 | 1/4 | 5 | CDCL#705 | 54.16 |
| 7 | 5/8 | 1/4 | 6 | CDCL#706 | 61.46 |
| 8 | 3/4 | 5/16 | 6 | CDCL#806 | 66.20 |

COBALT COMBINED DRILL & COUNTERSINKS

ICS

WIS

HEAVY DUTY

118° POINT

PLAIN TYPE



60° INCLUDED ANGLE

| SIZE | BODY DIA. | DRILL DIA. | DRILL LENGTH | OVERALL LENGTH | ITEM NO. | PRICE EACH | PKG. QTY. |
|------|-----------|------------|--------------|----------------|----------------|------------|-----------|
| 1 | 1/8 | 3/64 | 3/64 | 1-1/4 | CDCC#01 | 8.56 | 10 |
| 2 | 3/16 | 5/64 | 5/64 | 1-7/8 | CDCC#02 | 8.56 | 10 |
| 3 | 1/4 | 7/64 | 7/64 | 2 | CDCC#03 | 8.56 | 10 |
| 4 | 5/16 | 1/8 | 1/8 | 2-1/8 | CDCC#04 | 10.32 | 10 |
| 5 | 7/16 | 3/16 | 3/16 | 2-3/4 | CDCC#05 | 20.58 | 10 |
| 6 | 1/2 | 7/32 | 7/32 | 3 | CDCC#06 | 35.54 | 5 |
| 7 | 5/8 | 1/4 | 1/4 | 3-1/4 | CDCC#07 | 66.18 | 1 |
| 8 | 3/4 | 5/16 | 5/16 | 3-1/2 | CDCC#08 | 80.62 | 1 |

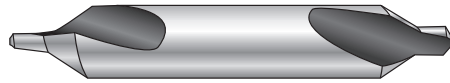
HIGH SPEED STEEL COMBINED DRILL & COUNTERSINKS - METRIC

ICS WIS

GENERAL PURPOSE

118° POINT

PLAIN TYPE



60° INCLUDED ANGLE

High Speed Steel Plain Type Metric Combined Drill and Countersinks are designed to produce accurate center holes in components which require machining between centers.

| SIZE | BODY DIA. | DRILL DIA. | DRILL LENGTH | OVERALL LENGTH | ITEM NO. | PRICE | PKG. QTY. |
|-------|-----------|------------|--------------|----------------|-----------|-------|-----------|
| 1.00 | 3.15 | 1.00 | 1.00 | 33.50 | CDCM01.00 | - | 10 |
| 1.25 | 3.15 | 1.25 | 1.25 | 33.50 | CDCM01.25 | - | 10 |
| 1.60 | 4.00 | 1.60 | 1.60 | 37.50 | CDCM01.60 | - | 10 |
| 2.00 | 5.00 | 2.00 | 2.00 | 42.00 | CDCM02.00 | 3.20 | 10 |
| 2.50 | 6.30 | 2.50 | 2.50 | 47.00 | CDCM02.50 | 3.96 | 10 |
| 3.15 | 8.00 | 3.15 | 3.15 | 52.00 | CDCM03.15 | 4.62 | 10 |
| 4.00 | 10.00 | 4.00 | 4.00 | 59.00 | CDCM04.00 | 7.06 | 10 |
| 5.00 | 12.50 | 5.00 | 5.00 | 66.00 | CDCM05.00 | 10.02 | 5 |
| 6.30 | 16.00 | 6.30 | 6.30 | 74.00 | CDCM06.30 | 16.66 | 5 |
| 8.00 | 20.00 | 8.00 | 8.00 | 83.00 | CDCM08.00 | 32.20 | 1 |
| 10.00 | 25.00 | 10.00 | 10.00 | 103.00 | CDCM10.00 | 46.62 | 1 |

SOLID CARBIDE COMBINED DRILL & COUNTERSINKS

ICS WIS

HEAVY DUTY

118° POINT

PLAIN ANGLE



60° INCLUDED ANGLE

| SIZE | BODY DIA. | DRILL DIA. | DRILL LENGTH | OVERALL LENGTH | ITEM NO. | PRICE EACH | PKG. QTY. |
|------|-----------|------------|--------------|----------------|----------|------------|-----------|
| 00 | 1/8 | .025 | .025 | 1-1/4 | SCCDC#00 | 25.76 | 1 |
| 0 | 1/8 | 1/32 | 1/32 | 1-1/4 | SCCDC#0 | 25.76 | 1 |
| 1 | 1/8 | 3/64 | 3/64 | 1-1/4 | SCCDC#01 | 23.30 | 1 |
| 2 | 3/16 | 5/64 | 5/64 | 1-7/8 | SCCDC#02 | 26.96 | 1 |
| 3 | 1/4 | 7/64 | 7/64 | 2 | SCCDC#03 | 38.98 | 1 |
| 4 | 5/16 | 1/8 | 1/8 | 2-1/8 | SCCDC#04 | 55.64 | 1 |
| 5 | 7/16 | 3/16 | 3/16 | 2-3/4 | SCCDC#05 | 92.86 | 1 |
| 6 | 1/2 | 7/32 | 7/32 | 3 | SCCDC#06 | 108.56 | 1 |

PREMIUM (10% COBALT) MICROGRAIN CARBIDE

SOLID CARBIDE COMBINED DRILL & COUNTERSINKS

ICS USA

GENERAL PURPOSE

118° POINT

PLAIN TYPE



INCLUDED ANGLES
60° - 82° - 90°

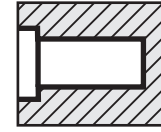
LONG LENGTH

Solid Carbide Long Length Combined Drill & Countersinks are designed to provide access to areas where standard lengths will not reach.

| SIZE | BODY DIA. | DRILL DIA. | DRILL LENGTH | OVERALL LENGTH | UNCOATED | | | TiN COATED | PKG. QTY. |
|------|-----------|------------|--------------|----------------|---------------|---------------|---------------|----------------|-----------|
| | | | | | 60° | 82° | 120° | 60° | |
| 1 | 1/8 | 3/64 | 3/64 | 4 | SCCDCL060-#01 | SCCDCL082-#01 | SCCDCL090-#01 | SCCDCL060T-#01 | 1 |
| 2 | 3/16 | 5/64 | 5/64 | 4 | SCCDCL060-#02 | SCCDCL082-#02 | SCCDCL090-#02 | SCCDCL060T-#02 | 1 |
| 3 | 1/4 | 7/64 | 7/64 | 4 | SCCDCL060-#03 | SCCDCL082-#03 | SCCDCL090-#03 | SCCDCL060T-#03 | 1 |
| 4 | 5/16 | 1/8 | 1/8 | 4 | SCCDCL060-#04 | SCCDCL082-#04 | SCCDCL090-#04 | SCCDCL060T-#04 | 1 |
| 5 | 7/16 | 3/16 | 3/16 | 6 | SCCDCL060-#05 | SCCDCL082-#05 | SCCDCL090-#05 | SCCDCL060T-#05 | 1 |
| 6 | 1/2 | 7/32 | 7/32 | 6 | SCCDCL060-#06 | SCCDCL082-#06 | SCCDCL090-#06 | SCCDCL060T-#06 | 1 |
| 7 | 5/8 | 1/4 | 1/4 | 6 | SCCDCL060-#07 | SCCDCL082-#07 | SCCDCL090-#07 | SCCDCL060T-#07 | 1 |
| 8 | 3/4 | 5/16 | 5/16 | 6 | SCCDCL060-#08 | SCCDCL082-#08 | SCCDCL090-#08 | SCCDCL060T-#08 | 1 |

90° ANGLE STEP DRILLS**ICS USA****SPECIAL PURPOSE****118° POINT**

High Speed Steel 90° Angle Step Drills are designed for drilling and counterboring 90° cap screw clearance holes in one operation, saving machine time and reducing set up time. They can be resharpened or modified for a special length of step and are available in jobber length or taper length drill styles.

**For Drilling 90° Holes and Counterboring Cap Screw Clearance Holes**

| SCREW SIZE | MINOR DIA. | MAJOR DIA. | STEP LENGTH | SHANK DIA. | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|------------|------------|------------|-------------|------------|--------------|----------------|------------|-------|
| #4 | .136 | 7/32 | 3/8 | 7/32 | 2-1/2 | 3-3/4 | SDJL90-#04 | 12.22 |
| #5 | .141 | #1 | 3/8 | #1 | 2-5/8 | 3-7/8 | SDJL90-#05 | 13.06 |
| #6 | .150 | 1/4 | 1/2 | 1/4 | 2-3/4 | 4 | SDJL90-#06 | 13.88 |
| #8 | .178 | "L" | 1/2 | "L" | 2-15/16 | 4-1/4 | SDJL90-#08 | 15.94 |
| #10 | .204 | "Q" | 5/8 | "Q" | 3-7/16 | 4-3/4 | SDJL90-#10 | 17.30 |
| 1/4 | 9/32 | 13/32 | 11/16 | 13/32 | 3-7/8 | 5-1/4 | SDJL90-016 | 20.06 |
| 5/16 | 11/32 | 1/2 | 3/4 | 1/2 | 4-1/2 | 6 | SDJL90-020 | 48.80 |
| 3/8 | 13/32 | 19/32 | 7/8 | 19/32 | 5-3/16 | 7-1/8 | SDJL90-024 | 38.18 |
| 7/16 | 15/32 | 21/32 | 1 | 21/32 | 5-3/16 | 7-1/8 | SDJL90-028 | 46.18 |
| *1/2 | 17/32 | 25/32 | 1 | 25/32 | 3-1/4 | 5-1/8 | SDJL90-032 | 53.20 |
| *5/8 | 21/32 | 31/32 | 1 | 31/32 | 3-7/8 | 5-7/8 | SDJL90-040 | 66.68 |

*Shorter than jobber length. • Reduced 1/2" shank available on screw sizes 3/8 to 5/8. (Add \$3.00)

45° ANGLE STEP DRILLS**ICS USA****SPECIAL PURPOSE****118° POINT**

High Speed Steel 45° Angle Step Drills are designed for drilling 45° chamfered holes to be tapped in one operation. The chamfered hole ensures alignment of tap threads and should always be used with thread forming taps as they displace metal above the mouth of the hole. They can be resharpened or modified for a special length of step and are available in jobber length or taper length drill styles.

**For Drilling 45° Chamfered Holes to be Tapped (to produce approx. 70° thread)**

| SCREW SIZE | MINOR DIA. | MAJOR DIA. | STEP LENGTH | SHANK DIA. | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|------------|------------|------------|-------------|------------|--------------|----------------|---------------|-------|
| #4-40 | .089 | .1285 | 3/8 | .1285 | 1-5/8 | 2-3/4 | SDJL45-#04-40 | 12.08 |
| #5-40 | .101 | 9/64 | 1/2 | 9/64 | 1-3/4 | 2-7/8 | SDJL45-#05-40 | 12.92 |
| #6-32 | .109 | 5/32 | 1/2 | 5/32 | 2 | 3-1/8 | SDJL45-#06-32 | 12.94 |
| #8-32 | .136 | 3/16 | 1/2 | 3/16 | 2-5/16 | 3-1/2 | SDJL45-#08-32 | 13.26 |
| #8-36 | .136 | 3/16 | 1/2 | 3/16 | 2-5/16 | 3-1/2 | SDJL45-#08-36 | 13.44 |
| #10-24 | .152 | 1/4 | 5/8 | 1/4 | 2-3/4 | 4 | SDJL45-#10-24 | 14.28 |
| #10-32 | .161 | 1/4 | 5/8 | 1/4 | 2-3/4 | 4 | SDJL45-#10-32 | 14.28 |
| #12-24 | .179 | 9/32 | 11/16 | 9/32 | 2-15/16 | 4-1/4 | SDJL45-#10-24 | 16.36 |
| 1/4-20 | .204 | 21/64 | 13/16 | 21/64 | 3-5/16 | 4-5/8 | SDJL45-016-20 | 17.56 |
| 1/4-28 | .218 | 21/64 | 13/16 | 21/64 | 3-5/16 | 4-5/8 | SDJL45-016-28 | 17.56 |
| 5/16-18 | .261 | 13/32 | 15/16 | 13/32 | 3-7/8 | 5-1/4 | SDJL45-020-18 | 20.06 |
| 5/16-24 | .272 | 13/32 | 15/16 | 13/32 | 3-7/8 | 5-1/4 | SDJL45-020-24 | 20.06 |
| 3/8-16 | .316 | 31/64 | 1 | 31/64 | 4-3/8 | 5-7/8 | SDJL45-024-16 | 26.52 |
| 3/8-24 | .339 | 31/64 | 1 | 31/64 | 4-3/8 | 5-7/8 | SDJL45-024-24 | 26.52 |
| 7/16-14 | .375 | 17/32 | 1-1/16 | 17/32 | 4-13/16 | 6-5/8 | SDJL45-028-14 | 36.52 |
| 7/16-20 | .390 | 17/32 | 1-1/16 | 17/32 | 4-13/16 | 6-5/8 | SDJL45-028-20 | 36.52 |
| 1/2-13 | .437 | 5/8 | 1-1/16 | 5/8 | 5-3/16 | 7-1/8 | SDJL45-032-13 | 43.24 |
| 1/2-20 | .452 | 5/8 | 1-1/16 | 5/8 | 5-3/16 | 7-1/8 | SDJL45-032-20 | 43.24 |
| 5/8-11 | .531 | 3/4 | 1-1/16 | 3/4 | 5-5/8 | 7-5/8 | SDJL45-040-11 | 46.58 |

82° ANGLE STEP DRILLS

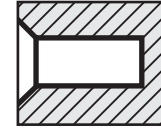
RT-9

ICS USA

SPECIAL PURPOSE

118° POINT

High Speed Steel 82° Angle Step Drills are designed for drilling and countersinking 82° flat head machine screw clearance holes in one operation, saving machine time and reducing set up time. They can be resharpened or modified for a special length of step and are available in jobber length or taper length drill styles.



For Drilling and Countersinking 82° Flat Head Machine Screw Clearance Holes

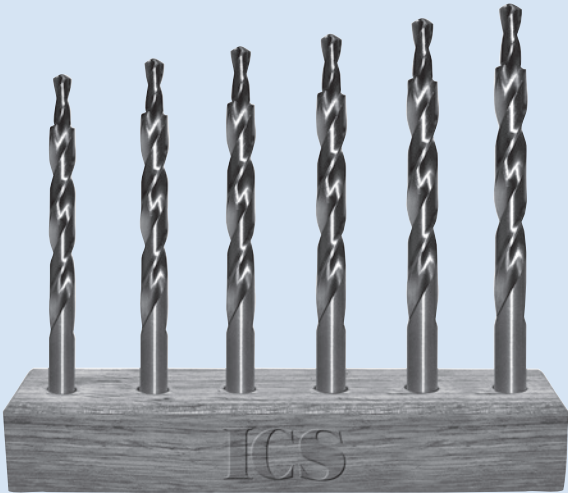
| SCREW SIZE | MINOR DIA. | MAJOR DIA. | STEP LENGTH | SHANK DIA. | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|------------|------------|------------|-------------|------------|--------------|----------------|------------|-------|
| #4 | .116 | 15/64 | 3/8 | 15/64 | 2-5/8 | 3-7/8 | SDJL82-#04 | 13.76 |
| #5 | .128 | "F" | 3/8 | "F" | 2-7/8 | 4-1/8 | SDJL82-#05 | 13.80 |
| #6 | .142 | 9/32 | 1/2 | 9/32 | 2-15/16 | 4-1/4 | SDJL82-#06 | 14.04 |
| #8 | .169 | "Q" | 1/2 | "Q" | 3-7/16 | 4-3/4 | SDJL82-#08 | 17.48 |
| #10 | .196 | "W" | 5/8 | "W" | 3-3/4 | 5-1/8 | SDJL82-#10 | 19.42 |
| 1/4 | .257 | 1/2 | 11/16 | 1/2 | 4-1/2 | 6 | SDJL82-016 | 23.66 |
| 5/16 | .320 | 5/8 | 3/4 | 5/8 | 5-3/16 | 7-1/8 | SDJL82-020 | 35.32 |
| *3/8 | .383 | 3/4 | 7/8 | 3/4 | 3-1/8 | 5 | SDJL82-024 | 48.02 |
| *7/16 | .446 | 13/16 | 1 | 13/16 | 3-3/8 | 5-1/4 | SDJL82-028 | 54.58 |
| *1/2 | .510 | 7/8 | 1 | 7/8 | 3-1/2 | 5-1/2 | SDJL82-032 | 64.56 |

*Shorter than jobber length. • Reduced 1/2" shank available on screw sizes 5/16 to 1/2. (Add \$3.00)

HIGH SPEED STEEL STEP DRILL SETS

WOOD STAND

High Speed Steel 6 Piece Step Drill Sets contain #6 to 3/8 screw sizes and are available in 45°, 82°, and 90° step angles in jobber length and taper length drill styles.

| DESCRIPTION | TYPE OF STEP DRILL | ITEM NO. | PRICE |
|--|--------------------|-----------|--------|
| 6 PC STEP DRILL SET #6 to 3/8  | Jobber Length 45° | SDJLS45-6 | 102.58 |
| | Jobber Length 82° | SDJLS82-6 | 152.30 |
| | Jobber Length 90° | SDJLS90-6 | 127.66 |

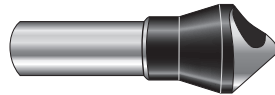
HIGH SPEED STEEL COUNTERSINKS - ZERO FLUTE (DEBURRING)

ICS USA

GENERAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



AXIAL RELIEF

#0 DOUBLE END -DE

High Speed Steel Zero Flute Countersinks are designed for countersinking and deburring operations. The single cutting edge removes stock quickly and prevents chatter. They can be resharpened by using an Axial Relieving Fixture or by using a small mounted grinding wheel and inserting it into the hole. Also known as Anti-Vibration Through-Hole Countersinks.

| SIZE NO. | SHANK DIA. | OVERALL LENGTH | INCLUDED ANGLE | | INCLUDED ANGLE | | | | PRICE EACH |
|----------|------------|----------------|----------------|------------|----------------|--------------|--------------|---------------|------------|
| | | | LARGE DIA. | SMALL DIA. | 60° | 82° | 90° | 100° | |
| 0 | 1/4 | 1-3/4 | 1/16 | 15/64 | CSK060-#0 | CSK082#0 | CSK090-#0 | CSK0100-#0 | 14.08 |
| 0 | 1/4 | 1-3/4 | 1/16 | 15/64 | CSK060-#0-DE | CSK082-#0-DE | CSK090-#0-DE | CSK0100-#0-DE | 13.60 |
| 1 | 1/4 | 1-3/4 | 5/32 | 13/32 | CSK060-#1 | CSK082-#1 | CSK090-#1 | CSK0100-#1 | 15.78 |
| 2 | 1/4 | 2 | 3/16 | 17/32 | CSK060-#2 | CSK082-#2 | CSK090-#2 | CSK0100-#2 | 17.02 |
| 3 | 1/2 | 2-3/4 | 5/16 | 25/32 | CSK060-#3 | CSK082-#3 | CSK090-#3 | CSK0100-#3 | 27.70 |
| 4 | 1/2 | 3 | 9/16 | 1-1/16 | CSK060-#4 | CSK082-#4 | CSK090-#4 | CSK0100-#4 | 42.20 |
| 5 | 1/2 | 3-3/4 | 5/8 | 1-15/32 | - | CSK082-#5 | - | - | 67.92 |
| 6 | 5/8 | 4 | 3/4 | 1-3/4 | - | CSK082-#6 | - | - | 101.62 |
| 7 | 5/8 | 4-3/8 | 1 | 2 | - | CSK082-#7 | - | - | 122.62 |
| 8 | 3/4 | 4-3/4 | 1-1/4 | 2-1/2 | - | CSK082-#8 | - | - | 144.42 |

DE = Double End

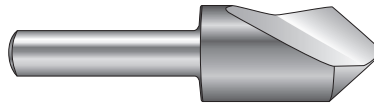
HIGH SPEED STEEL COUNTERSINKS - SINGLE FLUTE

ICS USA

GENERAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



RADIAL RELIEF

High Speed Steel Single Flute Countersinks should be used when multi-flute countersinks chatter or the hole is too small for a multi-flute countersink to enter. Use for machine and portable work when operating at higher speeds. Drilled hole should be at least 10% of the diameter of countersink. Single flute countersinks are available with 60 degree, 82 degree, 90 degree, 100 degree, 110 degree and 120 degree point angles. They are also available in 5 piece sets and 6" length.

| SIZE NO. | SHANK DIA. | OVERALL LENGTH | CENTERLINE ANGLE / INCLUDED ANGLE | | | | | | PRICE EACH |
|----------|------------|----------------|-----------------------------------|-------------|-------------|-------------|-------------|-------------|------------|
| | | | 30° / 60° | 41° / 82° | 45° / 90° | 50° / 100° | 55° / 110° | 60° / 120° | |
| 1/8 | 1/8 | 1-1/2 | CSK160-008 | CSK182-008 | CSK190-008 | CSK100-008 | CSK110-008 | CSK120-008 | 7.06 |
| 3/16 | 3/16 | 1-1/2 | CSK160-012 | CSK182-012 | CSK190-012 | CSK100-012 | CSK110-012 | CSK120-012 | 7.06 |
| 1/4 | 3/16 | 1-1/2 | CSK160-016 | CSK182-016 | CSK190-016 | CSK100-016 | CSK110-016 | CSK120-016 | 7.06 |
| 5/16 | 1/4 | 1-7/8 | CSK160-020 | CSK182-020 | CSK190-020 | CSK100-020 | CSK110-020 | CSK120-020 | 7.62 |
| 3/8 | 1/4 | 1-7/8 | CSK160-024 | CSK182-024 | CSK190-024 | CSK100-024 | CSK110-024 | CSK120-024 | 9.02 |
| 1/2 | 1/4 | 2 | CSK160-032A | CSK182-032A | CSK190-032A | CSK100-032A | CSK110-032A | CSK120-032A | 12.94 |
| 1/2 | 3/8 | 2 | CSK160-032 | CSK182-032 | CSK190-032 | CSK100-032 | CSK110-032 | CSK120-032 | 12.94 |
| 5/8 | 3/8 | 2-1/4 | CSK160-040 | CSK182-040 | CSK190-040 | CSK100-040 | - | - | 18.00 |
| 3/4 | 3/8 | 2-1/2 | CSK160-048 | CSK182-048 | CSK190-048 | CSK100-048 | CSK110-048 | CSK120-048 | 25.28 |
| 3/4 | 1/2 | 2-1/2 | CSK160-048A | CSK182-048A | CSK190-048A | CSK100-048A | CSK110-048A | CSK120-048A | 24.12 |
| 7/8 | 1/2 | 2-1/2 | CSK160-056 | CSK182-056 | CSK190-056 | CSK100-056 | CSK110-056 | CSK120-056 | 34.94 |
| 1 | 1/2 | 2-3/4 | CSK160-100 | CSK182-100 | CSK190-100 | CSK100-100 | CSK110-100 | - | 38.26 |
| 1-1/4 | 1/2 | 3-3/8 | CSK160-116 | CSK182-116 | CSK190-116 | CSK100-116 | CSK110-116 | - | 65.52 |
| 1-1/4 | 3/4 | 3-3/8 | CSK160-116A | CSK182-116A | CSK190-116A | CSK100-116A | CSK110-116A | - | 65.52 |
| 1-1/2 | 1/2 | 3-1/2 | CSK160-132 | CSK182-132 | CSK190-132 | CSK100-132 | - | - | 91.74 |
| 1-1/2 | 3/4 | 3-1/2 | CSK160-132A | CSK182-132A | CSK190-132A | CSK100-132A | CSK110-132A | - | 82.32 |
| 2 | 1/2 | 4 | CSK160-200 | CSK182-200 | CSK190-200 | CSK100-200 | - | - | 159.04 |
| 2 | 3/4 | 4 | CSK160-200A | CSK182-200A | CSK190-200A | CSK100-200A | CSK110-200A | - | 149.62 |
| 2-1/2 | 3/4 | 5 | - | - | CSK190-232 | - | - | - | 329.28 |
| 3 | 3/4 | 5-1/4 | CSK160-300 | - | CSK190-300 | - | - | - | 411.60 |

HIGH SPEED STEEL

RT-11

COUNTERSINKS - THREE FLUTE (CENTER REAMER)

ICS USA

GENERAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



RADIAL RELIEF

High Speed Steel Three Flute Countersinks should be used at a slower speed. (1/2 to 2/3 the speed used for drilling) Recommended for machine and portable work. Because of their centering ability, they are widely used in portable applications. They are also available in 5 piece sets.

| SIZE | SHANK DIA. | OVERALL LENGTH | CENTERLINE ANGLE / INCLUDED ANGLE | | | | | | PRICE EACH |
|-------|------------|----------------|-----------------------------------|-------------|-------------|-------------|------------|------------|------------|
| | | | 30° / 60° | 41° / 82° | 45° / 90° | 50° / 100° | 55° / 110° | 60° / 120° | |
| 1/4 | 3/16 | 1-1/2 | CSK360-016 | CSK382-016 | CSK390-016 | CSK300-016 | CSK310-016 | CSK320-016 | 7.06 |
| 5/16 | 1/4 | 1-7/8 | CSK360-020 | CSK382-020 | CSK390-020 | CSK300-020 | CSK310-020 | CSK320-020 | 7.62 |
| 3/8 | 1/4 | 1-7/8 | CSK360-024 | CSK382-024 | CSK390-024 | CSK300-024 | CSK310-024 | CSK320-024 | 9.02 |
| 1/2 | 1/4 | 2 | CSK360-032A | CSK382-032A | CSK390-032A | CSK300-032A | - | - | 12.94 |
| 1/2 | 3/8 | 2 | CSK360-032 | CSK382-032 | CSK390-032 | CSK300-032 | CSK310-032 | CSK320-032 | 12.94 |
| 5/8 | 3/8 | 2-1/4 | CSK360-040 | CSK382-040 | CSK390-040 | CSK300-040 | CSK310-040 | CSK320-040 | 18.00 |
| 3/4 | 3/8 | 2-1/2 | CSK360-048A | CSK382-048A | CSK390-048A | CSK300-048A | - | - | 25.28 |
| 3/4 | 1/2 | 2-1/2 | CSK360-048 | CSK382-048 | CSK390-048 | CSK300-048 | CSK310-048 | CSK320-048 | 24.12 |
| 7/8 | 1/2 | 2-1/2 | CSK360-056 | CSK382-056 | CSK390-056 | CSK300-056 | CSK310-056 | CSK320-056 | 34.94 |
| 1 | 1/2 | 2-3/4 | CSK360-100 | CSK382-100 | CSK390-100 | CSK300-100 | - | - | 38.26 |
| 1-1/4 | 1/2 | 3-3/8 | CSK360-116 | CSK382-116 | CSK390-116 | - | - | - | 65.52 |
| 1-1/2 | 1/2 | 3-1/2 | CSK360-132 | CSK382-132 | CSK390-132 | - | - | - | 91.74 |
| 1-1/2 | 3/4 | 3-1/2 | CSK360-132A | CSK382-132A | CSK390-132A | CSK300-132A | - | - | 82.32 |
| 2 | 3/4 | 4 | CSK360-200A | CSK382-200A | CSK390-200A | CSK300-200A | - | - | 159.04 |

HIGH SPEED STEEL

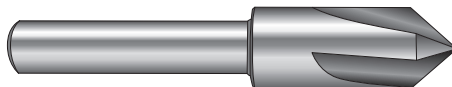
COUNTERSINKS - FOUR FLUTE (MACHINE)

ICS USA

GENERAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



RADIAL RELIEF

High Speed Steel Four Flute Machine Countersinks have a longer shank for use in turret lathes and for screw machine work. They are also available in 5 piece sets.

| SIZE NO. | SHANK DIA. | OVERALL LENGTH | CENTERLINE ANGLE / INCLUDED ANGLE | | | PRICE EACH |
|----------|------------|----------------|-----------------------------------|------------|------------|------------|
| | | | 30° / 60° | 41° / 82° | 45° / 90° | |
| 1/2 | 1/2 | 3-7/8 | CSK460-032 | CSK482-032 | CSK490-032 | 23.86 |
| 5/8 | 1/2 | 4 | CSK460-040 | CSK482-040 | CSK490-040 | 27.70 |
| 3/4 | 1/2 | 4-1/8 | CSK460-048 | CSK482-048 | CSK490-048 | 40.62 |
| 7/8 | 1/2 | 4-1/4 | CSK460-056 | CSK482-056 | CSK490-056 | 44.50 |
| 1 | 1/2 | 4-3/8 | CSK460-100 | CSK482-100 | CSK490-100 | 50.78 |
| 1-1/4 | 1/2 | 5 | CSK460-116 | CSK482-116 | CSK490-116 | 67.04 |
| 1-1/2 | 1/2 | 5-3/8 | CSK460-132 | CSK482-132 | CSK490-132 | 90.56 |

Countersink sets in wood stands can be found on page 186.

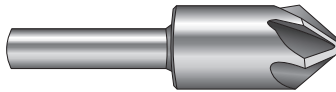
HIGH SPEED STEEL SIX FLUTE (CHATTERLESS) COUNTERSINKS

ICS USA

GENERAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



RADIAL RELIEF

High Speed Steel Six Flute Countersinks are designed for fast shearing and chatterless cuts. They produce an exceptionally fine finish and can be run at maximum speed. The six cutting edges quickly center in hole and produce a smaller chip load for chatterless machining. They are also available in 5 piece sets and 6" length.

| SIZE NO. | SHANK DIA. | OVERALL LENGTH | CENTERLINE ANGLE / INCLUDED ANGLE | | | | | PRICE EACH |
|----------|------------|----------------|-----------------------------------|-------------|-------------|-------------|-------------|------------|
| | | | 30° / 60° | 41° / 82° | 45° / 90° | 50° / 100° | 60° / 120° | |
| 1/8 | 1/8 | 1-1/2 | CSK660-008 | CSK682-008 | CSK690-008 | CSK600-008 | CSK620-008 | 8.42 |
| 3/16 | 3/16 | 1-1/2 | CSK660-012 | CSK682-012 | CSK690-012 | CSK600-012 | CSK620-012 | 8.42 |
| 1/4 | 1/4 | 2 | CSK660-016 | CSK682-016 | CSK690-016 | CSK600-016 | CSK620-016 | 8.90 |
| 5/16 | 1/4 | 2 | CSK660-020 | CSK682-020 | CSK690-020 | CSK600-020 | CSK620-020 | 9.72 |
| 3/8 | 1/4 | 2 | CSK660-024 | CSK682-024 | CSK690-024 | CSK600-024 | CSK620-024 | 11.52 |
| 1/2 | 1/4 | 2 | CSK660-032A | CSK682-032A | CSK690-032A | CSK600-032A | CSK620-032A | 14.30 |
| 1/2 | 3/8 | 2 | CSK660-032 | CSK682-032 | CSK690-032 | CSK600-032 | CSK620-032 | 14.30 |
| 5/8 | 3/8 | 2-3/4 | CSK660-040 | CSK682-040 | CSK690-040 | CSK600-040 | CSK620-040 | 20.42 |
| 3/4 | 1/2 | 2-3/4 | CSK660-048 | CSK682-048 | CSK690-048 | CSK600-048 | CSK620-048 | 30.12 |
| 7/8 | 1/2 | 2-3/4 | CSK660-056 | CSK682-056 | CSK690-056 | CSK600-056 | CSK620-056 | 36.60 |
| 1 | 1/2 | 2-3/4 | CSK660-100 | CSK682-100 | CSK690-100 | CSK600-100 | CSK620-100 | 43.94 |
| 1-1/4 | 3/4 | 3-3/8 | CSK660-116 | CSK682-116 | CSK690-116 | CSK600-116 | CSK620-116 | 65.32 |
| 1-1/2 | 3/4 | 3-1/2 | CSK660-132 | CSK682-132 | CSK690-132 | CSK600-132 | CSK620-132 | 92.98 |
| 1-3/4 | 3/4 | 4-1/4 | CSK660-148 | CSK682-148 | CSK690-148 | CSK600-148 | CSK620-148 | 123.14 |
| 2 | 3/4 | 4-3/8 | CSK660-200 | CSK682-200 | CSK690-200 | CSK600-200 | CSK620-200 | 143.80 |

HIGH SPEED STEEL COUNTERSINK SETS

WOOD STANDS

| DESCRIPTION | ITEM NO. | INCLUDED ANGLE | PRICE | |
|---|------------------------------------|----------------|-------|--|
| 5 PC COUNTERSINK SETS | | | | |
| <p>SIZES IN SETS</p> <p>1/4", 3/8", 1/2", 5/8", 3/4"</p> <p>1/2", 5/8", 3/4", 7/8", 1"</p> <p>#0, 1, 2, 3, 4</p> <p>Custom sets are available Inquire for pricing.</p> | SINGLE FLUTE | | | |
| | → CSKS160-5 | 60° | 82.28 | |
| | CSKS182-5 | 82° | 82.28 | |
| | CSKS190-5 | 90° | 82.28 | |
| | CSKS100-5 | 100° | 82.28 | |
| | CSKS110-5 | 110° | 82.28 | |
| | CSKS120-5 | 120° | 82.28 | |
| | THREE FLUTE (CENTER REAMER) | | | |
| | CSKS360-5 | 60° | 82.28 | |
| | CSKS382-5 | 82° | 82.28 | |
| | CSKS390-5 | 90° | 82.28 | |
| | CSKS300-5 | 100° | 82.28 | |
| | CSKS310-5 | 110° | 82.28 | |
| | CSKS320-5 | 120° | 82.28 | |
| | SIX FLUTE (CHATTERLESS) | | | |
| | CSKS660-5 | 60° | 96.38 | |
| | CSKS682-5 | 82° | 96.38 | |
| | CSKS690-5 | 90° | 96.38 | |
| CSKS600-5 | 100° | 96.38 | | |
| → CSKS620-5 | 120° | 96.38 | | |
| FOUR FLUTE (MACHINE) | | | | |
| → CSKS460-5 | 60° | 197.70 | | |
| CSKS482-5 | 82° | 197.70 | | |
| → CSKS490-5 | 90° | 197.70 | | |
| ZERO FLUTE (DEBURRING) | | | | |
| → CSKS060-5 | 60° | 80.40 | | |
| CSKS082-5 | 82° | 80.40 | | |
| → CSKS090-5 | 90° | 80.40 | | |

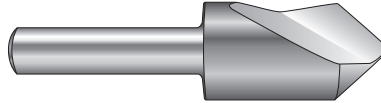
SOLID CARBIDE SINGLE FLUTE COUNTERSINKS ^{RT-13}

ICS USA

GENERAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



ECCENTRIC RELIEF

Solid Carbide Single Flute Countersinks are used for softer materials.

| SIZE NO. | SHANK DIA. | OVERALL LENGTH | CENTERLINE ANGLE / INCLUDED ANGLE | | | | | PRICE EACH |
|----------|------------|----------------|-----------------------------------|--------------|--------------|--------------|--------------|------------|
| | | | 30° / 60° | 41° / 82° | 45° / 90° | 50° / 100° | 60° / 120° | |
| 1/8 | 1/8 | 1-1/2 | SCCSK160-008 | SCCSK182-008 | SCCSK190-008 | SCCSK100-008 | SCCSK120-008 | 12.08 |
| 3/16 | 3/16 | 2 | SCCSK160-012 | SCCSK182-012 | SCCSK190-012 | SCCSK100-012 | SCCSK120-012 | 19.12 |
| 1/4 | 1/4 | 2 | SCCSK160-016 | SCCSK182-016 | SCCSK190-016 | SCCSK100-016 | SCCSK120-016 | 21.10 |
| 3/8 | 1/4 | 2-3/8 | SCCSK160-024 | SCCSK182-024 | SCCSK190-024 | SCCSK100-024 | SCCSK120-024 | 37.00 |
| 1/2 | 1/4 | 2-1/2 | SCCSK160-032 | SCCSK182-032 | SCCSK190-032 | SCCSK100-032 | SCCSK120-032 | 49.28 |
| 5/8 | 3/8 | 3 | SCCSK160-040 | SCCSK182-040 | SCCSK190-040 | SCCSK100-040 | SCCSK120-040 | 66.36 |
| 3/4 | 1/2 | 3 | SCCSK160-048 | SCCSK182-048 | SCCSK190-048 | SCCSK100-048 | SCCSK120-048 | 98.30 |
| 1 | 1/2 | 3 | SCCSK160-100 | SCCSK182-100 | SCCSK190-100 | SCCSK100-100 | SCCSK120-100 | 155.80 |
| 1-1/4 | 3/4 | 3-1/4 | SCCSK160-116 | SCCSK182-116 | SCCSK190-116 | SCCSK100-116 | SCCSK120-116 | 279.44 |
| 1-1/2 | 3/4 | 3-1/2 | SCCSK160-132 | SCCSK182-132 | SCCSK190-132 | SCCSK100-132 | SCCSK120-132 | 401.06 |

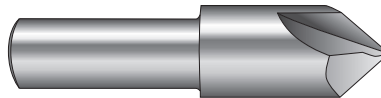
SOLID CARBIDE THREE FLUTE COUNTERSINKS

ICS USA

GENERAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



ECCENTRIC RELIEF

Solid Carbide Three Flute Countersinks are used for general purpose work.

| SIZE NO. | SHANK DIA. | OVERALL LENGTH | CENTERLINE ANGLE / INCLUDED ANGLE | | | | | PRICE EACH |
|----------|------------|----------------|-----------------------------------|--------------|--------------|--------------|--------------|------------|
| | | | 30° / 60° | 41° / 82° | 45° / 90° | 50° / 100° | 60° / 120° | |
| 1/8 | 1/8 | 1-1/2 | SCCSK360-008 | SCCSK382-008 | SCCSK390-008 | SCCSK300-008 | SCCSK320-008 | 12.08 |
| 3/16 | 3/16 | 2 | SCCSK360-012 | SCCSK382-012 | SCCSK390-012 | SCCSK300-012 | SCCSK320-012 | 19.12 |
| 1/4 | 1/4 | 2 | SCCSK360-016 | SCCSK382-016 | SCCSK390-016 | SCCSK300-016 | SCCSK320-016 | 21.10 |
| 3/8 | 1/4 | 2-3/8 | SCCSK360-024 | SCCSK382-024 | SCCSK390-024 | SCCSK300-024 | SCCSK320-024 | 37.00 |
| 1/2 | 1/4 | 2-1/2 | SCCSK360-032 | SCCSK382-032 | SCCSK390-032 | SCCSK300-032 | SCCSK320-032 | 49.28 |
| 5/8 | 3/8 | 3 | SCCSK360-040 | SCCSK382-040 | SCCSK390-040 | SCCSK300-040 | SCCSK320-040 | 66.36 |
| 3/4 | 1/2 | 3 | SCCSK360-048 | SCCSK382-048 | SCCSK390-048 | SCCSK300-048 | SCCSK320-048 | 98.30 |
| 1 | 1/2 | 3 | SCCSK360-100 | SCCSK382-100 | SCCSK390-100 | SCCSK300-100 | SCCSK320-100 | 155.80 |
| 1-1/4 | 3/4 | 3-1/4 | SCCSK360-116 | SCCSK382-116 | SCCSK390-116 | SCCSK300-116 | SCCSK320-116 | 279.44 |
| 1-1/2 | 3/4 | 3-1/2 | SCCSK360-132 | SCCSK382-132 | SCCSK390-132 | SCCSK300-132 | SCCSK320-132 | 401.06 |

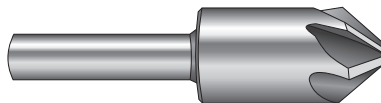
SOLID CARBIDE SIX FLUTE COUNTERSINKS

ICS USA

HEAVY DUTY

RIGHT HAND CUT

STRAIGHT SHANK



RADIAL RELIEF

Solid Carbide Six Flute Countersinks are used for hardened steels and metals.

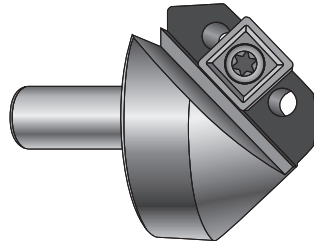
| SIZE NO. | SHANK DIA. | OVERALL LENGTH | CENTERLINE ANGLE / INCLUDED ANGLE | | | | | PRICE EACH |
|----------|------------|----------------|-----------------------------------|--------------|--------------|--------------|--------------|------------|
| | | | 30° / 60° | 41° / 82° | 45° / 90° | 50° / 100° | 60° / 120° | |
| 1/8 | 1/8 | 1-1/2 | SCCSK660-008 | SCCSK682-008 | SCCSK690-008 | SCCSK600-008 | SCCSK620-008 | 12.08 |
| 3/16 | 3/16 | 2 | SCCSK660-012 | SCCSK682-012 | SCCSK690-012 | SCCSK600-012 | SCCSK620-012 | 19.12 |
| 1/4 | 1/4 | 2 | SCCSK660-016 | SCCSK682-016 | SCCSK690-016 | SCCSK600-016 | SCCSK620-016 | 21.10 |
| 3/8 | 1/4 | 2-3/8 | SCCSK660-024 | SCCSK682-024 | SCCSK690-024 | SCCSK600-024 | SCCSK620-024 | 37.00 |
| 1/2 | 1/4 | 2-1/2 | SCCSK660-032 | SCCSK682-032 | SCCSK690-032 | SCCSK600-032 | SCCSK620-032 | 49.28 |
| 5/8 | 3/8 | 3 | SCCSK660-040 | SCCSK682-040 | SCCSK690-040 | SCCSK600-040 | SCCSK620-040 | 66.36 |
| 3/4 | 1/2 | 3 | SCCSK660-048 | SCCSK682-048 | SCCSK690-048 | SCCSK600-048 | SCCSK620-048 | 98.30 |
| 1 | 1/2 | 3 | SCCSK660-100 | SCCSK682-100 | SCCSK690-100 | SCCSK600-100 | SCCSK620-100 | 155.80 |
| 1-1/4 | 3/4 | 3-1/4 | SCCSK660-116 | SCCSK682-116 | SCCSK690-116 | SCCSK600-116 | SCCSK620-116 | 279.44 |
| 1-1/2 | 3/4 | 3-1/2 | SCCSK660-132 | SCCSK682-132 | SCCSK690-132 | SCCSK600-132 | SCCSK620-132 | 401.06 |

CARBIDE INSERT INDEXABLE COUNTERSINKS

ICS **WIS**

HEAVY DUTY

POSITIVE RAKE



60°, 82°, 90°
POINT ANGLE

Indexable Countersinks are designed with a positive rake for smooth cutting without chatter. No tool resharping needed. Uses standard square or triangle inserts that come with the countersink.

| CUTTER BODY DIA. | | SHANK | INSERTS | ITEM NO. | | | PRICE |
|------------------|-------|-------|--------------|-------------|-------------|-------------|-------|
| MIN | MAX | DIA. | USED | 60° | 82° | 90° | |
| 1/8 | 1/2 | 3/8 | TCMT21.51SC6 | ICSK060-032 | ICSK082-032 | ICSK090-032 | 33.14 |
| 1/4 | 3/4 | 1/2 | TCMT32.51SC6 | ICSK060-048 | ICSK082-048 | ICSK090-048 | 38.56 |
| 1/2 | 1-3/4 | 1/2 | SCMT432C6 | ICSK060-148 | ICSK082-148 | ICSK090-148 | 49.38 |
| 1-1/4 | 2-1/2 | 3/4 | SCMT432C6 | ICSK060-232 | ICSK082-232 | ICSK090-232 | 60.54 |

CARBIDE (INDEXABLE) INSERTS

ICS **WIS**

SPECIAL PURPOSE


PRECISION GROUND

For use with ICS Indexable Countersinks. Choose a C6 or Titanium Nitride coated.

| INSERT STYLE | GRADE | RADIUS | INSCRIBED CRICLE (I.C.) | ITEM NO. | PRICE |
|--------------|----------|--------|-------------------------|----------------|-------|
| TRIANGLE | C-6 | 1/64 | 1/4 | I-TCMT21.51SC6 | 7.02 |
| | TiN Coat | 1/64 | 1/4 | I-TCMT21.51ST6 | 9.82 |
| | C-6 | 1/64 | 3/8 | I-TCMT32.51SC6 | 7.02 |
| | TiN Coat | 1/64 | 3/8 | I-TCMT32.51ST6 | 9.82 |
| SQUARE | C-6 | 1/32 | 1/2 | I-SCMT432C6 | 14.06 |
| | TiN Coat | 1/32 | 1/2 | I-SCMT432T6 | 16.86 |

CARBIDE INSERT INDEXABLE COUNTERSINK SETS

WOOD CASE

| DESCRIPTION | POINT ANGLE | ITEM NO. | PRICE |
|---|-------------|------------|--------|
| 3 PC INDEXABLE COUNTERSINK SET (NOT ILLUSTRATED) SIZES 3/4, 1-3/4, 2-1/2 | 60° | ICSKS060-3 | 163.16 |
| | 82° | ICSKS082-3 | 163.16 |
| | 90° | ICSKS090-3 | 163.16 |
| 4 PC INDEXABLE COUNTERSINK SET  SIZES 1/2, 3/4, 1-3/4, 2-1/2 | 60° | ICSKS060-4 | 199.60 |
| | 82° | ICSKS082-4 | 199.60 |
| | 90° | ICSKS090-4 | 199.60 |

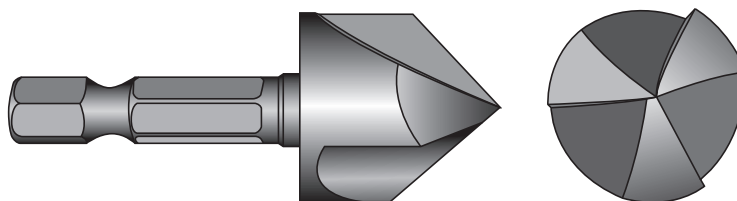
THREE FLUTE (QUICK CHANGE) COUNTERSINKS

ICS WIS

GENERAL PURPOSE

RIGHT HAND CUT

QUICK CHANGE
1/4" HEX SHANK



82°
POINT ANGLE

High Speed Steel Three Flute Quick Change Countersinks fit into a 1/4" hex power driver or any 3-jaw style power drill chuck. Used to countersink most ferrous and non-ferrous metals, plastic, wood, etc.

| SIZE | OVERALL LENGTH | ITEM NO. | CENTERLINE ANGLE/ INCLUDED ANGLE | PRICE |
|------|----------------|--------------|-------------------------------------|-------|
| 1/4 | 2" | CSKQC382-016 | 41° / 82° | 5.26 |
| 3/8 | 2" | CSKQC382-024 | 41° / 82° | 5.78 |
| 1/2 | 2" | CSKQC382-032 | 41° / 82° | 6.30 |
| 5/8 | 2" | CSKQC382-040 | 41° / 82° | 10.50 |
| 3/4 | 2" | CSKQC382-048 | 41° / 82° | 12.60 |

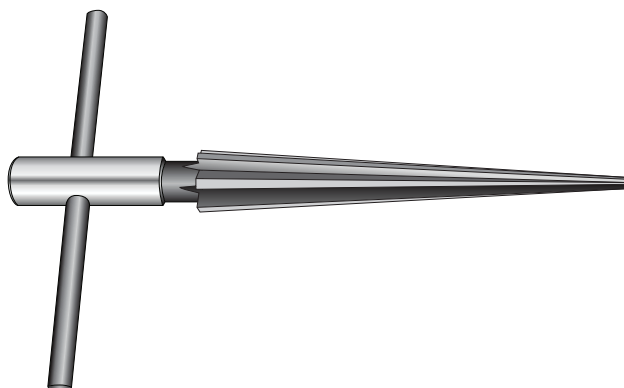
TOOL STEEL / HIGH SPEED STEEL REPAIRMAN'S TAPER REAMER

ICS WIS

GENERAL PURPOSE / HEAVY DUTY

60° POINT

T-HANDLE
SHANK



STRAIGHT
FLUTE

Tool Steel Repairman's Taper Reamers are used to enlarge and countersink holes in soft metals, plastics, and similar materials. High Speed Steel Repairman's Taper Reamers are designed for removing burrs from small holes, tubing, and enlarging holes in sheet metal. They are used by plumbers, mechanics, electricians, and machinists. Not for use in machine power tools.

| POINT DIA. | LARGE DIA. | LENGTH OF CUT | OVERALL LENGTH | SHANK DIA. | FLUTE END STYLE | ITEM NO. | PRICE |
|-------------------------|------------|---------------|----------------|--------------|-----------------|----------|-------|
| TOOL STEEL | | | | | | | |
| 1/8 | 1/2 | 3-1/2 | 5-5/8 | 1/2 | 60° POINT | RTR032 | 11.00 |
| 3/16 | 5/8 | 4-1/4 | 6 | 12MM (.4724) | 60° POINT | RTR040 | 12.88 |
| 3/16 | 5/8 | 4-1/4 | 6 | 9/16 HEX | 60° POINT | RTR040HX | 15.00 |
| HIGH SPEED STEEL | | | | | | | |
| 1/8 | 1/2 | 3-5/8 | 5-9/16 | 1/2 | 60° POINT | RTRHD032 | 15.50 |
| 1/8 | 5/8 | 3-5/8 | 5-9/16 | 1/2 | 60° POINT | RTRHD040 | 18.20 |
| 3/8 | 1 | 4-1/2 | 6 | 1/2 | 60° POINT | RTRHD100 | 39.96 |

HIGH SPEED STEEL COUNTERSINKS - LONG REACH

ICS USA
SPECIAL PURPOSE
RIGHT HAND CUT
**EXTRA LENGTH
STRAIGHT SHANK**
**FAST CUT
60°, 82°, 90° & 100° POINT ANGLES**
**RADIAL
RELIEF**

SINGLE FLUTE



High Speed Steel Long-Reach (Extended Length) Single Flute Countersinks are used for difficult to reach tool and die work. The single flute is designed for chamfering and deburring holes too small for multi-flute countersinks.

| SIZE | SHANK DIAMETER | OVERALL LENGTH | ITEM NO. | | | | PRICE |
|------|----------------|----------------|--------------|--------------|--------------|--------------|-------|
| | | | 60° | 82° | 90° | 100° | |
| 1/4 | 1/4 | 6 | CSKXL160-016 | CSKXL182-016 | CSKXL190-016 | CSKXL100-016 | 19.66 |
| 5/16 | 1/4 | 6 | CSKXL160-020 | CSKXL182-020 | CSKXL190-020 | CSKXL100-020 | 20.22 |
| 3/8 | 1/4 | 6 | CSKXL160-024 | CSKXL182-024 | CSKXL190-024 | CSKXL100-024 | 23.10 |
| 1/2 | 3/8 | 6 | CSKXL160-032 | CSKXL182-032 | CSKXL190-032 | CSKXL100-032 | 31.50 |
| 5/8 | 3/8 | 6 | CSKXL160-040 | CSKXL182-040 | CSKXL190-040 | CSKXL100-040 | 37.28 |
| 3/4 | 1/2 | 6 | CSKXL160-048 | CSKXL182-048 | CSKXL190-048 | CSKXL100-048 | 41.90 |
| 1 | 1/2 | 6 | CSKXL160-100 | CSKXL182-100 | CSKXL190-100 | CSKXL100-100 | 61.96 |

THREE FLUTE



High Speed Steel Long-Reach (Extended Length) Three Flute Countersinks are used for difficult to reach tool and die work. They should be used at a slower speed. (1/2 to 2/3 the speed used for drilling) Recommended for machine and portable work. Because of their centering ability, they are widely used in portable applications

| SIZE | SHANK DIAMETER | OVERALL LENGTH | ITEM NO. | | | | PRICE |
|------|----------------|----------------|--------------|--------------|--------------|--------------|-------|
| | | | 60° | 82° | 90° | 100° | |
| 1/4 | 1/4 | 6 | CSKXL360-016 | CSKXL382-016 | CSKXL390-016 | CSKXL300-016 | - |
| 5/16 | 1/4 | 6 | CSKXL360-020 | CSKXL382-020 | CSKXL390-020 | CSKXL300-020 | - |
| 3/8 | 1/4 | 6 | CSKXL360-024 | CSKXL382-024 | CSKXL390-024 | CSKXL300-024 | CALL |
| 1/2 | 3/8 | 6 | CSKXL360-032 | CSKXL382-032 | CSKXL390-032 | CSKXL300-032 | FOR |
| 5/8 | 3/8 | 6 | CSKXL360-040 | CSKXL382-040 | CSKXL390-040 | CSKXL300-040 | PRICE |
| 3/4 | 1/2 | 6 | CSKXL360-048 | CSKXL382-048 | CSKXL390-048 | CSKXL300-048 | - |
| 1 | 1/2 | 6 | CSKXL360-100 | CSKXL382-100 | CSKXL390-100 | CSKXL300-100 | - |

SIX FLUTE



High Speed Steel Long-Reach (Extended Length) Six Flute Countersinks are used for difficult to reach tool and die work requiring fine finish cuts. The six cutting edges quickly center in hole and produce a smaller chip load.

| SIZE | SHANK DIAMETER | OVERALL LENGTH | ITEM NO. | | | | PRICE |
|------|----------------|----------------|--------------|--------------|--------------|--------------|-------|
| | | | 60° | 82° | 90° | 100° | |
| 1/4 | 1/4 | 6 | CSKXL660-016 | CSKXL682-016 | CSKXL690-016 | CSKXL600-016 | 21.02 |
| 5/16 | 1/4 | 6 | CSKXL660-020 | CSKXL682-020 | CSKXL690-020 | CSKXL600-020 | 22.34 |
| 3/8 | 1/4 | 6 | CSKXL660-024 | CSKXL682-024 | CSKXL690-024 | CSKXL600-024 | 25.26 |
| 1/2 | 3/8 | 6 | CSKXL660-032 | CSKXL682-032 | CSKXL690-032 | CSKXL600-032 | 33.60 |
| 5/8 | 3/8 | 6 | CSKXL660-040 | CSKXL682-040 | CSKXL690-040 | CSKXL600-040 | 40.36 |
| 3/4 | 1/2 | 6 | CSKXL660-048 | CSKXL682-048 | CSKXL690-048 | CSKXL600-048 | 47.26 |
| 1 | 1/2 | 6 | CSKXL660-100 | CSKXL682-100 | CSKXL690-100 | CSKXL600-100 | 65.10 |

Note: Special length countersinks are available. Inquire for pricing.

CHUCKING REAMERS - STRAIGHT SHANK

ICS

WIS

GENERAL PURPOSE

RIGHT HAND CUT



STRAIGHT FLUTE

High Speed Steel Straight Shank Straight Flute Fractional Size Chucking Reamers are designed for general purpose reaming of most ferrous and non-ferrous metals. The cutting edge is ground with a 45° chamfer angle for easy hole entry. They are also known as Machine Reamers. Available in 29 piece sets.



HELICAL FLUTE

High Speed Steel Helical Flute Fractional Size Chucking Reamers are designed for reaming materials where additional shear is necessary and to improve chip removal in blind holes. The cutting edge is ground with a 45° chamfer angle for easy hole entry. They are also known as Machine Reamers. Available in 29 piece sets.

Fractional Sizes (Straight Shank) 3/64" to 2" Dia.

| SIZE | DEC. EQUIV. | SHANK DIA. | FLUTE LENGTH | OVERALL LENGTH | FLUTE | |
|-------|-------------|------------|--------------|----------------|----------|---------|
| | | | | | STRAIGHT | HELICAL |
| | | | | | CRSF | CRHF |
| 3/64 | .0469 | .0455 | 1/2 | 2-1/2 | 14.02 | - |
| 1/16 | .0625 | .0585 | 1/2 | 2-1/2 | 14.02 | - |
| 5/64 | .0781 | .0720 | 3/4 | 3 | 12.36 | - |
| 3/32 | .0938 | .0880 | 3/4 | 3 | 10.58 | - |
| 7/64 | .1094 | .1030 | 7/8 | 3-1/2 | 12.36 | - |
| 1/8 | .1250 | .1190 | 7/8 | 3-1/2 | 9.30 | 12.06 |
| 9/64 | .1406 | .1350 | 1 | 4 | 14.84 | 16.98 |
| 5/32 | .1562 | .1510 | 1 | 4 | 13.76 | 16.98 |
| 11/64 | .1719 | .1645 | 1-1/8 | 4-1/2 | 14.84 | 16.98 |
| 3/16 | .1875 | .1805 | 1-1/8 | 4-1/2 | 13.76 | 16.98 |
| 13/64 | .2031 | .1945 | 1-1/4 | 5 | 18.16 | 19.18 |
| 7/32 | .2188 | .2075 | 1-1/4 | 5 | 17.38 | 18.76 |
| 15/64 | .2344 | .2265 | 1-1/2 | 6 | 18.16 | 19.18 |
| 1/4 | .2500 | .2405 | 1-1/2 | 6 | 14.96 | 17.54 |
| 17/64 | .2656 | .2485 | 1-1/2 | 6 | 19.98 | 21.34 |
| 9/32 | .2812 | .2485 | 1-1/2 | 6 | 19.98 | 21.34 |
| 19/64 | .2969 | .2807 | 1-1/2 | 6 | 21.46 | 21.34 |
| 5/16 | .3125 | .2807 | 1-1/2 | 6 | 17.64 | 19.90 |
| 21/64 | .3281 | .2807 | 1-1/2 | 6 | 22.94 | 23.94 |
| 11/32 | .3438 | .2807 | 1-1/2 | 6 | 22.94 | 23.94 |
| 23/64 | .3594 | .3120 | 1-3/4 | 7 | 22.94 | 23.94 |
| 3/8 | .3750 | .3120 | 1-3/4 | 7 | 19.40 | 23.18 |
| 25/64 | .3906 | .3120 | 1-3/4 | 7 | 23.42 | 26.66 |
| 13/32 | .4062 | .3120 | 1-3/4 | 7 | 23.42 | 26.66 |
| 27/64 | .4219 | .3745 | 1-3/4 | 7 | 26.32 | 27.90 |
| 7/16 | .4375 | .3745 | 1-3/4 | 7 | 23.42 | 26.66 |
| 29/64 | .4531 | .3745 | 1-3/4 | 7 | 29.30 | 28.78 |
| 15/32 | .4688 | .3745 | 1-3/4 | 7 | 27.96 | 28.66 |
| 31/64 | .4844 | .4375 | 2 | 8 | 29.30 | 29.96 |
| 1/2 | .5000 | .4375 | 2 | 8 | 24.64 | 26.82 |
| 33/64 | .5156 | .4375 | 2 | 8 | 43.24 | 45.28 |
| 17/32 | .5313 | .4375 | 2 | 8 | 31.30 | 34.70 |
| 35/64 | .5469 | .4375 | 2 | 8 | 42.30 | 45.28 |
| 9/16 | .5625 | .4375 | 2 | 8 | 30.00 | 33.52 |
| 37/64 | .5781 | .4375 | 2 | 8 | 48.94 | 50.82 |
| 19/32 | .5938 | .4375 | 2 | 8 | 35.76 | 38.92 |
| 39/64 | .6094 | .5620 | 2-1/4 | 9 | 48.94 | 50.46 |
| 5/8 | .6250 | .5620 | 2-1/4 | 9 | 34.10 | 36.72 |
| 41/64 | .6406 | .5620 | 2-1/4 | 9 | 56.12 | 57.88 |

TOLERANCES

- 3/64 - 1/2 dia.: +.0002 -.0000"
- 33/64 - 5/8 dia.: +.0003 -.0000"
- 41/64 - 1-1/2 dia.: +.0001 -.0005"
- 1-9/16 - 2 dia.: +.0002 -.0006"

| SIZE | DEC. EQUIV. | SHANK DIA. | FLUTE LENGTH | OVERALL LENGTH | FLUTE | |
|---------|-------------|------------|--------------|----------------|----------|---------|
| | | | | | STRAIGHT | HELICAL |
| | | | | | CRSF | CRHF |
| 21/32 | .6562 | .5620 | 2-1/4 | 9 | 41.00 | 43.70 |
| 43/64 | .6719 | .5620 | 2-1/4 | 9 | 64.22 | 43.70 |
| 11/16 | .6875 | .5620 | 2-1/4 | 9 | 39.76 | 42.92 |
| 45/64 | .7031 | .5620 | 2-1/4 | 9 | 64.22 | 42.92 |
| 23/32 | .7188 | .5620 | 2-1/4 | 9 | 46.36 | 49.58 |
| 47/64 | .7344 | .6245 | 2-1/2 | 9-1/2 | 50.22 | 49.58 |
| 3/4 | .7500 | .6245 | 2-1/2 | 9-1/2 | 46.46 | 48.58 |
| 49/64 | .7656 | .6245 | 2-1/2 | 9-1/2 | 69.38 | 48.58 |
| 25/32 | .7812 | .6245 | 2-1/2 | 9-1/2 | 52.70 | 55.76 |
| 51/64 | .7969 | .6245 | 2-1/2 | 9-1/2 | 69.38 | 55.76 |
| 13/16 | .8125 | .6245 | 2-1/2 | 9-1/2 | 51.70 | 55.76 |
| 53/64 | .8281 | .6245 | 2-1/2 | 9-1/2 | 79.98 | 55.76 |
| 27/32 | .8438 | .6245 | 2-1/2 | 9-1/2 | 59.82 | 62.62 |
| 55/64 | .8594 | .7495 | 2-5/8 | 10 | 79.98 | 62.94 |
| 7/8 | .8750 | .7495 | 2-5/8 | 10 | 57.30 | 62.64 |
| 57/64 | .8906 | .7495 | 2-5/8 | 10 | 88.20 | 62.64 |
| 29/32 | .9062 | .7495 | 2-5/8 | 10 | 65.98 | 69.38 |
| 59/64 | .9219 | .7495 | 2-5/8 | 10 | 88.20 | 69.38 |
| 15/16 | .9375 | .7495 | 2-5/8 | 10 | 64.66 | 69.38 |
| 61/64 | .9531 | .7495 | 2-5/8 | 10 | 98.62 | 69.38 |
| 31/32 | .9688 | .7495 | 2-5/8 | 10 | 74.08 | 78.20 |
| 63/64 | .9844 | .8745 | 2-3/4 | 10-1/2 | 98.62 | 78.20 |
| 1 | 1.0000 | .8745 | 2-3/4 | 10-1/2 | 70.46 | 78.20 |
| 1-1/32 | 1.0312 | .8745 | 2-3/4 | 10-1/2 | 87.44 | 78.20 |
| 1-1/16 | 1.0625 | .8745 | 2-3/4 | 10-1/2 | 81.74 | 87.98 |
| 1-3/32 | 1.0938 | .8745 | 2-7/8 | 11 | 99.72 | 87.98 |
| 1-1/8 | 1.1250 | .8745 | 2-7/8 | 11 | 87.44 | 96.88 |
| 1-5/32 | 1.1562 | .8745 | 2-7/8 | 11 | 108.34 | 96.88 |
| 1-3/16 | 1.1875 | .9995 | 2-7/8 | 11 | 99.72 | 106.62 |
| 1-1/4 | 1.2500 | .9995 | 3 | 11-1/2 | 108.34 | 118.32 |
| 1-5/16 | 1.3125 | .9995 | 3 | 11-1/2 | 129.96 | 129.72 |
| 1-3/8 | 1.3750 | .9995 | 3-1/4 | 12 | 129.96 | 142.28 |
| 1-7/16 | 1.4375 | 1.2495 | 3-1/2 | 12-1/2 | 157.00 | 154.04 |
| 1-1/2 | 1.5000 | 1.2495 | 3-1/2 | 12-1/2 | 151.70 | 164.64 |
| 1-9/16 | 1.5625 | 1.2495 | 3-1/2 | 12-1/2 | 211.68 | - |
| 1-5/8 | 1.6250 | 1.2495 | 3-1/2 | 13 | 235.68 | - |
| 1-11/16 | 1.6875 | 1.2495 | 3-1/2 | 13 | 257.98 | - |
| 1-3/4 | 1.7500 | 1.2495 | 4 | 13-1/2 | 271.24 | - |
| 1-7/8 | 1.8750 | 1.5000 | 4 | 14 | 311.90 | - |
| 2 | 2.0000 | 1.5000 | 4 | 14 | 331.64 | - |

NUMBER OF FLUTES

- 3/64 - 5/32 dia.: 4 Flutes
- 11/64 - 39/64 dia.: 6 Flutes
- 5/8 - 1-1/32 dia.: 8 Flutes
- 1-1/16 - 1-5/16 dia.: 10 Flute
- 1-3/8 - 1-1/2 dia.: 12 Flutes
- 1-9/16 - 1-7/8 dia.: 14 Flutes
- 2" dia.: 16 Flutes

HIGH SPEED STEEL CHUCKING REAMERS - STRAIGHT SHANK

ICS **WIS**

GENERAL PURPOSE

RIGHT HAND CUT



STRAIGHT FLUTE

High Speed Steel Straight Shank Straight Flute Wire Gauge and Letter Size Chucking Reamers are designed for general purpose reaming of most ferrous and non-ferrous metals. The cutting edge is ground with a 45° chamfer angle for easy hole entry. They are also known as Machine Reamers. Available in 60 piece sets (wire gauge) and 26 piece sets (letter).

Wire Gauge Sizes (Straight Shank) #1 to #60 Dia.

| DEC. SIZE | SHANK EQUIV. | FLUTE DIA. | OVERALL LENGTH | ITEM NO. | PRICE |
|-----------|--------------|------------|----------------|----------|-------|
| 1 | .2280 | .2173 | 1-1/2 | CRSF#01 | 15.44 |
| 2 | .2210 | .2173 | 1-1/2 | CRSF#02 | 15.44 |
| 3 | .2130 | .2075 | 1-1/4 | CRSF#03 | 15.44 |
| 4 | .2090 | .2016 | 1-1/4 | CRSF#04 | 15.44 |
| 5 | .2055 | .2016 | 1-1/4 | CRSF#05 | 15.44 |
| 6 | .2040 | .1945 | 1-1/4 | CRSF#06 | 15.44 |
| 7 | .2010 | .1945 | 1-1/4 | CRSF#07 | 15.44 |
| 8 | .1990 | .1895 | 1-1/4 | CRSF#08 | 15.44 |
| 9 | .1960 | .1895 | 1-1/4 | CRSF#09 | 15.44 |
| 10 | .1935 | .1860 | 1-1/4 | CRSF#10 | 15.44 |
| 11 | .1910 | .1860 | 1-1/4 | CRSF#11 | 15.44 |
| 12 | .1890 | .1805 | 1-1/8 | CRSF#12 | 13.12 |
| 13 | .1850 | .1805 | 1-1/8 | CRSF#13 | 14.46 |
| 14 | .1820 | .1755 | 1-1/8 | CRSF#14 | 14.46 |
| 15 | .1800 | .1755 | 1-1/8 | CRSF#15 | 14.46 |
| 16 | .1770 | .1704 | 1-1/8 | CRSF#16 | 13.12 |
| 17 | .1730 | .1645 | 1-1/8 | CRSF#17 | 13.12 |
| 18 | .1695 | .1595 | 1-1/8 | CRSF#18 | 12.26 |
| 19 | .1660 | .1595 | 1-1/8 | CRSF#19 | 12.26 |
| 20 | .1610 | .1530 | 1-1/8 | CRSF#20 | 12.26 |
| 21 | .1590 | .1530 | 1-1/8 | CRSF#21 | 12.14 |
| 22 | .1570 | .1510 | 1 | CRSF#22 | 12.14 |
| 23 | .1549 | .1460 | 1 | CRSF#23 | 12.14 |
| 24 | .1520 | .1460 | 1 | CRSF#24 | 12.14 |
| 25 | .1490 | .1430 | 1 | CRSF#25 | 12.14 |
| 26 | .1470 | .1430 | 1 | CRSF#26 | 12.14 |
| 27 | .1440 | .1350 | 1 | CRSF#27 | 12.32 |
| 28 | .1405 | .1350 | 1 | CRSF#28 | 12.32 |
| 29 | .1360 | .1275 | 1 | CRSF#29 | 12.14 |
| 30 | .1285 | .1190 | 7/8 | CRSF#30 | 9.20 |

| DEC. SIZE | SHANK EQUIV. | FLUTE DIA. | OVERALL LENGTH | ITEM NO. | PRICE |
|-----------|--------------|------------|----------------|----------|-------|
| 31 | .1200 | .1120 | 7/8 | CRSF#31 | 10.28 |
| 32 | .1160 | .1120 | 7/8 | CRSF#32 | 10.28 |
| 33 | .1130 | .1055 | 7/8 | CRSF#33 | 10.28 |
| 34 | .1110 | .1055 | 7/8 | CRSF#34 | 10.28 |
| 35 | .1100 | .1030 | 7/8 | CRSF#35 | 10.28 |
| 36 | .1055 | .1030 | 7/8 | CRSF#36 | 10.28 |
| 37 | .1040 | .0950 | 7/8 | CRSF#37 | 10.28 |
| 38 | .1010 | .0950 | 7/8 | CRSF#38 | 10.28 |
| 39 | .0995 | .0928 | 7/8 | CRSF#39 | 10.28 |
| 40 | .0980 | .0928 | 7/8 | CRSF#40 | 10.28 |
| 41 | .0960 | .0928 | 7/8 | CRSF#41 | 10.28 |
| 42 | .0935 | .0880 | 3/4 | CRSF#42 | 10.28 |
| 43 | .0890 | .0810 | 3/4 | CRSF#43 | 10.28 |
| 44 | .0860 | .0810 | 3/4 | CRSF#44 | 10.28 |
| 45 | .0820 | .0771 | 3/4 | CRSF#45 | 10.28 |
| 46 | .0810 | .0771 | 3/4 | CRSF#46 | 10.28 |
| 47 | .0785 | .0720 | 3/4 | CRSF#47 | 10.28 |
| 48 | .0760 | .0720 | 3/4 | CRSF#48 | 10.28 |
| 49 | .0730 | .0660 | 3/4 | CRSF#49 | 10.28 |
| 50 | .0700 | .0660 | 3/4 | CRSF#50 | 10.28 |
| 51 | .0670 | .0660 | 3/4 | CRSF#51 | 11.64 |
| 52 | .0635 | .0585 | 1/2 | CRSF#52 | 11.64 |
| 53 | .0595 | .0585 | 1/2 | CRSF#53 | 12.14 |
| 54 | .0550 | .0510 | 1/2 | CRSF#54 | 12.14 |
| 55 | .0520 | .0510 | 1/2 | CRSF#55 | 12.14 |
| 56 | .0465 | .0455 | 1/2 | CRSF#56 | 12.14 |
| 57 | .0430 | .0390 | 1/2 | CRSF#57 | 12.14 |
| 58 | .0420 | .0390 | 1/2 | CRSF#58 | 12.14 |
| 59 | .0410 | .0390 | 1/2 | CRSF#59 | 12.14 |
| 60 | .0400 | .0390 | 1/2 | CRSF#60 | 12.14 |

Letter Sizes (Straight Shank) "A" to "Z" Dia.

| DEC. SIZE | SHANK EQUIV. | FLUTE DIA. | OVERALL LENGTH | ITEM NO. | PRICE |
|-----------|--------------|------------|----------------|----------|-------|
| A | .234 | .2265 | 1-1/2 | CRSF"A" | 19.40 |
| B | .238 | .2329 | 1-1/2 | CRSF"B" | 19.40 |
| C | .242 | .2329 | 1-1/2 | CRSF"C" | 19.40 |
| D | .246 | .2329 | 1-1/2 | CRSF"D" | 19.40 |
| E | .250 | .2405 | 1-1/2 | CRSF"E" | 14.96 |
| F | .257 | .2485 | 1-1/2 | CRSF"F" | 13.52 |
| G | .261 | .2485 | 1-1/2 | CRSF"G" | 13.52 |
| H | .266 | .2485 | 1-1/2 | CRSF"H" | 21.76 |
| I | .272 | .2485 | 1-1/2 | CRSF"I" | 21.76 |
| J | .277 | .2485 | 1-1/2 | CRSF"J" | 21.76 |
| K | .281 | .2485 | 1-1/2 | CRSF"K" | 21.76 |
| L | .290 | .2792 | 1-1/2 | CRSF"L" | 21.76 |
| M | .295 | .2792 | 1-1/2 | CRSF"M" | 21.76 |

| DEC. SIZE | SHANK EQUIV. | FLUTE DIA. | OVERALL LENGTH | ITEM NO. | PRICE |
|-----------|--------------|------------|----------------|----------|-------|
| N | .302 | .2792 | 1-1/2 | CRSF"N" | 21.76 |
| O | .316 | .2792 | 1-1/2 | CRSF"O" | 23.06 |
| P | .323 | .2792 | 1-1/2 | CRSF"P" | 23.06 |
| Q | .332 | .2792 | 1-1/2 | CRSF"Q" | 23.06 |
| R | .339 | .2792 | 1-1/2 | CRSF"R" | 23.06 |
| S | .348 | .3105 | 1-3/4 | CRSF"S" | 23.06 |
| T | .358 | .3105 | 1-3/4 | CRSF"T" | 23.06 |
| U | .368 | .3105 | 1-3/4 | CRSF"U" | 23.06 |
| V | .377 | .3105 | 1-3/4 | CRSF"V" | 30.18 |
| W | .386 | .3105 | 1-3/4 | CRSF"W" | 25.82 |
| X | .397 | .3105 | 1-3/4 | CRSF"X" | 25.82 |
| Y | .404 | .3105 | 1-3/4 | CRSF"Y" | 26.60 |
| Z | .413 | .3735 | 1-3/4 | CRSF"Z" | 26.60 |

TOLERANCES

1 - #60 dia.: +.0002 - .0000" • A - Z dia.: +.0002 - .0000"

HIGH SPEED STEEL COBALT (M42) CHUCKING REAMERS

ICS WIS

HEAVY DUTY

RIGHT HAND CUT

STRAIGHT SHANK



STRAIGHT FLUTE

Cobalt Chucking Reamers are designed for reaming tough steels, stainless steel, titanium, and inconel. They can be run about 25% faster than high speed steel and produce a smoother finished hole. Tool life is increased up to 500%.

| DEC. SIZE | SHANK EQUIV. | FLUTE DIA. | OVERALL LENGTH | NO. OF FLUTES | ITEM NO. | PRICE |
|-----------|--------------|------------|----------------|---------------|----------|----------------|
| 3/64 | .0469 | .0455 | 1/2 | 2-1/2 | 4 | CRSFC003 22.52 |
| 1/16 | .0625 | .0585 | 1/2 | 2-1/2 | 4 | CRSFC004 22.52 |
| 5/64 | .0781 | .0720 | 3/4 | 3 | 4 | CRSFC005 20.56 |
| 3/32 | .0938 | .0880 | 3/4 | 3 | 4 | CRSFC006 17.82 |
| 7/64 | .1094 | .1030 | 7/8 | 3-1/2 | 4 | CRSFC007 20.56 |
| 1/8 | .1250 | .1190 | 7/8 | 3-1/2 | 4 | CRSFC008 15.68 |
| 9/64 | .1406 | .1350 | 1 | 4 | 4 | CRSFC009 24.46 |
| 5/32 | .1562 | .1510 | 1 | 4 | 4 | CRSFC010 22.08 |
| 11/64 | .1719 | .1645 | 1-1/8 | 4-1/2 | 6 | CRSFC011 24.46 |
| 3/16 | .1875 | .1805 | 1-1/8 | 4-1/2 | 6 | CRSFC012 21.32 |
| 13/64 | .2031 | .1945 | 1-1/4 | 5 | 6 | CRSFC013 28.74 |
| 7/32 | .2188 | .2075 | 1-1/4 | 5 | 6 | CRSFC014 27.50 |
| 15/64 | .2344 | .2265 | 1-1/2 | 6 | 6 | CRSFC015 28.74 |
| 1/4 | .2500 | .2405 | 1-1/2 | 6 | 6 | CRSFC016 34.96 |
| 17/64 | .2656 | .2485 | 1-1/2 | 6 | 6 | CRSFC017 32.62 |
| 9/32 | .2812 | .2485 | 1-1/2 | 6 | 6 | CRSFC018 33.88 |
| 19/64 | .2969 | .2792 | 1-1/2 | 6 | 6 | CRSFC019 37.00 |
| 5/16 | .3125 | .2792 | 1-1/2 | 6 | 6 | CRSFC020 30.34 |
| 21/64 | .3281 | .2792 | 1-1/2 | 6 | 6 | CRSFC021 36.54 |
| 11/32 | .3438 | .2792 | 1-1/2 | 6 | 6 | CRSFC022 36.54 |
| 23/64 | .3594 | .3105 | 1-3/4 | 7 | 6 | CRSFC023 38.96 |
| 3/8 | .3750 | .3105 | 1-3/4 | 7 | 6 | CRSFC024 33.76 |
| 25/64 | .3906 | .3105 | 1-3/4 | 7 | 6 | CRSFC025 45.16 |

| DEC. SIZE | SHANK EQUIV. | FLUTE DIA. | OVERALL LENGTH | NO. OF FLUTES | ITEM NO. | PRICE |
|-----------|--------------|------------|----------------|---------------|----------|-----------------|
| 13/32 | .4062 | .3105 | 1-3/4 | 7 | 6 | CRSFC026 48.68 |
| 27/64 | .4219 | .3730 | 1-3/4 | 7 | 6 | CRSFC027 51.92 |
| 7/16 | .4375 | .3730 | 1-3/4 | 7 | 6 | CRSFC028 45.72 |
| 29/64 | .4531 | .3730 | 1-3/4 | 7 | 6 | CRSFC029 57.72 |
| 15/32 | .4688 | .3730 | 1-3/4 | 7 | 6 | CRSFC030 57.72 |
| 31/64 | .4844 | .4355 | 2 | 8 | 6 | CRSFC031 57.72 |
| 1/2 | .5000 | .4355 | 2 | 8 | 6 | CRSFC032 50.04 |
| 17/32 | .5312 | .4355 | 2 | 8 | 6 | CRSFC034 54.70 |
| 9/16 | .5625 | .4355 | 2 | 8 | 6 | CRSFC036 54.70 |
| 19/32 | .5938 | .4355 | 2 | 8 | 6 | CRSFC038 54.70 |
| 5/8 | .6250 | .5620 | 2-1/4 | 9 | 8 | CRSFC040 63.84 |
| 21/32 | .6562 | .5620 | 2-1/4 | 9 | 8 | CRSFC042 72.18 |
| 11/16 | .6875 | .5620 | 2-1/4 | 9 | 8 | CRSFC044 72.18 |
| 23/32 | .7188 | .5620 | 2-1/4 | 9 | 8 | CRSFC046 80.60 |
| 3/4 | .7500 | .6245 | 2-1/2 | 9-1/2 | 8 | CRSFC048 81.02 |
| 25/32 | .7812 | .6245 | 2-1/2 | 9-1/2 | 8 | CRSFC050 87.36 |
| 13/16 | .8125 | .6245 | 2-1/2 | 9-1/2 | 8 | CRSFC052 87.36 |
| 27/32 | .8438 | .6245 | 2-1/2 | 9-1/2 | 8 | CRSFC054 103.38 |
| 7/8 | .8750 | .7495 | 2-5/8 | 10 | 8 | CRSFC056 105.80 |
| 29/32 | .9062 | .7495 | 2-5/8 | 10 | 8 | CRSFC058 113.96 |
| 15/16 | .9375 | .7495 | 2-5/8 | 10 | 8 | CRSFC060 113.96 |
| 31/32 | .9688 | .7495 | 2-5/8 | 10 | 8 | CRSFC062 127.68 |
| 1 | 1.000 | .8745 | 2-3/4 | 10-1/2 | 8 | CRSFC100 128.90 |

HIGH SPEED STEEL CHUCKING REAMERS - CARBIDE TIPPED

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



STRAIGHT FLUTE

Carbide Tipped Chucking Reamers are designed for reaming highly abrasive materials and sizing holes that have work-hardened. They are also used when sand or scale is encountered in reaming holes in castings and other hard metals. Tolerance is +.0003" -.0000".

| DEC. SIZE | SHANK EQUIV. | FLUTE DIA. | OVERALL LENGTH | ITEM NO. | PRICE |
|-----------|--------------|------------|----------------|----------|------------------|
| 3/16 | 11/64 | 1-1/8 | 4-1/2 | 4 | CTCRSF012 145.90 |
| 7/32 | 13/64 | 1-1/4 | 5 | 4 | CTCRSF014 - |
| 1/4 | 15/64 | 1-1/2 | 6 | 4 | CTCRSF016 - |
| 9/32 | 15/64 | 1-1/2 | 6 | 4 | CTCRSF018 - |
| 5/16 | 9/32 | 1-1/2 | 6 | 4 | CTCRSF020 - |
| 11/32 | 9/32 | 1-1/2 | 6 | 4 | CTCRSF022 - |
| 3/8 | 5/16 | 1-3/4 | 7 | 4 | CTCRSF024 58.90 |
| 13/32 | 5/16 | 1-3/4 | 7 | 4 | CTCRSF026 61.70 |
| 7/16 | 3/8 | 1-3/4 | 7 | 4 | CTCRSF028 65.80 |
| 15/32 | 3/8 | 1-3/4 | 7 | 4 | CTCRSF030 67.00 |
| 1/2 | 7/16 | 2 | 8 | 6 | CTCRSF032 72.50 |
| 9/16 | 7/16 | 2 | 8 | 6 | CTCRSF036 78.02 |

| DEC. SIZE | SHANK EQUIV. | FLUTE DIA. | OVERALL LENGTH | ITEM NO. | PRICE |
|-----------|--------------|------------|----------------|----------|------------------|
| 5/8 | 9/16 | 2-1/4 | 9 | 6 | CTCRSF040 85.70 |
| 11/16 | 9/16 | 2-1/4 | 9 | 6 | CTCRSF044 - |
| 3/4 | 5/8 | 2-1/2 | 9-1/2 | 6 | CTCRSF048 90.52 |
| 13/16 | 5/8 | 2-1/2 | 9-1/2 | 6 | CTCRSF052 93.66 |
| 7/8 | 3/4 | 2-5/8 | 10 | 6 | CTCRSF056 97.36 |
| 15/16 | 3/4 | 2-5/8 | 10 | 6 | CTCRSF060 - |
| 1 | 7/8 | 2-3/4 | 10-1/2 | 6 | CTCRSF100 119.02 |

* Inquire for other sizes not listed

HIGH SPEED STEEL CHUCKING REAMERS - DOWEL PIN SIZES

ICS

WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



STRAIGHT FLUTE

High Speed Steel Dowel Pin Size Chucking Reamers are used to size holes in preparation for installing dowel pins. Listed below are two reamer sizes that can be used for each size dowel pin, depending on how tight a pin fit is required. Diameter tolerance is $+0.0000'' -0.0002''$. They are also available in 14 piece sets.

| USE FOR SIZE | DOWEL PIN | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|--------------|-----------|--------------|----------------|-------------|-------|
| .1230 | 1/8 | 7/8 | 3-1/2 | CRSFDP.1230 | 18.32 |
| .1247 | 1/8 | 7/8 | 3-1/2 | CRSFDP.1247 | 18.32 |
| .1855 | 3/16 | 1-1/8 | 4-1/2 | CRSFDP.1855 | 18.82 |
| .1870 | 3/16 | 1-1/8 | 4-1/2 | CRSFDP.1870 | 18.82 |
| .2480 | 1/4 | 1-1/2 | 6 | CRSFDP.2480 | 21.06 |
| .2495 | 1/4 | 1-1/2 | 6 | CRSFDP.2495 | 21.06 |
| .3105 | 5/16 | 1-1/2 | 6 | CRSFDP.3105 | 24.26 |

| USE FOR SIZE | DOWEL PIN | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|--------------|-----------|--------------|----------------|-------------|-------|
| .3120 | 5/16 | 1-1/2 | 6 | CRSFDP.3120 | 24.26 |
| .3730 | 3/8 | 1-3/4 | 7 | CRSFDP.3730 | 30.18 |
| .3745 | 3/8 | 1-3/4 | 7 | CRSFDP.3745 | 30.18 |
| .4355 | 7/16 | 1-3/4 | 7 | CRSFDP.4355 | 30.18 |
| .4370 | 7/16 | 1-3/4 | 7 | CRSFDP.4370 | 30.18 |
| .4980 | 1/2 | 2 | 8 | CRSFDP.4980 | 37.52 |
| .4995 | 1/2 | 2 | 8 | CRSFDP.4995 | 37.52 |

HIGH SPEED STEEL CHUCKING REAMERS - OVER & UNDER SIZES

ICS

WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



STRAIGHT FLUTE

High Speed Steel Oversize Chucking Reamers are $+0.001''$ and Undersize Chucking Reamers are $-0.001''$ from common fractional sizes of 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, and 1/2. They are also available in 14 piece sets.

OVERSIZE REAMERS

| USE FOR SIZE | FRAC. SIZE | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|--------------|------------|--------------|----------------|-------------|-------|
| .1260 | 1/8 | 7/8 | 3-1/2 | CRSFOS.1260 | 18.32 |
| .1885 | 3/16 | 1-1/8 | 4-1/2 | CRSFOS.1885 | 18.82 |
| .2510 | 1/4 | 1-1/2 | 6 | CRSFOS.2510 | 21.06 |
| .3135 | 5/16 | 1-1/2 | 6 | CRSFOS.3135 | 24.26 |
| .3760 | 3/8 | 1-3/4 | 7 | CRSFOS.3760 | 30.18 |
| .4385 | 7/16 | 1-3/4 | 7 | CRSFOS.4385 | 30.18 |
| .5010 | 1/2 | 2 | 8 | CRSFOS.5010 | 37.52 |

UNDERSIZE REAMERS

| USE FOR SIZE | FRAC. SIZE | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|--------------|------------|--------------|----------------|-------------|-------|
| .1240 | 1/8 | 7/8 | 3-1/2 | CRSFUS.1260 | 18.32 |
| .1865 | 3/16 | 1-1/8 | 4-1/2 | CRSFUS.1885 | 18.82 |
| .2490 | 1/4 | 1-1/2 | 6 | CRSFUS.2510 | 21.06 |
| .3115 | 5/16 | 1-1/2 | 6 | CRSFUS.3135 | 24.26 |
| .3740 | 3/8 | 1-3/4 | 7 | CRSFUS.3760 | 30.18 |
| .4365 | 7/16 | 1-3/4 | 7 | CRSFUS.4385 | 30.18 |
| .4990 | 1/2 | 2 | 8 | CRSFUS.5010 | 37.52 |

CHUCKING REAMERS - STANDARD DECIMAL SIZES

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



STRAIGHT FLUTE

High Speed Steel Decimal Size Chucking Reamers are designed to remove a very small (.0005 to .001 inch) amount of metal when sizing a hole.

Standard Intermediate Decimal Sizes .1230 to .2830 Diameter

| FLUTE SIZE | OVERALL LENGTH | NO. OF FLUTES | PRICE |
|------------|----------------|---------------|---------|
| SIZE | LENGTH | FLUTES | CRSFDS |
| .1230 | 7/8 | 3-1/2 | 6 18.32 |
| .1240 | 7/8 | 3-1/2 | 6 18.32 |
| .1245 | 7/8 | 3-1/2 | 6 18.32 |
| .1247 | 7/8 | 3-1/2 | 6 18.32 |
| .1255 | 7/8 | 3-1/2 | 6 18.32 |
| .1260 | 7/8 | 3-1/2 | 6 18.32 |
| .1265 | 7/8 | 3-1/2 | 6 18.32 |
| .1270 | 7/8 | 3-1/2 | 6 18.32 |
| .1280 | 7/8 | 3-1/2 | 6 18.32 |
| .1290 | 7/8 | 3-1/2 | 6 18.32 |
| .1295 | 7/8 | 3-1/2 | 6 18.32 |
| .1300 | 7/8 | 3-1/2 | 6 18.32 |
| .1370 | 1 | 4 | 6 18.82 |
| .1375 | 1 | 4 | 6 18.82 |
| .1380 | 1 | 4 | 6 18.82 |
| .1400 | 1 | 4 | 6 18.82 |
| .1410 | 1 | 4 | 6 18.82 |
| .1415 | 1 | 4 | 6 18.82 |
| .1420 | 1 | 4 | 6 18.82 |
| .1520 | 1 | 4 | 6 18.82 |
| .1560 | 1 | 4 | 6 18.82 |
| .1580 | 1 | 4 | 6 18.82 |
| .1670 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1720 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1740 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1750 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1760 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1770 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1810 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1820 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1840 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1845 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1850 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1855 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1860 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1865 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1870 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1875 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1880 | 1-1/8 | 4-1/2 | 6 18.82 |

| FLUTE SIZE | OVERALL LENGTH | NO. OF FLUTES | PRICE |
|------------|----------------|---------------|---------|
| SIZE | LENGTH | FLUTES | CRSFDS |
| .1885 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1895 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1900 | 1-1/8 | 4-1/2 | 6 18.82 |
| .1905 | 1-1/4 | 5 | 6 21.06 |
| .1910 | 1-1/4 | 5 | 6 21.06 |
| .1915 | 1-1/4 | 5 | 6 21.06 |
| .1920 | 1-1/4 | 5 | 6 21.06 |
| .1930 | 1-1/4 | 5 | 6 21.06 |
| .1940 | 1-1/4 | 5 | 6 21.06 |
| .1950 | 1-1/4 | 5 | 6 21.06 |
| .1960 | 1-1/4 | 5 | 6 21.06 |
| .1970 | 1-1/4 | 5 | 6 21.06 |
| .1980 | 1-1/4 | 5 | 6 21.06 |
| .1990 | 1-1/4 | 5 | 6 21.06 |
| .2000 | 1-1/4 | 5 | 6 21.06 |
| .2020 | 1-1/4 | 5 | 6 21.06 |
| .2024 | 1-1/4 | 5 | 6 21.06 |
| .2030 | 1-1/4 | 5 | 6 21.06 |
| .2050 | 1-1/4 | 5 | 6 21.06 |
| .2060 | 1-1/4 | 5 | 6 21.06 |
| .2070 | 1-1/4 | 5 | 6 21.06 |
| .2080 | 1-1/4 | 5 | 6 21.06 |
| .2090 | 1-1/4 | 5 | 6 21.06 |
| .2100 | 1-1/4 | 5 | 6 21.06 |
| .2110 | 1-1/4 | 5 | 6 21.06 |
| .2120 | 1-1/4 | 5 | 6 31.50 |
| .2140 | 1-1/4 | 5 | 6 21.06 |
| .2150 | 1-1/4 | 5 | 6 21.06 |
| .2155 | 1-1/4 | 5 | 6 21.06 |
| .2160 | 1-1/4 | 5 | 6 21.06 |
| .2170 | 1-1/4 | 5 | 6 21.06 |
| .2180 | 1-1/4 | 5 | 6 21.06 |
| .2190 | 1-1/4 | 5 | 6 21.06 |
| .2200 | 1-1/4 | 5 | 6 21.06 |
| .2211 | 1-1/2 | 6 | 6 21.06 |
| .2270 | 1-1/2 | 6 | 6 21.06 |
| .2300 | 1-1/2 | 6 | 6 21.06 |
| .2310 | 1-1/2 | 6 | 6 21.06 |
| .2320 | 1-1/2 | 6 | 6 21.06 |

| FLUTE SIZE | OVERALL LENGTH | NO. OF FLUTES | PRICE |
|------------|----------------|---------------|---------|
| SIZE | LENGTH | FLUTES | CRSFDS |
| .2340 | 1-1/2 | 6 | 6 21.06 |
| .2350 | 1-1/2 | 6 | 6 21.06 |
| .2360 | 1-1/2 | 6 | 6 21.06 |
| .2370 | 1-1/2 | 6 | 6 21.06 |
| .2380 | 1-1/2 | 6 | 6 21.06 |
| .2390 | 1-1/2 | 6 | 6 21.06 |
| .2400 | 1-1/2 | 6 | 6 21.06 |
| .2410 | 1-1/2 | 6 | 6 21.06 |
| .2420 | 1-1/2 | 6 | 6 21.06 |
| .2430 | 1-1/2 | 6 | 6 21.06 |
| .2440 | 1-1/2 | 6 | 6 21.06 |
| .2450 | 1-1/2 | 6 | 6 21.06 |
| .2460 | 1-1/2 | 6 | 6 21.06 |
| .2470 | 1-1/2 | 6 | 6 21.06 |
| .2475 | 1-1/2 | 6 | 6 21.06 |
| .2480 | 1-1/2 | 6 | 6 21.06 |
| .2485 | 1-1/2 | 6 | 6 21.06 |
| .2490 | 1-1/2 | 6 | 6 21.06 |
| .2495 | 1-1/2 | 6 | 6 21.06 |
| .2505 | 1-1/2 | 6 | 6 21.06 |
| .2510 | 1-1/2 | 6 | 6 21.06 |
| .2515 | 1-1/2 | 6 | 6 21.06 |
| .2520 | 1-1/2 | 6 | 6 21.06 |
| .2530 | 1-1/2 | 6 | 6 21.06 |
| .2540 | 1-1/2 | 6 | 6 21.06 |
| .2550 | 1-1/2 | 6 | 6 21.06 |
| .2560 | 1-1/2 | 6 | 6 21.06 |
| .2570 | 1-1/2 | 6 | 6 21.06 |
| .2580 | 1-1/2 | 6 | 6 21.06 |
| .2590 | 1-1/2 | 6 | 6 21.06 |
| .2600 | 1-1/2 | 6 | 6 21.06 |
| .2650 | 1-1/2 | 6 | 6 24.26 |
| .2690 | 1-1/2 | 6 | 6 24.26 |
| .2710 | 1-1/2 | 6 | 6 24.26 |
| .2760 | 1-1/2 | 6 | 6 24.26 |
| .2770 | 1-1/2 | 6 | 6 24.26 |
| .2800 | 1-1/2 | 6 | 6 24.26 |
| .2820 | 1-1/2 | 6 | 6 24.26 |
| .2830 | 1-1/2 | 6 | 6 24.26 |

For other special decimal sizes, refer to page 192 for pricing not listed.

CHUCKING REAMERS - STANDARD DECIMAL SIZES

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



STRAIGHT FLUTE

High Speed Steel Decimal Size Chucking Reamers are designed to remove a very small (.0005 to .001 inch) amount of metal when sizing a hole.

Standard Intermediate Decimal Sizes .2840 to .7580 Diameter

| FLUTE | OVERALL | NO. OF | PRICE |
|-------|---------|--------|--------|
| SIZE | LENGTH | LENGTH | FLUTES |
| .2840 | 1-1/2 | 6 | 6 |
| .2860 | 1-1/2 | 6 | 6 |
| .2870 | 1-1/2 | 6 | 6 |
| .2890 | 1-1/2 | 6 | 6 |
| .2900 | 1-1/2 | 6 | 6 |
| .2920 | 1-1/2 | 6 | 6 |
| .2930 | 1-1/2 | 6 | 6 |
| .2940 | 1-1/2 | 6 | 6 |
| .2960 | 1-1/2 | 6 | 6 |
| .2980 | 1-1/2 | 6 | 6 |
| .2990 | 1-1/2 | 6 | 6 |
| .3030 | 1-1/2 | 6 | 6 |
| .3050 | 1-1/2 | 6 | 6 |
| .3060 | 1-1/2 | 6 | 6 |
| .3070 | 1-1/2 | 6 | 6 |
| .3090 | 1-1/2 | 6 | 6 |
| .3100 | 1-1/2 | 6 | 6 |
| .3105 | 1-1/2 | 6 | 6 |
| .3110 | 1-1/2 | 6 | 6 |
| .3115 | 1-1/2 | 6 | 6 |
| .3120 | 1-1/2 | 6 | 6 |
| .3130 | 1-1/2 | 6 | 6 |
| .3135 | 1-1/2 | 6 | 6 |
| .3140 | 1-1/2 | 6 | 6 |
| .3145 | 1-1/2 | 6 | 6 |
| .3150 | 1-1/2 | 6 | 6 |
| .3160 | 1-1/2 | 6 | 6 |
| .3165 | 1-1/2 | 6 | 6 |
| .3170 | 1-1/2 | 6 | 6 |
| .3180 | 1-1/2 | 6 | 6 |
| .3190 | 1-1/2 | 6 | 6 |
| .3200 | 1-1/2 | 6 | 6 |
| .3220 | 1-1/2 | 6 | 6 |
| .3240 | 1-1/2 | 6 | 6 |
| .3250 | 1-1/2 | 6 | 6 |
| .3270 | 1-1/2 | 6 | 6 |
| .3280 | 1-1/2 | 6 | 6 |
| .3290 | 1-1/2 | 6 | 6 |
| .3300 | 1-1/2 | 6 | 6 |

| FLUTE | OVERALL | NO. OF | PRICE |
|-------|---------|--------|--------|
| SIZE | LENGTH | LENGTH | FLUTES |
| .3360 | 1-1/2 | 6 | 6 |
| .3370 | 1-1/2 | 6 | 6 |
| .3440 | 1-1/2 | 6 | 6 |
| .3490 | 1-3/4 | 7 | 6 |
| .3490 | 1-3/4 | 7 | 6 |
| .3550 | 1-3/4 | 7 | 6 |
| .3590 | 1-3/4 | 7 | 6 |
| .3690 | 1-3/4 | 7 | 6 |
| .3730 | 1-3/4 | 7 | 6 |
| .3740 | 1-3/4 | 7 | 6 |
| .3745 | 1-3/4 | 7 | 6 |
| .3755 | 1-3/4 | 7 | 6 |
| .3760 | 1-3/4 | 7 | 6 |
| .3765 | 1-3/4 | 7 | 6 |
| .3770 | 1-3/4 | 7 | 6 |
| .3790 | 1-3/4 | 7 | 6 |
| .3800 | 1-3/4 | 7 | 6 |
| .3860 | 1-3/4 | 7 | 6 |
| .3880 | 1-3/4 | 7 | 6 |
| .4000 | 1-3/4 | 7 | 6 |
| .4070 | 1-3/4 | 7 | 6 |
| .4300 | 1-3/4 | 7 | 6 |
| .4320 | 1-3/4 | 7 | 6 |
| .4355 | 1-3/4 | 7 | 6 |
| .4365 | 1-3/4 | 7 | 6 |
| .4370 | 1-3/4 | 7 | 6 |
| .4385 | 1-3/4 | 7 | 6 |
| .4390 | 1-3/4 | 7 | 6 |
| .4410 | 1-3/4 | 7 | 6 |
| .4420 | 1-3/4 | 7 | 6 |
| .4430 | 1-3/4 | 7 | 6 |
| .4440 | 1-3/4 | 7 | 6 |
| .4480 | 1-3/4 | 7 | 6 |
| .4490 | 1-3/4 | 7 | 6 |
| .4550 | 1-3/4 | 7 | 6 |
| .4560 | 1-3/4 | 7 | 6 |
| .4820 | 2 | 8 | 6 |
| .4900 | 2 | 8 | 6 |
| .4970 | 2 | 8 | 6 |

| FLUTE | OVERALL | NO. OF | PRICE |
|-------|---------|--------|--------|
| SIZE | LENGTH | LENGTH | FLUTES |
| .4980 | 2 | 8 | 6 |
| .4990 | 2 | 8 | 6 |
| .4995 | 2 | 8 | 6 |
| .5010 | 2 | 8 | 6 |
| .5015 | 2 | 8 | 6 |
| .5020 | 2 | 8 | 6 |
| .5030 | 2 | 8 | 6 |
| .5040 | 2 | 8 | 6 |
| .5050 | 2 | 8 | 6 |
| .5240 | 2 | 8 | 6 |
| .5250 | 2 | 8 | 6 |
| .5260 | 2 | 8 | 6 |
| .5300 | 2 | 8 | 6 |
| .5500 | 2 | 8 | 6 |
| .5580 | 2 | 8 | 6 |
| .5590 | 2 | 8 | 6 |
| .5615 | 2 | 8 | 6 |
| .5690 | 2 | 8 | 6 |
| .5740 | 2 | 8 | 6 |
| .5840 | 2 | 8 | 6 |
| .5850 | 2 | 8 | 6 |
| .5860 | 2 | 8 | 6 |
| .5880 | 2 | 8 | 6 |
| .6050 | 2-1/4 | 9 | 6 |
| .6220 | 2-1/4 | 9 | 6 |
| .6240 | 2-1/4 | 9 | 6 |
| .6250 | 2-1/4 | 9 | 6 |
| .6255 | 2-1/4 | 9 | 6 |
| .6260 | 2-1/4 | 9 | 6 |
| .6300 | 2-1/4 | 9 | 6 |
| .7480 | 2-1/2 | 9-1/2 | 8 |
| .7490 | 2-1/2 | 9-1/2 | 8 |
| .7510 | 2-1/2 | 9-1/2 | 8 |
| .7580 | 2-1/2 | 9-1/2 | 8 |

For other special decimal sizes, refer to page 192 for pricing not listed.

HIGH SPEED STEEL

CHUCKING REAMERS - NON-STANDARD DECIMAL SIZES

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



STRAIGHT FLUTE

High Speed Steel Decimal Size Chucking Reamers are designed to remove a very small (.0005 to .001 inch) amount of metal when sizing a hole.

Non-Standard Decimal Sizes .0100 to 2.0000 Diameter

ITEM NO. - **CRSFDS** + DECIMAL SIZE

EX: **CRSFDS.0100**

(PLEASE INQUIRE FOR PRICING)

HIGH SPEED STEEL

METRIC CHUCKING REAMERS

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



STRAIGHT FLUTE

High Speed Steel Straight Shank Straight Flute Metric Size Chucking Reamers are designed for general purpose reaming of most ferrous and non-ferrous metals. The cutting edge is ground with a 45° chamfer angle for easy hole entry. They are also known as Machine Reamers.

Metric Sizes 2.00mm to 25.00mm Diameter

| DEC. SIZE | FLUTE EQUIV. | OVERALL LENGTH | NO. OF FLUTES | ITEM NO. | PRICE | |
|-----------|--------------|----------------|---------------|----------|------------|-------|
| 2.0 | .0787 | 3/4 | 3 | 4 | CRSFM02.00 | 10.96 |
| 2.5 | .0984 | 7/8 | 3-1/2 | 4 | CRSFM02.50 | 10.96 |
| 3.0 | .1181 | 7/8 | 3-1/2 | 4 | CRSFM03.00 | 10.96 |
| 3.5 | .1378 | 1 | 4 | 6 | CRSFM03.50 | 13.78 |
| 4.0 | .1575 | 1 | 4 | 6 | CRSFM04.00 | 13.78 |
| 4.5 | .1772 | 1-1/8 | 4-1/2 | 6 | CRSFM04.50 | 13.78 |
| 5.0 | .1968 | 1-1/4 | 5 | 6 | CRSFM05.00 | 16.12 |
| 5.5 | .2165 | 1-1/4 | 5 | 6 | CRSFM05.50 | 16.12 |
| 6.0 | .2362 | 1-1/2 | 6 | 6 | CRSFM06.00 | 16.12 |
| 6.5 | .2559 | 1-1/2 | 6 | 6 | CRSFM06.50 | 17.38 |
| 7.0 | .2756 | 1-1/2 | 6 | 6 | CRSFM07.00 | 17.98 |
| 7.5 | .2953 | 1-1/2 | 6 | 6 | CRSFM07.50 | 17.98 |
| 8.0 | .3150 | 1-1/2 | 6 | 6 | CRSFM08.00 | 19.82 |
| 8.5 | .3346 | 1-1/2 | 6 | 6 | CRSFM08.50 | 19.82 |
| 9.0 | .3543 | 1-3/4 | 7 | 6 | CRSFM09.00 | 19.82 |
| 9.5 | .3740 | 1-3/4 | 7 | 6 | CRSFM09.50 | 19.82 |
| 10.0 | .3937 | 1-3/4 | 7 | 6 | CRSFM10.00 | 22.22 |
| 10.5 | .4134 | 1-3/4 | 7 | 6 | CRSFM10.50 | 22.22 |
| 11.0 | .4331 | 1-3/4 | 7 | 6 | CRSFM11.00 | 22.22 |
| 11.5 | .4528 | 1-3/4 | 7 | 6 | CRSFM11.50 | 24.70 |
| 12.0 | .4724 | 2 | 8 | 6 | CRSFM12.00 | 28.52 |
| 12.5 | .4921 | 2 | 8 | 6 | CRSFM12.50 | 23.96 |
| 13.0 | .5118 | 2 | 8 | 6 | CRSFM13.00 | 27.64 |
| 13.5 | .5315 | 2 | 8 | 6 | CRSFM13.50 | 27.64 |

| DEC. SIZE | FLUTE EQUIV. | OVERALL LENGTH | NO. OF FLUTES | ITEM NO. | PRICE | |
|-----------|--------------|----------------|---------------|----------|------------|-------|
| 14.0 | .5512 | 2 | 8 | 6 | CRSFM14.00 | 27.64 |
| 14.5 | .5709 | 2 | 8 | 6 | CRSFM14.50 | 27.64 |
| 15.0 | .5906 | 2 | 8 | 6 | CRSFM14.00 | 30.08 |
| 15.5 | .6102 | 2-1/4 | 9 | 6 | CRSFM15.50 | 30.08 |
| 16.0 | .6299 | 2-1/4 | 9 | 6 | CRSFM16.00 | 32.24 |
| 16.5 | .6496 | 2-1/4 | 9 | 6 | CRSFM16.50 | 34.62 |
| 17.0 | .6693 | 2-1/4 | 9 | 6 | CRSFM17.00 | 36.46 |
| 17.5 | .6890 | 2-1/4 | 9 | 6 | CRSFM17.50 | 36.46 |
| 18.0 | .7087 | 2-1/4 | 9 | 6 | CRSFM18.00 | 39.64 |
| 18.5 | .7283 | 2-1/2 | 9-1/2 | 8 | CRSFM18.50 | 39.64 |
| 19.0 | .7480 | 2-1/2 | 9-1/2 | 8 | CRSFM19.00 | 45.04 |
| 19.5 | .7677 | 2-1/2 | 9-1/2 | 8 | CRSFM19.50 | 45.04 |
| 20.0 | .7874 | 2-1/2 | 9-1/2 | 8 | CRSFM20.00 | 46.46 |
| 20.5 | .8071 | 2-1/2 | 9-1/2 | 8 | CRSFM20.50 | 46.46 |
| 21.0 | .8268 | 2-1/2 | 9-1/2 | 8 | CRSFM21.00 | 50.44 |
| 21.5 | .8465 | 2-5/8 | 10 | 8 | CRSFM21.50 | 50.44 |
| 22.0 | .8661 | 2-5/8 | 10 | 8 | CRSFM22.00 | 54.10 |
| 22.5 | .8858 | 2-5/8 | 10 | 8 | CRSFM22.50 | 54.10 |
| 23.0 | .9055 | 2-5/8 | 10 | 8 | CRSFM23.00 | 55.40 |
| 23.5 | .9252 | 2-5/8 | 10 | 8 | CRSFM23.50 | 55.40 |
| 24.0 | .9449 | 2-5/8 | 10 | 8 | CRSFM24.00 | 59.28 |
| 24.5 | .9646 | 2-5/8 | 10 | 8 | CRSFM24.50 | 62.32 |
| 25.0 | .9843 | 2-3/4 | 10-1/2 | 8 | CRSFM25.00 | 67.04 |

TOLERANCES

M2.0 - M25.0: +.0001 - +.0005"

1/2" SHANK SILVER & DEMING REAMERS - 6" LENGTH

ICS WIS

GENERAL PURPOSE

RIGHT HAND CUT



STRAIGHT FLUTE

High Speed Steel 1/2" Shank Straight Flute Silver & Deming Reamers are designed for general purpose reaming where shorter length and extra rigidity are needed. They are ideal for Bridgeport and hand held applications. Ground with a 45° chamfer.



HELICAL FLUTE

High Speed Steel 1/2" Shank Helical Flute Silver & Deming Reamers are designed for reaming materials where additional shear is necessary and to improve chip removal in blind holes. The shorter length provides extra rigidity and strength in tough materials. Ground with a 45° chamfer.

| SIZE | DEC EQUIV | FLUTE LENGTH | STRAIGHT FLUTE | | HELICAL FLUTE | | RECOMMENDED S&D DRILL | ITEM NO. |
|-------|-----------|--------------|----------------|--------|---------------|--------|-----------------------|----------|
| | | | ITEM NO. | PRICE | ITEM NO. | PRICE | | |
| 5/8 | .6250 | 2-1/4 | CRSFRS6L040 | 44.60 | CRHFRS6L040 | 49.32 | 39/64 | SND039 |
| 21/32 | .6562 | 2-1/4 | CRSFRS6L042 | 51.50 | CRHFRS6L042 | 56.30 | 41/64 | SND041 |
| 11/16 | .6875 | 2-1/4 | CRSFRS6L044 | 50.26 | CRHFRS6L044 | 55.52 | 43/64 | SND043 |
| 3/4 | .7500 | 2-1/2 | CRSFRS6L048 | 52.84 | CRHFRS6L048 | 61.18 | 47/64 | SND047 |
| 13/16 | .8125 | 2-1/2 | CRSFRS6L052 | 62.20 | CRHFRS6L052 | 68.36 | 51/64 | SND051 |
| 7/8 | .8750 | 2-5/8 | CRSFRS6L056 | 67.80 | CRHFRS6L056 | 78.40 | 55/64 | SND055 |
| 1 | 1.0000 | 2-3/4 | CRSFRS6L100 | 80.96 | CRHFRS6L100 | 90.80 | 63/64 | SND063 |
| 1-1/8 | 1.1250 | 2-7/8 | CRSFRS6L108 | 97.94 | CRHFRS6L108 | 112.62 | 1-7/64 | SND107 |
| 1-1/4 | 1.2500 | 3 | CRSFRS6L116 | 118.84 | CRHFRS6L116 | 134.06 | 1-15/64 | SND115 |
| 1-3/8 | 1.3750 | 3-1/4 | CRSFRS6L124 | 142.48 | CRHFRS6L124 | 158.02 | 1-23/64 | SND123 |
| 1-1/2 | 1.5000 | 3-1/2 | CRSFRS6L132 | 164.30 | CRHFRS6L132 | 180.40 | 1-31/64 | SND131 |

NOTE: Additional sizes are available. Inquire for pricing.

1/2" SHANK SILVER & DEMING REAMER SETS

ICS WIS

PLASTIC CASE

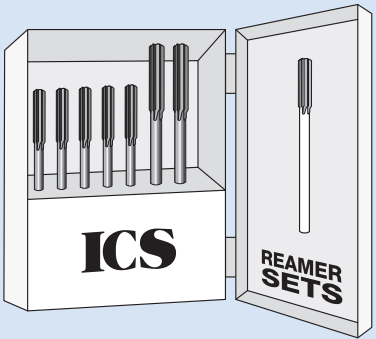
| DESCRIPTION | SIZES IN SET | ITEM NO. | PRICE |
|-------------|---|----------------------|--------|
| | 6 PC S&D REAMER SET SIZES 5/8, 11/16, 3/4, 13/16, 7/8, 1 1/2 SHANK - STRAIGHT FLUTE REAMERS | RS-CRSFRS6L-6 | 369.14 |
| | 4 PC S&D REAMER SET SIZES 1-1/8, 1-1/4, 1-3/8, 1-1/2 1/2 SHANK - STRAIGHT FLUTE REAMERS | RS-CRSFRS6L-4 | 534.08 |
| | 6 PC S&D REAMER SET SIZES 5/8, 11/16, 3/4, 13/16, 7/8, 1 1/2 SHANK - HELICAL FLUTE REAMERS | RS-CRHFRS6L-6 | 414.06 |
| | 4 PC S&D REAMER SET SIZES 1-1/8, 1-1/4, 1-3/8, 1-1/2 1/2 SHANK - HELICAL FLUTE REAMERS | RS-CRHFRS6L-4 | 595.60 |

HIGH SPEED STEEL CHUCKING REAMER SETS

STRAIGHT
SHANK

METAL INDEX

STRAIGHT
FLUTE

| ILLUSTRATION | DESCRIPTION | TYPE OF REAMER | ITEM NO. | PRICE |
|--|---|-------------------------|---------------------|--------|
|  | 14 PC REAMER SETS Dowel Pin Sizes .1230 to .4995 | Chuckling Reamers-SF-SS | RS-CRSFDP-14 | 321.54 |
| | 14 PC REAMER SETS Over & Under Sizes .1240 to .5010 | Chuckling Reamers-SF-SS | RS-CRSFOU-14 | 321.16 |
| | 26 PC REAMER SETS Letter Sizes A to Z | Chuckling Reamers-SF-SS | RS-CRSF-26 | 523.78 |
| | 29 PC REAMER SETS Sizes 1/16 to 1/2 by 64ths | Chuckling Reamers-SF-SS | RS-CRSF-29 | 489.86 |
| | 60 PC REAMER SETS Wire Gauge Sizes 1 to 60 | Chuckling Reamers-SF-SS | RS-CRSF-60 | 733.96 |

HIGH SPEED STEEL EXTRA LENGTH CHUCKING REAMERS

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT
SHANK



STRAIGHT
FLUTE

Extra Length Chucking Reamers are designed for reaming and sizing holes in inaccessible places which cannot be reached with standard length chucking reamers. Various combinations of diameter and overall lengths are available.

| SIZE | DEC | SHANK | FLUTE | 12" LENGTH | | 16" LENGTH | |
|-------|--------|-------|--------|------------|---------------------|------------|---------------------|
| | EQUIV. | DIA. | LENGTH | OAL | ITEM NO. | OAL | ITEM NO. |
| 1/8 | .1250 | .1190 | 7/8 | 12 | CRSFXL008X12 | 16 | CRSFXL008X16 |
| 5/32 | .1562 | .1510 | 1 | 12 | CRSFXL010X12 | 16 | CRSFXL010X16 |
| 3/16 | .1875 | .1805 | 1-1/8 | 12 | CRSFXL012X12 | 16 | CRSFXL012X16 |
| 7/32 | .2188 | .2075 | 1-1/4 | 12 | CRSFXL014X12 | 16 | CRSFXL014X16 |
| 1/4 | .2500 | .2405 | 1-1/2 | 12 | CRSFXL016X12 | 16 | CRSFXL016X16 |
| 9/32 | .2812 | .2485 | 1-1/2 | 12 | CRSFXL018X12 | 16 | CRSFXL018X16 |
| 5/16 | .3125 | .2807 | 1-1/2 | 12 | CRSFXL020X12 | 16 | CRSFXL020X16 |
| 11/32 | .3438 | .2807 | 1-1/2 | 12 | CRSFXL022X12 | 16 | CRSFXL022X16 |
| 3/8 | .3750 | .3120 | 1-3/4 | 12 | CRSFXL024X12 | 16 | CRSFXL024X16 |
| 13/32 | .4062 | .3120 | 1-3/4 | 12 | CRSFXL026X12 | 16 | CRSFXL026X16 |
| 7/16 | .4375 | .3745 | 1-3/4 | 12 | CRSFXL028X12 | 16 | CRSFXL028X16 |
| 15/32 | .4688 | .3745 | 1-3/4 | 12 | CRSFXL030X12 | 16 | CRSFXL030X16 |
| 1/2 | .5000 | .4375 | 2 | 12 | CRSFXL032X12 | 16 | CRSFXL032X16 |
| 17/32 | .5313 | .4375 | 2 | 12 | CRSFXL034X12 | 16 | CRSFXL034X16 |
| 9/16 | .5625 | .4375 | 2 | 12 | CRSFXL036X12 | 16 | CRSFXL036X16 |
| 19/32 | .5938 | .4375 | 2 | 12 | CRSFXL038X12 | 16 | CRSFXL038X16 |
| 5/8 | .6250 | .5620 | 2-1/4 | 12 | CRSFXL040X12 | 16 | CRSFXL040X16 |
| 21/32 | .6562 | .5620 | 2-1/4 | 12 | CRSFXL042X12 | 16 | CRSFXL042X16 |
| 11/16 | .6875 | .5620 | 2-1/4 | 12 | CRSFXL044X12 | 16 | CRSFXL044X16 |
| 23/32 | .7188 | .5620 | 2-1/4 | 12 | CRSFXL046X12 | 16 | CRSFXL046X16 |
| 3/4 | .7500 | .6245 | 2-1/2 | 12 | CRSFXL048X12 | 16 | CRSFXL048X16 |
| 13/16 | .8125 | .6245 | 2-1/2 | 12 | CRSFXL052X12 | 16 | CRSFXL052X16 |

REGARDING USAGE

Extended reamers are designed for use in drill presses, turret lathes, screw machines, etc. **They are not designed for CNC machines.** The best results are obtained with a floating type holder which permits the reamer to align itself with the hole being reamed.

**PREMIUM (10% COBALT) MICROGRAIN CARBIDE
CHUCKING REAMERS - SOLID CARBIDE**

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



STRAIGHT FLUTE

Solid Carbide Straight Flute Fractional Size Chucking Reamers are used for reaming abrasive materials, hard steels up to RC50, aluminum, brass, bronze and plastics. Available fractional, wire gauge, letter, metric and decimal sizes.

Fractional Sizes 1/32" to 1/2" Diameter

| DEC SIZE | FLUTE EQUIV | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|----------|-------------|--------------|----------------|-----------|-------|
| 1/32 | .0312 | 1/4 | 1-1/2 | SCCRSF002 | 16.36 |
| 3/64 | .0469 | 3/8 | 1-1/2 | SCCRSF003 | 18.58 |
| 1/16 | .0629 | 3/8 | 1-1/2 | SCCRSF004 | 19.66 |
| 5/64 | .0781 | 1/2 | 1-3/4 | SCCRSF005 | 21.52 |
| 3/32 | .0938 | 1/2 | 2 | SCCRSF006 | 22.90 |
| 7/64 | .1094 | 5/8 | 2-1/4 | SCCRSF007 | 23.60 |
| 1/8 | .1250 | 5/8 | 2-1/4 | SCCRSF008 | 25.30 |
| 9/64 | .1406 | 3/4 | 2-1/2 | SCCRSF009 | 27.98 |
| 5/32 | .1562 | 3/4 | 2-1/2 | SCCRSF010 | 29.14 |
| 11/64 | .1719 | 7/8 | 2-3/4 | SCCRSF011 | 33.02 |
| 3/16 | .1875 | 7/8 | 2-3/4 | SCCRSF012 | 33.64 |
| 13/64 | .2031 | 1 | 3 | SCCRSF013 | 37.56 |
| 7/32 | .2188 | 1 | 3 | SCCRSF014 | 38.66 |
| 15/64 | .2344 | 1 | 3 | SCCRSF015 | 38.72 |
| 1/4 | .2500 | 1 | 3 | SCCRSF016 | 39.92 |
| 17/64 | .2656 | 1-1/8 | 3-1/4 | SCCRSF017 | 49.94 |

| DEC SIZE | FLUTE EQUIV | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|----------|-------------|--------------|----------------|-----------|--------|
| 9/32 | .2812 | 1-1/8 | 3-1/4 | SCCRSF018 | 48.50 |
| 19/64 | .2969 | 1-1/8 | 3-1/4 | SCCRSF019 | 53.34 |
| 5/16 | .3125 | 1-1/8 | 3-1/4 | SCCRSF020 | 54.98 |
| 21/64 | .3281 | 1-1/4 | 3-1/2 | SCCRSF021 | 63.10 |
| 11/32 | .3438 | 1-1/4 | 3-1/2 | SCCRSF022 | 61.26 |
| 23/64 | .3594 | 1-1/4 | 3-1/2 | SCCRSF023 | 70.76 |
| 3/8 | .3750 | 1-1/4 | 3-1/2 | SCCRSF024 | 68.68 |
| 25/64 | .3906 | 1-1/4 | 3-1/2 | SCCRSF025 | 85.94 |
| 13/32 | .4062 | 1-1/4 | 3-1/2 | SCCRSF026 | 81.30 |
| 27/64 | .4219 | 1-3/8 | 4 | SCCRSF027 | 100.22 |
| 7/16 | .4375 | 1-3/8 | 4 | SCCRSF028 | 91.52 |
| 29/64 | .4531 | 1-3/8 | 4 | SCCRSF029 | 108.14 |
| 15/32 | .4688 | 1-3/8 | 4 | SCCRSF030 | 104.62 |
| 31/64 | .4844 | 1-1/2 | 4 | SCCRSF031 | 121.34 |
| 1/2 | .5000 | 1-1/2 | 4 | SCCRSF032 | 119.28 |

Letter Sizes "A" to "Z" Diameter

| DEC SIZE | FLUTE EQUIV | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|----------|-------------|--------------|----------------|-----------|-------|
| A | .2340 | 1 | 3 | SCCRSF"A" | 42.44 |
| B | .2380 | 1 | 3 | SCCRSF"B" | 42.44 |
| C | .2420 | 1 | 3 | SCCRSF"C" | 41.18 |
| D | .2460 | 1 | 3 | SCCRSF"D" | 41.18 |
| E | .2500 | 1-1/8 | 3-1/4 | SCCRSF"E" | 39.92 |
| F | .2570 | 1-1/8 | 3-1/4 | SCCRSF"F" | 51.50 |
| G | .2610 | 1-1/8 | 3-1/4 | SCCRSF"G" | 51.50 |
| H | .2660 | 1-1/8 | 3-1/4 | SCCRSF"H" | 53.10 |
| I | .2720 | 1-1/8 | 3-1/4 | SCCRSF"I" | 53.10 |
| J | .2770 | 1-1/8 | 3-1/4 | SCCRSF"J" | 51.50 |
| K | .2810 | 1-1/8 | 3-1/4 | SCCRSF"K" | 51.50 |
| L | .2900 | 1-1/8 | 3-1/4 | SCCRSF"L" | 56.72 |
| M | .2950 | 1-1/8 | 3-1/4 | SCCRSF"M" | 58.42 |

| DEC SIZE | FLUTE EQUIV | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|----------|-------------|--------------|----------------|-----------|--------|
| N | .3020 | 1-1/8 | 3-1/4 | SCCRSF"N" | 56.72 |
| O | .3160 | 1-1/8 | 3-1/4 | SCCRSF"O" | 67.90 |
| P | .3230 | 1-1/4 | 3-1/2 | SCCRSF"P" | 67.90 |
| Q | .3320 | 1-1/4 | 3-1/2 | SCCRSF"Q" | 65.88 |
| R | .3390 | 1-1/4 | 3-1/2 | SCCRSF"R" | 67.90 |
| S | .3480 | 1-1/4 | 3-1/2 | SCCRSF"S" | 72.98 |
| T | .3580 | 1-1/4 | 3-1/2 | SCCRSF"T" | 72.98 |
| U | .3680 | 1-1/4 | 3-1/2 | SCCRSF"U" | 75.20 |
| V | .3770 | 1-1/4 | 3-1/2 | SCCRSF"V" | 83.86 |
| W | .3860 | 1-1/4 | 3-1/2 | SCCRSF"W" | 83.86 |
| X | .3970 | 1-1/4 | 3-1/2 | SCCRSF"X" | 87.00 |
| Y | .4040 | 1-1/4 | 3-1/2 | SCCRSF"Y" | 83.86 |
| Z | .4130 | 1-1/4 | 3-1/2 | SCCRSF"Z" | 100.22 |

NUMBER OF FLUTES
 .0280 - .2500 dia.: 4 Flutes
 .2501 - .5000 dia.: 6 Flutes

| DIAMETER | DIAMETER TOLERANCES |
|----------------|---------------------|
| .0280 to .2500 | +0000 / +.0002 |
| .2501 to .5000 | +0000 / +.0003 |

CHUCKING REAMERS - SOLID CARBIDE

RT-27

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT SHANK



STRAIGHT FLUTE

Solid Carbide Chucking Reamers are used for reaming abrasive materials, hard steels up to RC50, aluminum, brass, bronze and plastics. Available fractional, wire gauge, letter, metric and decimal sizes.

Wire Gauge Sizes #1 to #70 Diameter

| SIZE | DEC EQUIV | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|------|-----------|--------------|----------------|-----------|-------|
| 1 | .2280 | 1 | 3 | SCCRSF#01 | 42.44 |
| 2 | .2210 | 1 | 3 | SCCRSF#02 | 39.92 |
| 3 | .2130 | 1 | 3 | SCCRSF#03 | 41.14 |
| 4 | .2090 | 1 | 3 | SCCRSF#04 | 41.14 |
| 5 | .2055 | 1 | 3 | SCCRSF#05 | 39.92 |
| 6 | .2040 | 1 | 3 | SCCRSF#06 | 41.14 |
| 7 | .2010 | 1 | 3 | SCCRSF#07 | 39.92 |
| 8 | .1990 | 1 | 3 | SCCRSF#08 | 39.92 |
| 9 | .1960 | 1 | 3 | SCCRSF#09 | 41.14 |
| 10 | .1935 | 1 | 3 | SCCRSF#10 | 39.92 |
| 11 | .1910 | 7/8 | 2-3/4 | SCCRSF#11 | 39.92 |
| 12 | .1890 | 7/8 | 2-3/4 | SCCRSF#12 | 36.88 |
| 13 | .1850 | 7/8 | 2-3/4 | SCCRSF#13 | 35.76 |
| 14 | .1820 | 7/8 | 2-3/4 | SCCRSF#14 | 35.76 |
| 15 | .1800 | 7/8 | 2-3/4 | SCCRSF#15 | 36.88 |
| 16 | .1770 | 7/8 | 2-3/4 | SCCRSF#16 | 36.88 |
| 17 | .1730 | 7/8 | 2-3/4 | SCCRSF#17 | 39.92 |
| 18 | .1695 | 7/8 | 2-3/4 | SCCRSF#18 | 34.02 |
| 19 | .1660 | 7/8 | 2-3/4 | SCCRSF#19 | 35.06 |
| 20 | .1610 | 7/8 | 2-3/4 | SCCRSF#20 | 35.06 |
| 21 | .1590 | 3/4 | 2-1/2 | SCCRSF#21 | 30.00 |
| 22 | .1570 | 3/4 | 2-1/2 | SCCRSF#22 | 30.94 |
| 23 | .1549 | 3/4 | 2-1/2 | SCCRSF#23 | 30.00 |
| 24 | .1520 | 3/4 | 2-1/2 | SCCRSF#24 | 30.94 |
| 25 | .1490 | 3/4 | 2-1/2 | SCCRSF#25 | 30.94 |
| 26 | .1470 | 3/4 | 2-1/2 | SCCRSF#26 | 30.94 |
| 27 | .1440 | 3/4 | 2-1/2 | SCCRSF#27 | 30.00 |
| 28 | .1405 | 3/4 | 2-1/2 | SCCRSF#28 | 30.00 |
| 29 | .1360 | 3/4 | 2-1/2 | SCCRSF#29 | 30.94 |
| 30 | .1285 | 5/8 | 2-1/4 | SCCRSF#30 | 27.72 |
| 31 | .1200 | 5/8 | 2-1/4 | SCCRSF#31 | 26.92 |
| 32 | .1160 | 5/8 | 2-1/4 | SCCRSF#32 | 26.92 |
| 33 | .1130 | 5/8 | 2-1/4 | SCCRSF#33 | 25.18 |
| 34 | .1110 | 5/8 | 2-1/4 | SCCRSF#34 | 25.94 |
| 35 | .1100 | 5/8 | 2-1/4 | SCCRSF#35 | 25.18 |

| SIZE | DEC EQUIV | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|------|-----------|--------------|----------------|-----------|-------|
| 36 | .1055 | 5/8 | 2-1/4 | SCCRSF#36 | 25.94 |
| 37 | .1040 | 5/8 | 2-1/4 | SCCRSF#37 | 25.18 |
| 38 | .1010 | 5/8 | 2-1/4 | SCCRSF#38 | 25.94 |
| 39 | .0995 | 5/8 | 2-1/4 | SCCRSF#39 | 25.18 |
| 40 | .0980 | 5/8 | 2-1/4 | SCCRSF#40 | 25.94 |
| 41 | .0960 | 1/2 | 2 | SCCRSF#41 | 25.18 |
| 42 | .0935 | 1/2 | 2 | SCCRSF#42 | 24.30 |
| 43 | .0890 | 1/2 | 2 | SCCRSF#43 | 23.56 |
| 44 | .0860 | 1/2 | 2 | SCCRSF#44 | 23.56 |
| 45 | .0820 | 1/2 | 2 | SCCRSF#45 | 24.30 |
| 46 | .0810 | 1/2 | 1-3/4 | SCCRSF#46 | 23.56 |
| 47 | .0785 | 1/2 | 1-3/4 | SCCRSF#47 | 22.90 |
| 48 | .0760 | 1/2 | 1-3/4 | SCCRSF#48 | 22.22 |
| 49 | .0730 | 1/2 | 1-3/4 | SCCRSF#49 | 22.90 |
| 50 | .0700 | 1/2 | 1-3/4 | SCCRSF#50 | 22.90 |
| 51 | .0670 | 1/2 | 1-3/4 | SCCRSF#51 | 22.22 |
| 52 | .0635 | 3/8 | 1-1/2 | SCCRSF#52 | 20.30 |
| 53 | .0595 | 3/8 | 1-1/2 | SCCRSF#53 | 20.90 |
| 54 | .0550 | 3/8 | 1-1/2 | SCCRSF#54 | 20.30 |
| 55 | .0520 | 3/8 | 1-1/2 | SCCRSF#55 | 20.08 |
| 56 | .0465 | 3/8 | 1-1/2 | SCCRSF#56 | 19.76 |
| 57 | .0430 | 3/8 | 1-1/2 | SCCRSF#57 | 19.76 |
| 58 | .0420 | 3/8 | 1-1/2 | SCCRSF#58 | 19.16 |
| 59 | .0410 | 1/4 | 1-1/2 | SCCRSF#59 | 19.16 |
| 60 | .0400 | 1/4 | 1-1/2 | SCCRSF#60 | 19.76 |
| 61 | .0390 | 1/4 | 1-1/2 | SCCRSF#61 | 19.46 |
| 62 | .0380 | 1/4 | 1-1/2 | SCCRSF#62 | 18.70 |
| 63 | .0370 | 1/4 | 1-1/2 | SCCRSF#63 | 18.14 |
| 64 | .0360 | 1/4 | 1-1/2 | SCCRSF#64 | 18.70 |
| 65 | .0350 | 1/4 | 1-1/2 | SCCRSF#65 | 17.00 |
| 66 | .0330 | 1/4 | 1-1/2 | SCCRSF#66 | 17.00 |
| 67 | .0320 | 1/4 | 1-1/2 | SCCRSF#67 | 16.86 |
| 68 | .0310 | 1/4 | 1-1/2 | SCCRSF#68 | 20.24 |
| 69 | .0292 | 1/4 | 1-1/2 | SCCRSF#69 | 20.24 |
| 70 | .0280 | 1/4 | 1-1/2 | SCCRSF#70 | 20.24 |

Metric Sizes 1.0mm to 12.5mm Diameter

| SIZE | DEC EQUIV | FLUTE LENGTH | OVERALL LENGTH | NO. OF FLUTES | ITEM NO. | PRICE |
|------|-----------|--------------|----------------|---------------|--------------|-------|
| 1.0 | .0395 | 1/4 | 1-1/2 | 4 | SCCRSFM01.00 | 19.46 |
| 1.5 | .0610 | 3/8 | 1-1/2 | 4 | SCCRSFM01.50 | 20.98 |
| 2.0 | .0787 | 1/2 | 1-3/4 | 4 | SCCRSFM02.00 | 23.30 |
| 2.5 | .0984 | 5/8 | 2-1/4 | 4 | SCCRSFM02.50 | 26.50 |
| 3.0 | .1181 | 5/8 | 2-1/4 | 4 | SCCRSFM03.00 | 27.04 |
| 3.5 | .1378 | 3/4 | 2-1/2 | 6 | SCCRSFM03.50 | 30.70 |
| 4.0 | .1575 | 3/4 | 2-1/2 | 6 | SCCRSFM04.00 | 30.94 |
| 4.5 | .1772 | 7/8 | 2-3/4 | 6 | SCCRSFM04.50 | 37.46 |
| 5.0 | .1968 | 1 | 3 | 6 | SCCRSFM05.00 | 40.84 |
| 5.5 | .2165 | 1 | 3 | 6 | SCCRSFM05.50 | 49.60 |
| 6.0 | .2362 | 1 | 3 | 6 | SCCRSFM06.00 | 42.32 |
| 6.5 | .2559 | 1-1/8 | 3-1/4 | 6 | SCCRSFM06.50 | 52.26 |

| SIZE | DEC EQUIV | FLUTE LENGTH | OVERALL LENGTH | NO. OF FLUTES | ITEM NO. | PRICE |
|------|-----------|--------------|----------------|---------------|--------------|--------|
| 7.0 | .2756 | 1-1/8 | 3-1/4 | 6 | SCCRSFM07.00 | 51.24 |
| 7.5 | .2953 | 1-1/8 | 3-1/4 | 6 | SCCRSFM07.50 | 60.72 |
| 8.0 | .3150 | 1-1/8 | 3-1/4 | 6 | SCCRSFM08.00 | 67.50 |
| 8.5 | .3346 | 1-1/4 | 3-1/2 | 6 | SCCRSFM08.50 | 70.20 |
| 9.0 | .3543 | 1-1/4 | 3-1/2 | 6 | SCCRSFM09.00 | 72.74 |
| 9.5 | .3740 | 1-1/4 | 3-1/2 | 6 | SCCRSFM09.50 | 78.66 |
| 10.0 | .3937 | 1-1/4 | 3-1/2 | 6 | SCCRSFM10.00 | 91.82 |
| 10.5 | .4134 | 1-1/4 | 3-1/2 | 6 | SCCRSFM10.50 | 107.40 |
| 11.0 | .4331 | 1-3/8 | 4 | 6 | SCCRSFM11.00 | 111.66 |
| 11.5 | .4528 | 1-3/8 | 4 | 6 | SCCRSFM11.50 | 114.88 |
| 12.0 | .4724 | 1-3/8 | 4 | 6 | SCCRSFM12.00 | 113.22 |
| 12.5 | .4921 | 1-1/2 | 4 | 6 | SCCRSFM12.50 | 129.26 |

NUMBER OF FLUTES

.0280 - .2500 dia.: 4 Flutes
.2501 - .5000 dia.: 6 Flutes

DIAMETER

.0280 to .2500
.2501 to .5000

DIAMETER TOLERANCES

+0000 / +.0002
+0000 / +.0003

HIGH SPEED STEEL TAPER SHANK CHUCKING REAMERS

ICS USA
GENERAL PURPOSE
RIGHT HAND CUT

STRAIGHT FLUTE

High Speed Steel Straight Flute Taper Shank Chucking Reamers are designed for general purpose reaming of most ferrous and non-ferrous metals. The cutting edge is ground with a 45° chamfer angle for easy hole entry. They are also known as Machine Reamers.


HELICAL FLUTE

High Speed Steel Helical Flute Taper Shank Chucking Reamers are designed for reaming materials where additional shear is necessary and to improve chip removal in blind holes. The cutting edge is ground with a 45° chamfer angle for easy hole entry. They are also known as Machine Reamers.

| SIZE | DEC EQUIV | FLUTE LENGTH | OVERALL LENGTH | MORSE TAPER | STRAIGHT FLUTE | | HELICAL FLUTE | |
|--------|-----------|--------------|----------------|-------------|----------------|--------|---------------|--------|
| | | | | | ITEM NO. | PRICE | ITEM NO. | PRICE |
| 1/4 | .2500 | 1-1/2 | 6 | 1 | TSCRSF016 | 32.86 | TSCRHF016 | 40.18 |
| 9/32 | .2812 | 1-1/2 | 6 | 1 | TSCRSF018 | 40.18 | TSCRHF018 | 43.26 |
| 5/16 | .3125 | 1-1/2 | 6 | 1 | TSCRSF020 | 40.18 | TSCRHF020 | 43.26 |
| 11/32 | .3438 | 1-1/2 | 6 | 1 | TSCRSF022 | 40.70 | TSCRHF022 | 43.26 |
| 3/8 | .3750 | 1-3/4 | 6 | 1 | TSCRSF024 | 41.48 | TSCRHF024 | 44.32 |
| 13/32 | .4062 | 1-3/4 | 6 | 1 | TSCRSF026 | 42.38 | TSCRHF026 | 45.58 |
| 7/16 | .4375 | 1-3/4 | 7 | 1 | TSCRSF028 | 42.38 | TSCRHF028 | 45.58 |
| 15/32 | .4688 | 1-3/4 | 7 | 1 | TSCRSF030 | 47.26 | TSCRHF030 | 48.06 |
| 1/2 | .5000 | 2 | 8 | 1 | TSCRSF032 | 48.06 | TSCRHF032 | 53.02 |
| 17/32 | .5312 | 2 | 8 | 1 | TSCRSF034 | 51.98 | TSCRHF034 | 54.88 |
| 9/16 | .5629 | 2 | 8 | 1 | TSCRSF036 | 51.98 | TSCRHF036 | 58.02 |
| 19/32 | .5938 | 2 | 8 | 1 | TSCRSF038 | 56.18 | TSCRHF038 | 58.02 |
| 5/8 | .6250 | 2-1/4 | 9 | 2 | TSCRSF040 | 58.02 | TSCRHF040 | 72.72 |
| 21/32 | .6562 | 2-1/4 | 9 | 2 | TSCRSF042 | 59.86 | TSCRHF042 | 72.72 |
| 11/16 | .6875 | 2-1/4 | 9 | 2 | TSCRSF044 | 59.86 | TSCRHF044 | 72.72 |
| 23/32 | .7188 | 2-1/4 | 9 | 2 | TSCRSF046 | 68.22 | TSCRHF046 | 72.72 |
| 3/4 | .7500 | 2-1/2 | 9-1/2 | 2 | TSCRSF048 | 72.72 | TSCRHF048 | 81.12 |
| 25/32 | .7812 | 2-1/2 | 9-1/2 | 2 | TSCRSF050 | 74.40 | TSCRHF050 | 81.12 |
| 13/16 | .8125 | 2-1/2 | 9-1/2 | 2 | TSCRSF052 | 74.40 | TSCRHF052 | 89.26 |
| 27/32 | .8438 | 2-1/2 | 9-1/2 | 2 | TSCRSF054 | 88.20 | TSCRHF054 | 92.86 |
| 7/8 | .8750 | 2-5/8 | 10 | 2 | TSCRSF056 | 92.92 | TSCRHF056 | 99.22 |
| 29/32 | .9062 | 2-5/8 | 10 | 2 | TSCRSF058 | 96.08 | TSCRHF058 | 101.54 |
| 15/16 | .9375 | 2-5/8 | 10 | 3 | TSCRSF060 | 109.20 | TSCRHF060 | 127.32 |
| 31/32 | .9688 | 2-5/8 | 10 | 3 | TSCRSF062 | 115.78 | TSCRHF062 | 127.32 |
| 1 | 1.0000 | 2-3/4 | 10-1/2 | 3 | TSCRSF100 | 115.78 | TSCRHF100 | 127.32 |
| 1-1/32 | 1.0312 | 2-3/4 | 10-1/2 | 3 | TSCRSF102 | 123.90 | TSCRHF102 | 138.08 |
| 1-1/16 | 1.0625 | 2-3/4 | 10-1/2 | 3 | TSCRSF104 | 115.78 | TSCRHF104 | 127.32 |
| 1-1/8 | 1.1250 | 2-7/8 | 11 | 3 | TSCRSF108 | 127.32 | TSCRHF108 | 140.46 |
| 1-5/32 | 1.1562 | 2-7/8 | 11 | 3 | TSCRSF110 | 151.20 | TSCRHF110 | 166.96 |
| 1-3/16 | 1.1875 | 2-7/8 | 11 | 3 | TSCRSF112 | 140.46 | TSCRHF112 | 154.10 |
| 1-1/4 | 1.2500 | 3 | 11-1/2 | 4 | TSCRSF116 | 165.12 | TSCRHF116 | 188.48 |
| 1-5/16 | 1.3125 | 3 | 11-1/2 | 4 | TSCRSF120 | 175.36 | TSCRHF120 | 188.48 |
| 1-3/8 | 1.3750 | 3-1/4 | 12 | 4 | TSCRSF124 | 185.08 | TSCRHF124 | 195.82 |
| 1-7/16 | 1.4375 | 3-1/4 | 12 | 4 | TSCRSF128 | 200.02 | TSCRHF128 | 221.30 |
| 1-1/2 | 1.5000 | 3-1/2 | 12-1/2 | 4 | TSCRSF132 | 214.72 | TSCRHF132 | 237.06 |
| 1-3/4 | 1.7500 | 4 | 13-1/2 | 4 | TSCRSF148 | 310.28 | TSCRHF148 | 325.50 |
| 2 | 2.0000 | 4 | 14-1/2 | 4 | TSCRSF200 | 385.88 | TSCRHF200 | 404.26 |

Other sizes are available. Please inquire for price and delivery.

TOLERANCES

3/64 - 1/2 dia.: +.0002 -.0000"
 33/64 - 5/8 dia.: +.0003 -.0000"
 41/64 - 1-1/2 dia.: +.0001 -.0005"
 1-9/16 - 2 dia.: +.0002 -.0006"

NUMBER OF FLUTES

3/64 - 5/32 dia.: 4 Flutes
 11/64 - 39/64 dia.: 6 Flutes
 5/8 - 1-1/32 dia.: 8 Flutes
 1-1/16 - 1-5/16 dia.: 10 Flutes
 1-3/8 - 1-1/2 dia.: 12 Flutes
 1-9/16 - 1-7/8 dia.: 14 Flutes
 2" dia.: 16 Flutes

HIGH SPEED STEEL CHUCKING REAMERS - EXPANSION

ICS USA

GENERAL PURPOSE

RIGHT HAND CUT



STRAIGHT SHANK - STRAIGHT FLUTE

TAPER SHANK - STRAIGHT FLUTE

High Speed Steel Expansion Chucking Reamers are designed to maintain the initial size by compensating for wear on the cutting end. When the reamer has been worn undersize, it may be expanded oversize by tightening the adjusting screw then reground to size and resharpened on the bevel cutting lead. They should not be considered an adjustable reamer to provide holes of different sizes.

| SIZE | DEC EQUIV | FLUTE LENGTH | OVERALL LENGTH | STRAIGHT FLUTE | | TAPER SHANK | | |
|---------|-----------|--------------|----------------|----------------|--------|-------------|------------|---------|
| | | | | ITEM NO. | PRICE | MORSE TAPER | ITEM NO. | PRICE |
| 3/8 | .3750 | 3/4 | 7 | XCRSFSS024 | 51.12 | 1 | XCRSFTS024 | 58.60 |
| 13/32 | .4062 | 3/4 | 7 | XCRSFSS026 | 54.46 | 1 | XCRSFTS026 | 62.04 |
| 7/16 | .4375 | 7/8 | 7 | XCRSFSS028 | 54.46 | 1 | XCRSFTS028 | 62.04 |
| 15/32 | .4688 | 7/8 | 7 | XCRSFSS030 | 56.56 | 1 | XCRSFTS030 | 63.52 |
| 1/2 | .5000 | 1 | 8 | XCRSFSS032 | 57.54 | 1 | XCRSFTS032 | 64.76 |
| 17/32 | .5312 | 1 | 8 | XCRSFSS034 | 59.98 | 1 | XCRSFTS034 | 67.36 |
| 9/16 | .5625 | 1-1/8 | 8 | XCRSFSS036 | 60.42 | 1 | XCRSFTS036 | 66.14 |
| 19/32 | .5938 | 1-1/8 | 8 | XCRSFSS038 | 61.34 | 1 | XCRSFTS038 | 68.54 |
| 5/8 | .6250 | 1-1/4 | 9 | XCRSFSS040 | 63.22 | 2 | XCRSFTS040 | 71.00 |
| 21/32 | .6562 | 1-1/4 | 9 | XCRSFSS042 | 65.74 | 2 | XCRSFTS042 | 72.96 |
| 11/16 | .6875 | 1-1/4 | 9 | XCRSFSS044 | 66.20 | 2 | XCRSFTS044 | 73.40 |
| 23/32 | .7188 | 1-1/4 | 9 | XCRSFSS046 | 70.48 | 2 | XCRSFTS046 | 78.30 |
| 3/4 | .7500 | 1-3/8 | 9-1/2 | XCRSFSS048 | 72.92 | 2 | XCRSFTS048 | 80.76 |
| 25/32 | .7812 | 1-3/8 | 9-1/2 | XCRSFSS050 | 77.20 | 2 | XCRSFTS050 | 84.42 |
| 13/16 | .8125 | 1-3/8 | 9-1/2 | XCRSFSS052 | 80.16 | 2 | XCRSFTS052 | 85.68 |
| 27/32 | .8438 | 1-3/8 | 9-1/2 | XCRSFSS054 | 84.44 | 2 | XCRSFTS054 | 90.68 |
| 7/8 | .8750 | 1-1/2 | 10 | XCRSFSS056 | 86.86 | 2 | XCRSFTS056 | 94.26 |
| 29/32 | .9062 | 1-1/2 | 10 | XCRSFSS058 | 90.56 | 2 | XCRSFTS058 | 99.16 |
| 15/16 | .9375 | 1-1/2 | 10 | XCRSFSS060 | 94.78 | 3 | XCRSFTS060 | 101.64 |
| 31/32 | .9688 | 1-1/2 | 10 | XCRSFSS062 | 99.06 | 3 | XCRSFTS062 | 105.90 |
| 1 | 1.0000 | 1-5/8 | 10-1/2 | XCRSFSS100 | 104.50 | 3 | XCRSFTS100 | 112.02 |
| 1-1/16 | 1.0312 | 1-5/8 | 10-1/2 | XCRSFSS104 | 115.50 | 3 | XCRSFTS104 | 121.88 |
| 1-1/8 | 1.1250 | 1-3/4 | 11 | XCRSFSS108 | 126.40 | 3 | XCRSFTS108 | 131.70 |
| 1-3/16 | 1.1875 | 1-3/4 | 11 | XCRSFSS112 | 133.12 | 3 | XCRSFTS112 | 142.62 |
| 1-1/4 | 1.2500 | 1-7/8 | 11-1/2 | XCRSFSS116 | 143.48 | 4 | XCRSFTS116 | 154.96 |
| 1-5/16 | 1.3125 | 1-7/8 | 11-1/2 | XCRSFSS120 | 148.26 | 4 | XCRSFTS120 | 161.02 |
| 1-3/8 | 1.3750 | 2 | 12 | XCRSFSS124 | 153.72 | 4 | XCRSFTS124 | 167.68 |
| 1-7/16 | 1.4375 | 2 | 12 | XCRSFSS128 | 159.82 | 4 | XCRSFTS128 | 177.52 |
| 1-1/2 | 1.5000 | 2-1/8 | 12-1/2 | XCRSFSS132 | 166.56 | 4 | XCRSFTS132 | 183.60 |
| 1-9/16 | 1.5625 | 2-1/8 | 12-1/2 | XCRSFSS136 | 225.22 | 4 | XCRSFTS136 | 246.02 |
| 1-5/8 | 1.6250 | 2-1/4 | 13 | XCRSFSS140 | 228.70 | 4 | XCRSFTS140 | 249.48 |
| 1-11/16 | 1.6875 | 2-1/4 | 13 | XCRSFSS144 | 242.56 | 4 | XCRSFTS144 | 263.34 |
| 1-3/4 | 1.7500 | 2-3/8 | 13-1/2 | XCRSFSS148 | 275.82 | 5 | XCRSFTS148 | 303.54 |
| 1-13/16 | 1.8125 | 2-3/8 | 13-1/2 | XCRSFSS152 | 294.52 | 5 | XCRSFTS152 | 325.72 |
| 1-7/8 | 1.8750 | 2-1/2 | 14 | XCRSFSS156 | 332.64 | 5 | XCRSFTS156 | 363.82 |
| 1-15/16 | 1.9375 | 2-1/2 | 14 | XCRSFSS160 | 341.26 | 5 | XCRSFTS160 | 367.50 |
| 2 | 2.0000 | 2-1/2 | 14 | XCRSFSS200 | 349.96 | 5 | XCRSFTS200 | 384.62 |
| 2-1/8 | 2.1250 | 2-3/4 | 14 | | | 5 | XCRSFTS208 | 460.84 |
| 2-1/4 | 2.2500 | 2-3/4 | 14-1/2 | | | 5 | XCRSFTS216 | 483.00 |
| 2-3/8 | 2.3750 | 2-3/4 | 15 | | | 5 | XCRSFTS224 | 519.76 |
| 2-1/2 | 2.5000 | 3 | 15 | | | 5 | XCRSFTS232 | 550.94 |
| 3 | 3.0000 | 3 | 15 | | | 5 | XCRSFTS300 | 1036.04 |

Maximum expansion to 1/2" - approximately .006, to 1" - approximately .010
 Maximum expansion to 1-1/2" - approximately .012, to 3" - approximately .015

MACHINE REAMERS - TAPER SHANK - EXTRA LONG

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

LONG
BODYLEFT HAND
FLUTE 7°-10°

High Speed Steel Extra Long Fluted Machine Reamers are designed to fill the needs of users requiring a machine reamer with extra long flutes to ream materials where additional shear is needed. They are manufactured with a 7° - 10° left hand spiral flute and 45° bevel lead for machine use for holes to H7 tolerance.

| SIZE | DEC EQUIV | MORSE TAPER SHANK | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. |
|-------|-----------|-------------------|--------------|----------------|----------------|
| 3/16 | .1875 | 1 | 4-13/16 | 8 | MRHFTSXL012X08 |
| 7/32 | .2188 | 1 | 4-13/16 | 8 | MRHFTSXL014X08 |
| 1/4 | .2500 | 1 | 4-13/16 | 8 | MRHFTSXL016X08 |
| 1/4 | .2500 | 1 | 6-13/16 | 10 | MRHFTSXL016X10 |
| 9/32 | .2812 | 1 | 4-13/16 | 8 | MRHFTSXL018X08 |
| 5/16 | .3125 | 1 | 4-13/16 | 8 | MRHFTSXL020X08 |
| 5/16 | .3125 | 1 | 6-13/16 | 10 | MRHFTSXL020X10 |
| 5/16 | .3125 | 1 | 8-13/16 | 12 | MRHFTSXL020X12 |
| 11/32 | .3438 | 1 | 4-13/16 | 8 | MRHFTSXL022X08 |
| 3/8 | .3750 | 1 | 4-13/16 | 8 | MRHFTSXL024X08 |
| 3/8 | .3750 | 1 | 6-13/16 | 10 | MRHFTSXL024X10 |
| 3/8 | .3750 | 1 | 8-13/16 | 12 | MRHFTSXL024X12 |
| 7/16 | .4219 | 1 | 4-13/16 | 8 | MRHFTSXL028X08 |
| 7/16 | .4219 | 1 | 6-13/16 | 10 | MRHFTSXL028X10 |
| 7/16 | .4219 | 1 | 8-13/16 | 12 | MRHFTSXL028X12 |
| 1/2 | .5000 | 1 | 4-13/16 | 8 | MRHFTSXL032X08 |
| 1/2 | .5000 | 1 | 6-13/16 | 10 | MRHFTSXL032X10 |
| 1/2 | .5000 | 1 | 8-13/16 | 12 | MRHFTSXL032X12 |
| 9/16 | .5625 | 2 | 8-1/16 | 12 | MRHFTSXL036X12 |
| 5/8 | .6250 | 2 | 8-1/16 | 12 | MRHFTSXL040X12 |
| 5/8 | .6250 | 2 | 11-1/16 | 15 | MRHFTSXL040X15 |
| 11/16 | .6875 | 2 | 8-1/16 | 12 | MRHFTSXL044X12 |
| 3/4 | .7500 | 2 | 8-1/16 | 12 | MRHFTSXL048X12 |
| 3/4 | .7500 | 2 | 11-1/16 | 15 | MRHFTSXL048X15 |
| 25/32 | .7812 | 2 | 8-1/16 | 12 | MRHFTSXL050X12 |
| 13/16 | .8125 | 2 | 8-1/16 | 12 | MRHFTSXL052X12 |
| 7/8 | .8750 | 2 | 11-1/16 | 15 | MRHFTSXL056X15 |
| 7/8 | .8750 | 2 | 14-1/16 | 18 | MRHFTSXL056X18 |
| 1 | 1.0000 | 3 | 10-1/4 | 15 | MRHFTSXL100X15 |
| 1 | 1.0000 | 3 | 13-1/4 | 18 | MRHFTSXL100X18 |
| 1-1/8 | 1.1250 | 3 | 10-1/4 | 15 | MRHFTSXL108X15 |
| 1-1/4 | 1.2500 | 3 | 10-1/4 | 15 | MRHFTSXL116X15 |
| 1-1/4 | 1.2500 | 3 | 13-1/4 | 18 | MRHFTSXL116X18 |
| 1-3/8 | 1.3750 | 4 | 12-1/8 | 18 | MRHFTSXL124X18 |
| 1-1/2 | 1.5000 | 4 | 12-1/8 | 18 | MRHFTSXL132X18 |

NOTE: Other sizes and lengths can be made to order. Quantity will determine price. Inquire for quote and lead time.

HIGH SPEED STEEL METRIC MACHINE REAMERS - TAPER SHANK - EXTRA LONG

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

LONG
BODYLEFT HAND
FLUTE 7°-10°

High Speed Steel Extra Long Fluted Metric Machine Reamers are designed to fill the needs of users requiring a machine reamer with extra long flutes to ream materials where additional shear is needed. They are manufactured with a 7° - 10° left hand spiral flute and 45° bevel lead for machine use for holes to H7 tolerance.

| SIZE mm | DEC EQUIV | MORSE TAPER SHANK | FLUTE LENGTH (mm) | OVERALL LENGTH (mm) | ITEM NO. |
|------------|--------------|----------------------|----------------------|------------------------|----------------|
| 5.50mm | .2165 | 1 | 120mm | 200mm | MRHFTSM055X200 |
| 6.00mm | .2362 | 1 | 120mm | 200mm | MRHFTSM060X200 |
| 6.50mm | .2559 | 1 | 120mm | 200mm | MRHFTSM065X200 |
| 7.00mm | .2756 | 1 | 120mm | 200mm | MRHFTSM070X200 |
| 8.00mm | .3150 | 1 | 120mm | 200mm | MRHFTSM080X200 |
| 8.00mm | .3150 | 1 | 170mm | 250mm | MRHFTSM080X250 |
| 8.00mm | .3150 | 1 | 220mm | 300mm | MRHFTSM080X300 |
| 8.50mm | .3346 | 1 | 120mm | 200mm | MRHFTSM085X200 |
| 9.00mm | .3543 | 1 | 120mm | 200mm | MRHFTSM090X200 |
| 10.00mm | .3937 | 1 | 120mm | 200mm | MRHFTSM100X200 |
| 10.00mm | .3937 | 1 | 170mm | 250mm | MRHFTSM100X250 |
| 10.00mm | .3937 | 1 | 220mm | 300mm | MRHFTSM100X300 |
| 11.00mm | .4331 | 1 | 120mm | 200mm | MRHFTSM110X200 |
| 12.00mm | .4724 | 1 | 120mm | 200mm | MRHFTSM120X200 |
| 12.00mm | .4724 | 1 | 170mm | 250mm | MRHFTSM120X250 |
| 12.00mm | .4724 | 1 | 220mm | 300mm | MRHFTSM120X300 |
| 13.00mm | .5118 | 1 | 170mm | 250mm | MRHFTSM130X250 |
| 14.00mm | .5512 | 1 | 170mm | 250mm | MRHFTSM140X250 |
| 14.00mm | .5512 | 1 | 270mm | 350mm | MRHFTSM140X350 |
| 15.00mm | .5512 | 2 | 122mm | 220mm | MRHFTSM150X220 |
| 16.00mm | .6299 | 2 | 150mm | 250mm | MRHFTSM160X250 |
| 16.00mm | .6299 | 2 | 200mm | 300mm | MRHFTSM160X300 |
| 16.00mm | .6299 | 2 | 300mm | 400mm | MRHFTSM160X400 |
| 17.00mm | .6693 | 2 | 200mm | 300mm | MRHFTSM170X300 |
| 18.00mm | .7087 | 2 | 200mm | 300mm | MRHFTSM180X300 |
| 19.00mm | .7480 | 2 | 200mm | 300mm | MRHFTSM190X300 |
| 19.00mm | .7480 | 2 | 300mm | 400mm | MRHFTSM190X400 |
| 19.50mm | .7677 | 2 | 150mm | 250mm | MRHFTSM195X250 |
| 19.50mm | .7677 | 2 | 200mm | 300mm | MRHFTSM195X300 |
| 20.00mm | .7844 | 2 | 200mm | 300mm | MRHFTSM200X300 |
| 20.00mm | .7844 | 2 | 250mm | 350mm | MRHFTSM200X350 |
| 20.00mm | .7844 | 2 | 300mm | 400mm | MRHFTSM200X400 |
| 22.00mm | .8661 | 2 | 200mm | 300mm | MRHFTSM220X300 |
| 24.00mm | .9449 | 3 | 223mm | 350mm | MRHFTSM240X350 |
| 25.00mm | .9843 | 3 | 223mm | 350mm | MRHFTSM250X350 |
| 25.00mm | .9843 | 3 | 273mm | 400mm | MRHFTSM250X400 |
| 26.00mm | 1.0433 | 3 | 273mm | 400mm | MRHFTSM260X400 |
| 28.00mm | 1.1024 | 3 | 273mm | 400mm | MRHFTSM280X400 |
| 30.00mm | 1.1811 | 3 | 223mm | 350mm | MRHFTSM300X350 |
| 30.00mm | 1.1811 | 3 | 273mm | 400mm | MRHFTSM300X400 |
| 32.00mm | 1.2598 | 4 | 245mm | 400mm | MRHFTSM320X400 |
| 35.00mm | 1.3780 | 4 | 195mm | 350mm | MRHFTSM350X350 |
| 35.00mm | 1.3780 | 4 | 245mm | 400mm | MRHFTSM350X400 |
| 38.00mm | 1.4961 | 4 | 245mm | 400mm | MRHFTSM380X400 |
| 40.00mm | 1.5748 | 4 | 245mm | 400mm | MRHFTSM400X400 |
| 50.00mm | 1.9865 | 4 | 245mm | 400mm | MRHFTSM500X400 |

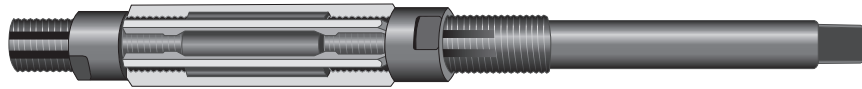
NOTE: Other sizes and lengths can be made to order. Quantity will determine price. Inquire for quote and lead time.

HIGH SPEED STEEL ADJUSTABLE HAND REAMERS

ICS WIS

GENERAL PURPOSE

RIGHT HAND CUT



High Speed Steel Adjustable Hand Reamers are designed with enough of an adjustment range to ream almost any odd size hole encountered in reaming. The blades are made of high speed steel for long life and can be adjusted by loosening one nut while tightening the other. They are used mostly for repair work in the field. They are also known as Adjustable King Pin Reamers. Ends are center drilled so blades can be sharpened in place.

| INDUSTRY SIZE | RANGE OF ADJUSTMENT | | BLADE LENGTH | OVERALL LENGTH | NO. OF BLADES | ITEM NO. | PRICE |
|------------------|---------------------|--------------------|-----------------|-------------------|------------------|-------------|--------|
| | FRACTIONAL | METRIC | | | | | |
| 8A | 1/4 to 9/32 | 6.30mm to 7.14mm | 1-11/32 | 3-1/4 | 4 | AHR016 | 37.46 |
| 7A | 9/32 to 5/16 | 7.14mm to 7.93mm | 1-11/32 | 3-1/2 | 4 | AHR018 | 37.46 |
| 6A | 5/16 to 11/32 | 7.93mm to 8.73mm | 1-1/2 | 4-1/8 | 4 | AHR020 | 36.32 |
| 5A | 11/32 to 3/8 | 8.73mm to 9.52mm | 1-1/2 | 4-3/8 | 4 | AHR022 | 36.32 |
| 4A | 3/8 to 13/32 | 9.52mm to 10.31mm | 1-1/2 | 4-3/4 | 4 | AHR024 | 36.32 |
| 3A | 13/32 to 7/16 | 10.31mm to 11.11mm | 1-1/2 | 5 | 6 | AHR026 | 36.32 |
| 2A | 7/16 to 15/32 | 11.11mm to 11.90mm | 1-5/8 | 5-1/4 | 6 | AHR028 | 36.32 |
| A | 15/32 to 17/32 | 11.90mm to 13.49mm | 1-5/8 | 5-1/2 | 6 | AHR030 | 37.04 |
| B | 17/32 to 19/32 | 13.49mm to 15.08mm | 1-13/16 | 5-3/4 | 6 | AHR034 | 39.36 |
| C | 19/32 to 21/32 | 15.08mm to 16.66mm | 2-1/16 | 6-1/2 | 7 | AHR038 | 40.88 |
| D | 21/32 to 23/32 | 16.66mm to 18.25mm | 2-3/16 | 6-3/4 | 7 | AHR042 | 42.40 |
| E | 23/32 to 25/32 | 18.25mm to 19.84mm | 2-1/2 | 7 | 7 | AHR046 | 44.66 |
| F | 25/32 to 27/32 | 19.84mm to 21.43mm | 2-5/8 | 7-3/8 | 7 | AHR050 | 46.70 |
| G | 27/32 to 15/16 | 21.43mm to 23.81mm | 3 | 8 | 7 | AHR054 | 50.70 |
| H | 15/16 to 1-1/16 | 23.81mm to 26.98mm | 3-1/4 | 9 | 7 | AHR060 | 56.74 |
| I | 1-1/16 to 1-3/16 | 26.98mm to 30.16mm | 3-3/8 | 10 | 7 | AHR104 | 79.44 |
| J | 1-3/16 to 1-11/32 | 30.16mm to 34.13mm | 3-7/8 | 11 | 7 | AHR112 | 86.98 |
| K | 1-11/32 to 1-1/2 | 34.13mm to 38.10mm | 4-1/4 | 12 | 7 | AHR122 | 109.68 |
| L | 1-1/2 to 1-13/16 | 38.10mm to 46.03mm | 4-7/16 | 14 | 7 | AHR132 | 162.72 |
| M | 1-13/16 to 2-7/32 | 46.03mm to 56.35mm | 5 | 16 | 7 | AHR152 | 234.56 |
| N | 2-7/32 to 2-3/4 | 56.35mm to 69.85mm | 4-13/16 | 18 | 7 | AHR214 | 423.36 |
| O | 2-3/4 to 3-11/32 | 69.85mm to 84.93mm | 5-3/16 | 20 | 7 | AHR248 | 529.20 |

ADJUSTABLE HAND REAMER SETS

ICS WIS

PLASTIC CASE

RIGHT HAND CUT

| ILLUSTRATION | DESCRIPTION | ITEM NO. | PRICE |
|--------------|--------------------------------------|-----------|--------|
| | 4 PC SET Sizes 8A to 5A | RS-AHR-4 | 232.42 |
| | 8 PC SET Sizes A to H | RS-AHR-8 | 559.08 |
| | 11 PC SET Sizes A to K | RS-AHR-11 | 839.08 |

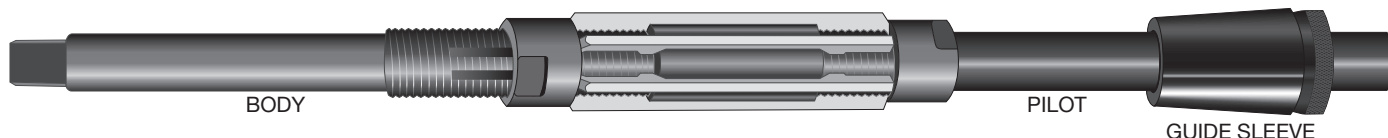
* Custom sets can be made per customer requirements. Inquire for pricing.

LONG PILOT ADJUSTABLE HAND REAMERS

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT



High Speed Steel Long Pilot Adjustable Hand Reamers are designed for in line reaming when two holes are spaced far apart. The solid ground pilot uses a “floating” tapered guide sleeve which is seated in one hole to guide the reamer as it reams the other hole. The tapered guide sleeve can be used at either end of the other hole. They are also known Long Pilot Adjustable Blade Reamers, Adjustable In Line Reamers or Adjustable King Pin Reamers. Ends are center drilled so blades can be sharpened in place.

| INDUSTRY SIZE | RANGE OF ADJUSTMENT | | BLADE LENGTH | OVERALL LENGTH | NO. OF BLADES | ITEM NO. | PRICE |
|---------------|---------------------|--------------------|--------------|----------------|---------------|----------|--------|
| | FRACTIONAL | METRIC | | | | | |
| 8A | 1/4 to 9/32 | 6.30mm to 7.14mm | 1-5/16 | 5-1/8 | 4 | LPAHR016 | 106.26 |
| 7A | 9/32 to 5/16 | 7.14mm to 7.93mm | 1-3/8 | 5-1/2 | 4 | LPAHR018 | 106.26 |
| 6A | 5/16 to 11/32 | 7.93mm to 8.73mm | 1-3/8 | 6-1/16 | 4 | LPAHR020 | 106.26 |
| 5A | 11/32 to 3/8 | 8.73mm to 9.52mm | 1-3/8 | 6-1/4 | 4 | LPAHR022 | 106.26 |
| 4A | 3/8 to 13/32 | 9.52mm to 10.31mm | 1-3/8 | 6-1/2 | 4 | LPAHR024 | 106.26 |
| 3A | 13/32 to 7/16 | 10.31mm to 11.11mm | 1-7/16 | 6-9/16 | 6 | LPAHR026 | 106.26 |
| 2A | 7/16 to 15/32 | 11.11mm to 11.90mm | 1-1/2 | 6-15/16 | 6 | LPAHR028 | 106.26 |
| A | 15/32 to 17/32 | 11.90mm to 13.49mm | 1-1/2 | 7-1/4 | 6 | LPAHR030 | 106.56 |
| B | 17/32 to 19/32 | 13.49mm to 15.08mm | 1-3/4 | 7-7/16 | 6 | LPAHR034 | 108.86 |
| C | 19/32 to 21/32 | 15.08mm to 16.66mm | 2 | 8-1/2 | 6 | LPAHR038 | 110.38 |
| D | 21/32 to 23/32 | 16.66mm to 18.25mm | 2-3/16 | 9-5/8 | 6 | LPAHR042 | 111.92 |
| E | 23/32 to 25/32 | 18.25mm to 19.84mm | 2-3/16 | 10 | 6 | LPAHR046 | 114.16 |
| F | 25/32 to 27/32 | 19.84mm to 21.43mm | 2-3/16 | 10 | 6 | LPAHR050 | 116.22 |
| G | 27/32 to 15/16 | 21.43mm to 23.81mm | 2-9/16 | 11-1/2 | 6 | LPAHR054 | 120.20 |
| H | 15/16 to 1-1/16 | 23.81mm to 26.98mm | 2-3/4 | 12-3/8 | 6 | LPAHR060 | 129.16 |
| I | 1-1/16 to 1-3/16 | 26.98mm to 30.16mm | 2-3/4 | 13-1/8 | 6 | LPAHR104 | 157.66 |
| J | 1-3/16 to 1-11/32 | 30.16mm to 34.13mm | 3-1/4 | 14-3/8 | 6 | LPAHR112 | 178.26 |
| K | 1-11/32 to 1-1/2 | 34.13mm to 38.10mm | 3-1/4 | 16 | 6 | LPAHR122 | 219.76 |
| L | 1-1/2 to 1-13/16 | 38.10mm to 46.03mm | 3-1/4 | 16-1/4 | 6 | LPAHR132 | 332.90 |
| M | 1-13/16 to 2-7/32 | 46.03mm to 56.35mm | 4 | 18 | 6 | LPAHR152 | 448.92 |

LONG PILOT ADJUSTABLE HAND REAMER SETS

ICS WIS

PLASTIC CASE

RIGHT HAND CUT

| ILLUSTRATION | DESCRIPTION | ITEM NO. | PRICE |
|--------------|--------------------------------------|-------------|---------|
| | 4 PC SET Sizes 8A to 5A | RS-LPAHR-4 | 480.34 |
| | 8 PC SET Sizes A to H | RS-LPAHR-8 | 983.28 |
| | 11 PC SET Sizes A to K | RS-LPAHR-11 | 1605.40 |

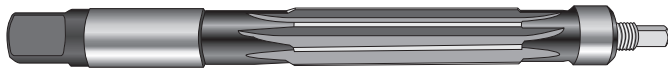
* Custom sets can be made per customer requirements. Inquire for pricing.

HIGH SPEED STEEL HAND EXPANSION REAMERS

ICS USA

GENERAL PURPOSE

RIGHT HAND CUT



STRAIGHT FLUTE
(General Purpose Reaming)



HELICAL FLUTE, LEFT HAND HELIX
(Reaming keyways & interrupted cut holes)

High Speed Steel Hand Expansion Reamers are designed to enlarge reamed holes by a few thousandths. The pilot and guide on these reamers are ground slightly undersize for clearance and to guide reamer. The flutes also have a ground starting taper to help guide reamer into hole. Reamer can be expanded slightly by turning adjusting screw on end of reamer.

| SIZE | DEC. EQUIV. | FLUTE LENGTH | OVERALL LENGTH | FLUTE | |
|-------|-------------|--------------|----------------|----------|---------|
| | | | | STRAIGHT | HELICAL |
| | | | | HERSF | HERHF |
| 3/16 | .1875 | 1-1/8 | 3-3/8 | 67.20 | 67.20 |
| 1/4 | .2500 | 1-7/16 | 4-1/4 | 73.50 | 86.24 |
| 5/16 | .3125 | 1-3/4 | 4-1/2 | 84.00 | 88.88 |
| 3/8 | .3750 | 1-3/4 | 5 | 94.04 | 100.42 |
| 13/32 | .4062 | 1-3/4 | 5 | 98.84 | 103.74 |
| 7/16 | .4375 | 1-3/4 | 5 | 100.42 | 105.42 |
| 15/32 | .4688 | 1-13/16 | 5-1/2 | 101.86 | 106.98 |
| 1/2 | .5000 | 1-13/16 | 5-1/2 | 100.84 | 105.88 |
| 17/32 | .5312 | 2-1/8 | 6 | 106.94 | 112.32 |
| 9/16 | .5629 | 2-1/8 | 6 | 110.12 | 105.14 |
| 19/32 | .5938 | 2-1/2 | 6 | 140.50 | 154.74 |
| 5/8 | .6250 | 2-1/2 | 6-1/2 | 119.32 | 124.74 |
| 21/32 | .6562 | 2-1/2 | 7 | 157.00 | 178.42 |
| 11/16 | .6875 | 2-1/2 | 6-3/4 | 136.22 | 143.02 |
| 23/32 | .7188 | 2-11/16 | 7 | 172.76 | 197.32 |
| 3/4 | .7500 | 2-11/16 | 7-1/16 | 150.70 | 158.22 |
| 25/32 | .7812 | 3-1/16 | 8 | 192.78 | 209.16 |
| 13/16 | .8125 | 3-1/16 | 7-9/16 | 169.56 | 178.00 |
| 27/32 | .8438 | 3-5/16 | 8 | 212.06 | 224.66 |

| SIZE | DEC. EQUIV. | FLUTE LENGTH | OVERALL LENGTH | FLUTE | |
|--------|-------------|--------------|----------------|----------|---------|
| | | | | STRAIGHT | HELICAL |
| | | | | HERSF | HERHF |
| 7/8 | .8750 | 3-5/16 | 8 | 182.58 | 191.70 |
| 29/32 | .9062 | 3-9/16 | 9 | 238.14 | 269.52 |
| 15/16 | .9375 | 3-9/16 | 8-3/8 | 208.66 | 219.08 |
| 31/32 | .9688 | 3-3/4 | 9 | 266.00 | 280.98 |
| 1 | 1.0000 | 3-3/4 | 8-7/8 | 222.18 | 233.32 |
| 1-1/16 | 1.0625 | 4 | 9-3/16 | 231.84 | 243.44 |
| 1-1/8 | 1.1250 | 4-1/8 | 9-1/2 | 251.16 | 263.72 |
| 1-3/16 | 1.1875 | 4-1/4 | 9-7/8 | 256.00 | 268.80 |
| 1-1/4 | 1.2500 | 4-3/8 | 10-1/4 | 261.46 | 275.90 |
| 1-5/16 | 1.3125 | 4-1/2 | 10-5/8 | 275.32 | 289.10 |
| 1-3/8 | 1.3750 | 4-9/16 | 11 | 299.46 | 314.46 |
| 1-7/16 | 1.4375 | 4-3/4 | 11-3/8 | 328.44 | 344.86 |
| 1-1/2 | 1.5000 | 4-13/16 | 11-5/8 | 378.00 | 395.60 |
| 1-9/16 | 1.5625 | 4-13/16 | 11-7/8 | 397.04 | 416.90 |
| 1-5/8 | 1.6250 | 4-7/8 | 12 | 407.66 | 428.02 |
| 1-3/4 | 1.7500 | 5 | 12-3/8 | 469.48 | 492.96 |
| 1-7/8 | 1.8750 | 5 | 12-3/4 | 511.98 | 537.60 |
| 2 | 2.0000 | 5 | 13-1/16 | 598.92 | 628.88 |

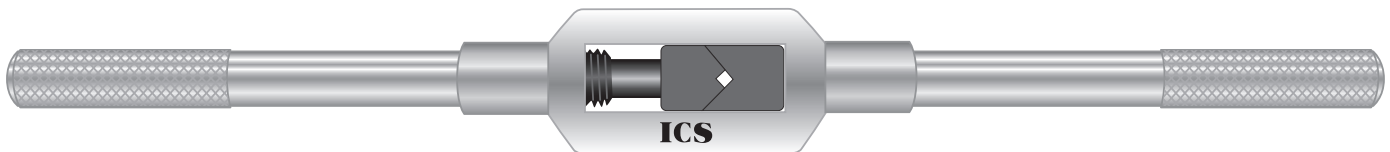
The maximum expansion on these reamers is as follows: .006 inch up to 7/16" sizes, .010 inch up to 15/16" sizes and .012 inch up to 1-1/2" sizes.

ADJUSTABLE TAP AND REAMER WRENCHES

ICS USA

GENERAL PURPOSE

STRAIGHT TYPE



Solid Die Cast Adjustable Tap and Reamer Wrenches are solidly built for a lifetime of industrial service under normal conditions. Size 0 to 7 wrenches have solid handles, one of which is forged integral with the body. The other handles turn for size adjustment. Size 7-1/2 to 8 wrenches have solid handles which are removable. One handle turns for size adjustment.

| OVERALL LENGTH | CAPACITY | | | | | | ITEM NO. | PRICE |
|----------------|-----------------|-------------|--------------|-------------|-----------------|-------------------------|---------------|--------|
| | SCREW EXTRACTOR | HAND TAPS | MACHINE TAPS | PIPE TAPS | HAND REAMERS | ADJUSTABLE HAND REAMERS | | |
| 6-1/2 | #1 - 3 | 1/16 - 1/4 | 0 - 14 | - | 1/8 - 21/64 | 8A - A | TW-0 | 9.18 |
| 9 | #4 | 1/16 - 3/8 | 0 - 14 | - | 1/8 - 25/64 | 8A - C | TW-4 | 12.84 |
| 10 | #5 | 5/32 - 1/2 | 7 - 14 | 1/8 - 1/4 | 11/64 - 7/16 | 8A - F | TW-5 | 15.52 |
| 13-1/2 | #6 | 5/32 - 3/4 | 7 - 14 | 1/8 - 1/4 | 11/64 - 41/64 | 8A - G | TW-6 | 20.00 |
| 19 | #7 | 1/4 - 1-1/8 | - | 1/8 - 3/4 | 9/32 - 29/32 | 3A - K | TW-7 | 35.18 |
| 31 | #8 | 1/2 - 1-3/8 | - | 1/8 - 1 | 3/4 - 1-5/32 | B - L | TW-7.5 | 96.44 |
| 40 | #10 | 3/4 - 1-5/8 | - | 3/8 - 1-1/4 | 37/64 - 1-11/32 | C - M | TW-8 | 147.00 |
| 54 | #11 - 12 | 1 - 2-1/2 | - | 3/4 - 2 | 7/8 - 2-1/8 | J - O | TW-9.5 | 177.94 |

HIGH SPEED STEEL METRIC HAND REAMERS

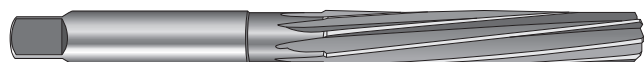
ICS WIS

GENERAL PURPOSE

RIGHT HAND CUT



STRAIGHT FLUTE
(General Purpose Reaming)



HELICAL FLUTE, LEFT HAND HELIX
(Reaming keyways & interrupted cut holes)

High Speed Steel Metric Hand Reamers are designed for extreme accuracy and are used by hand for final sizing of drilled holes. Both styles of hand reamers have a 45° bevel lead and a ground starting taper ranging from 1/2" to 1" on the cutting end for easy entry. They are not suitable for reaming blind holes if bottoming is required. Square end can be held in a vise or a tap wrench depending on whether the work or the reamer is rotating. Special Metric Hand Reamers with straight flutes and without the taper lead (suitable for full bottoming) may be made to order. Hand Reamers are also commonly known as Parallel Hand Reamers in Europe and Asia.

| SIZE | DEC. EQUIV. | FLUTE LENGTH | OVERALL LENGTH | FLUTE | |
|-------|-------------|--------------|----------------|----------|---------|
| | | | | STRAIGHT | HELICAL |
| | | | | HRSFM | HRHFM |
| 1.50 | .0591 | 25/32 | 1-5/8 | - | - |
| 2.00 | .0787 | 13/16 | 2 | - | - |
| 2.50 | .0984 | 1-1/8 | 2-1/4 | - | - |
| 3.00 | .1181 | 1-7/32 | 2-7/16 | 45.88 | 45.88 |
| 3.20 | .1260 | 1-1/4 | 2-1/2 | 45.88 | 45.88 |
| 3.50 | .1378 | 1-3/8 | 2-3/4 | 45.88 | 45.88 |
| 4.00 | .1575 | 1-1/2 | 3 | 45.88 | 45.88 |
| 4.50 | .1772 | 1-5/8 | 3-1/4 | 45.88 | 45.88 |
| 5.00 | .1969 | 1-3/4 | 3-1/2 | 48.52 | 48.52 |
| 5.50 | .2165 | 1-13/16 | 3-5/8 | 48.52 | 48.52 |
| 6.00 | .2362 | 1-13/16 | 3-5/8 | 48.52 | 48.52 |
| 6.50 | .2559 | 2 | 3-15/16 | - | - |
| 7.00 | .2756 | 2-1/8 | 4-1/4 | 51.98 | 51.98 |
| 7.50 | .2953 | 2-1/8 | 4-3/16 | - | - |
| 8.00 | .3150 | 2-1/4 | 4-1/2 | 60.76 | 60.76 |
| 8.50 | .3346 | 2-1/4 | 4-1/2 | - | - |
| 9.00 | .3543 | 2-7/16 | 4-7/8 | 60.76 | 60.76 |
| 9.50 | .3740 | 2-7/16 | 4-7/8 | - | - |
| 10.00 | .3937 | 2-5/8 | 5-1/4 | 65.94 | 65.94 |
| 10.50 | .4134 | 2-5/8 | 5-1/4 | - | - |
| 11.00 | .4331 | 2-13/16 | 5-5/8 | 65.94 | 65.94 |
| 11.50 | .4528 | 2-13/16 | 5-5/8 | - | - |
| 12.00 | .4724 | 3 | 6 | 72.98 | 72.98 |
| 12.50 | .4724 | 3 | 6 | - | - |
| 13.00 | .5118 | 3 | 6 | 80.60 | 80.60 |
| 13.50 | .5118 | 3-1/16 | 6-7/16 | - | - |
| 14.00 | .5512 | 3-1/16 | 6-7/16 | 80.60 | 80.60 |
| 14.50 | .5709 | 3-1/16 | 6-7/16 | - | - |
| 15.00 | .5906 | 3-1/16 | 6-7/16 | 92.36 | 92.36 |
| 15.50 | .6102 | 3-7/16 | 6-7/8 | - | - |
| 16.00 | .6299 | 3-7/16 | 6-7/8 | 101.12 | 101.12 |
| 16.50 | .6495 | 3-7/16 | 6-7/8 | - | - |
| 17.00 | .6693 | 3-7/16 | 6-7/8 | 101.12 | 101.12 |
| 17.50 | .6890 | 3-11/16 | 7-7/16 | - | - |
| 18.00 | .7087 | 3-11/16 | 7-7/16 | 107.32 | 107.32 |
| 18.50 | .7283 | 3-11/16 | 7-7/16 | - | - |
| 19.00 | .7480 | 3-11/16 | 7-7/16 | 123.54 | 123.54 |

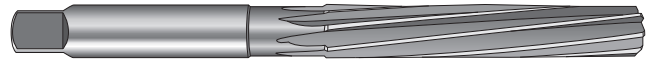
| SIZE | DEC. EQUIV. | FLUTE LENGTH | OVERALL LENGTH | FLUTE | |
|-------|-------------|--------------|----------------|----------------|----------------|
| | | | | STRAIGHT | HELICAL |
| | | | | HRSFM | HRHFM |
| 19.50 | .7677 | 3-15/16 | 7-15/16 | - | - |
| 20.00 | .7874 | 3-15/16 | 7-15/16 | 123.54 | 123.54 |
| 20.50 | .8071 | 3-15/16 | 7-15/16 | - | - |
| 21.00 | .8268 | 3-15/16 | 7-15/16 | - | - |
| 21.50 | .8465 | 4-3/16 | 8-1/2 | - | - |
| 22.00 | .8661 | 4-3/16 | 8-1/2 | - | - |
| 22.50 | .8858 | 4-3/16 | 8-1/2 | - | - |
| 23.00 | .9055 | 4-3/16 | 8-1/2 | - | - |
| 23.50 | .9252 | 4-3/16 | 8-1/2 | - | - |
| 24.00 | .9449 | 4-1/2 | 9-1/16 | - | - |
| 24.50 | .9646 | 4-1/2 | 9-1/16 | - | - |
| 25.00 | .9842 | 4-1/2 | 9-1/16 | - | - |
| 26.00 | 1.0236 | 4-1/2 | 9-1/16 | - | - |
| 27.00 | 1.0630 | 4-7/8 | 9-3/4 | - | - |
| 28.00 | 1.1024 | 4-7/8 | 9-3/4 | - | - |
| 29.00 | 1.1417 | 4-7/8 | 9-3/4 | CALL FOR PRICE | CALL FOR PRICE |
| 30.00 | 1.1811 | 4-7/8 | 9-3/4 | CALL FOR PRICE | CALL FOR PRICE |
| 31.00 | 1.2205 | 5-1/4 | 10-7/16 | CALL FOR PRICE | CALL FOR PRICE |
| 32.00 | 1.2598 | 5-1/4 | 10-7/16 | - | - |
| 33.00 | 1.2992 | 5-1/4 | 10-7/16 | - | - |
| 34.00 | 1.3386 | 5-5/8 | 11-3/16 | - | - |
| 35.00 | 1.3780 | 5-5/8 | 11-3/16 | - | - |
| 36.00 | 1.4173 | 5-5/8 | 11-3/16 | - | - |
| 37.00 | 1.4567 | 5-5/8 | 11-3/16 | - | - |
| 38.00 | 1.4961 | 6 | 12 | - | - |
| 39.00 | 1.5354 | 6 | 12 | - | - |
| 40.00 | 1.5748 | 6 | 12 | - | - |
| 41.00 | 1.6142 | 6 | 12 | - | - |
| 42.00 | 1.6535 | 6 | 12 | - | - |
| 43.00 | 1.6929 | 6-7/16 | 12-13/16 | - | - |
| 44.00 | 1.7323 | 6-7/16 | 12-13/16 | - | - |
| 45.00 | 1.7716 | 6-7/16 | 12-13/16 | - | - |
| 46.00 | 1.8110 | 6-7/16 | 12-13/16 | - | - |
| 47.00 | 1.8504 | 6-7/8 | 13-11/16 | - | - |
| 48.00 | 1.8898 | 6-7/8 | 13-11/16 | - | - |
| 49.00 | 1.9291 | 6-7/8 | 13-11/16 | - | - |
| 50.00 | 1.9685 | 6-7/8 | 13-11/16 | - | - |

Please inquire for price and delivery for sizes listed without pricing.

HIGH SPEED STEEL HAND REAMERS

ICS WIS
GENERAL PURPOSE
RIGHT HAND CUT


STRAIGHT FLUTE
(General Purpose Reaming)



HELICAL FLUTE, LEFT HAND HELIX
(Reaming keyways & interrupted cut holes)

High Speed Steel Hand Reamers are designed for extreme accuracy and are used by hand for final sizing of drilled holes. Both styles of hand reamers have a 45° bevel lead and a ground starting taper ranging from 1/2" to 1" on the cutting end for easy entry. They are not suitable for reaming blind holes if bottoming is required. Square end can be held in a vise or a tap wrench depending on whether the work or the reamer is rotating. Special Hand Reamers with straight flutes and without the taper lead (suitable for full bottoming) may be made to order. Hand Reamers are also commonly known as Parallel Hand Reamers in Europe and Asia.

| SIZE | DEC. EQUIV. | FLUTE LENGTH | OVERALL LENGTH | FLUTE | |
|-------|-------------|--------------|----------------|----------|---------|
| | | | | STRAIGHT | HELICAL |
| 1/16 | .0625 | 1 | 2 | HRSF004 | HRHF004 |
| 5/64 | .0781 | 1 | 2 | HRSF005 | HRHF005 |
| 3/32 | .0938 | 1-1/8 | 2-1/4 | HRSF006 | HRHF006 |
| 7/64 | .1094 | 1-7/32 | 2-7/16 | HRSF007 | HRHF007 |
| 1/8 | .1250 | 1-5/16 | 2-5/8 | HRSF008 | HRHF008 |
| 9/64 | .1406 | 1-3/8 | 2-13/16 | HRSF009 | HRHF009 |
| 5/32 | .1562 | 1-1/2 | 3 | HRSF010 | HRHF010 |
| 11/64 | .1719 | 1-5/8 | 3-3/16 | HRSF011 | HRHF011 |
| 3/16 | .1875 | 1-3/4 | 3-7/16 | HRSF012 | HRHF012 |
| 13/64 | .2031 | 1-3/4 | 3-7/16 | HRSF013 | HRHF013 |
| 7/32 | .2188 | 1-7/8 | 3-11/16 | HRSF014 | HRHF014 |
| 15/64 | .2344 | 1-7/8 | 3-11/16 | HRSF015 | HRHF015 |
| 1/4 | .2500 | 2 | 3-15/16 | HRSF016 | HRHF016 |
| 17/64 | .2656 | 2-1/8 | 4-3/16 | HRSF017 | HRHF017 |
| 9/32 | .2812 | 2-1/8 | 4-3/16 | HRSF018 | HRHF018 |
| 19/64 | .2969 | 2-1/4 | 4-1/2 | HRSF019 | HRHF019 |
| 5/16 | .3125 | 2-1/4 | 4-1/2 | HRSF020 | HRHF020 |
| 21/64 | .3281 | 2-1/4 | 4-1/2 | HRSF021 | HRHF021 |
| 11/32 | .3438 | 2-7/16 | 4-7/8 | HRSF022 | HRHF022 |
| 23/64 | .3594 | 2-7/16 | 4-7/8 | HRSF023 | HRHF023 |
| 3/8 | .3750 | 2-5/8 | 5-1/4 | HRSF024 | HRHF024 |
| 25/64 | .3906 | 2-5/8 | 5-1/4 | HRSF025 | HRHF025 |
| 13/32 | .4062 | 2-5/8 | 5-1/4 | HRSF026 | HRHF026 |
| 27/64 | .4219 | 2-13/16 | 5-5/8 | HRSF027 | HRHF027 |
| 7/16 | .4375 | 2-13/16 | 5-5/8 | HRSF028 | HRHF028 |
| 29/64 | .4531 | 2-13/16 | 5-5/8 | HRSF029 | HRHF029 |
| 15/32 | .4688 | 3 | 6 | HRSF030 | HRHF030 |
| 31/64 | .4844 | 3 | 6 | HRSF031 | HRHF031 |
| 1/2 | .5000 | 3 | 6 | HRSF032 | HRHF032 |
| 33/64 | .5156 | 3 | 6 | HRSF033 | HRHF033 |
| 17/32 | .5312 | 3-3/16 | 6-7/16 | HRSF034 | HRHF034 |
| 35/64 | .5469 | 3-3/16 | 6-7/16 | HRSF035 | HRHF035 |
| 9/16 | .5625 | 3-3/16 | 6-7/16 | HRSF036 | HRHF036 |
| 37/64 | .5781 | 3-3/16 | 6-7/16 | HRSF037 | HRHF037 |
| 19/32 | .5938 | 3-7/16 | 6-7/8 | HRSF038 | HRHF038 |
| 39/64 | .6094 | 3-7/16 | 6-7/8 | HRSF039 | HRHF039 |
| 5/8 | .6250 | 3-7/16 | 6-7/8 | HRSF040 | HRHF040 |
| 41/64 | .6406 | 3-7/16 | 6-7/8 | HRSF041 | HRHF041 |
| 21/32 | .6562 | 3-7/16 | 6-7/8 | HRSF042 | HRHF042 |
| 43/64 | .6719 | 3-11/16 | 7-7/16 | HRSF043 | HRHF043 |
| 11/16 | .6875 | 3-11/16 | 7-7/16 | HRSF044 | HRHF044 |
| 45/64 | .7031 | 3-11/16 | 7-7/16 | HRSF045 | HRHF045 |
| 23/32 | .7188 | 3-11/16 | 7-7/16 | HRSF046 | HRHF046 |

| SIZE | DEC. EQUIV. | FLUTE LENGTH | OVERALL LENGTH | FLUTE | |
|---------|-------------|--------------|----------------|----------|---------|
| | | | | STRAIGHT | HELICAL |
| 47/64 | .7344 | 3-11/16 | 7-7/16 | HRSF047 | HRHF047 |
| 3/4 | .7500 | 3-15/16 | 7-15/16 | HRSF048 | HRHF048 |
| 49/64 | .7656 | 3-15/16 | 7-15/16 | HRSF049 | HRHF049 |
| 25/32 | .7812 | 3-15/16 | 7-15/16 | HRSF050 | HRHF050 |
| 51/64 | .7969 | 3-15/16 | 7-15/16 | HRSF051 | HRHF051 |
| 13/16 | .8125 | 3-15/16 | 7-15/16 | HRSF052 | HRHF052 |
| 53/64 | .8281 | 3-15/16 | 7-15/16 | HRSF053 | HRHF053 |
| 27/32 | .8438 | 4-3/16 | 8-1/2 | HRSF054 | HRHF054 |
| 55/64 | .8594 | 4-3/16 | 8-1/2 | HRSF055 | HRHF055 |
| 7/8 | .8750 | 4-3/16 | 8-1/2 | HRSF056 | HRHF056 |
| 57/64 | .8906 | 4-3/16 | 8-1/2 | HRSF057 | HRHF057 |
| 29/32 | .9062 | 4-3/16 | 8-1/2 | HRSF058 | HRHF058 |
| 59/64 | .9219 | 4-3/16 | 8-1/2 | HRSF059 | HRHF059 |
| 15/16 | .9375 | 4-1/2 | 9-1/16 | HRSF060 | HRHF060 |
| 61/64 | .9531 | 4-1/2 | 9-1/16 | HRSF061 | HRHF061 |
| 31/32 | .9688 | 4-1/2 | 9-1/16 | HRSF062 | HRHF062 |
| 63/64 | .9844 | 4-1/2 | 9-1/16 | HRSF063 | HRHF063 |
| 1 | 1.0000 | 4-1/2 | 9-1/16 | HRSF100 | HRHF100 |
| 1-1/32 | 1.0312 | 4-1/2 | 9-1/16 | HRSF102 | HRHF102 |
| 1-1/16 | 1.0625 | 4-7/8 | 9-3/4 | HRSF104 | HRHF104 |
| 1-3/32 | 1.0938 | 4-7/8 | 9-3/4 | HRSF106 | HRHF106 |
| 1-1/8 | 1.1250 | 4-7/8 | 9-3/4 | HRSF108 | HRHF108 |
| 1-5/32 | 1.1562 | 4-7/8 | 9-3/4 | HRSF110 | HRHF110 |
| 1-3/16 | 1.1875 | 5-1/4 | 10-7/16 | HRSF112 | HRHF112 |
| 1-7/32 | 1.2188 | 5-1/4 | 10-7/16 | HRSF114 | HRHF114 |
| 1-1/4 | 1.2500 | 5-1/4 | 10-7/16 | HRSF116 | HRHF116 |
| 1-9/32 | 1.2812 | 5-1/4 | 10-7/16 | HRSF118 | HRHF118 |
| 1-5/16 | 1.3125 | 5-1/4 | 10-7/16 | HRSF120 | HRHF120 |
| 1-11/32 | 1.3438 | 5-5/8 | 11-3/16 | HRSF122 | HRHF122 |
| 1-3/8 | 1.3750 | 6-5/16 | 12-5/8 | HRSF124 | HRHF124 |
| 1-13/32 | 1.4062 | 5-5/8 | 11-3/16 | HRSF126 | HRHF126 |
| 1-7/16 | 1.4375 | 5-5/8 | 11-3/16 | HRSF128 | HRHF128 |
| 1-15/32 | 1.4688 | 5-5/8 | 11-3/16 | HRSF130 | HRHF130 |
| 1-1/2 | 1.5000 | 6 | 12 | HRSF132 | HRHF132 |
| 1-9/16 | 1.5625 | 6 | 12 | HRSF136 | HRHF136 |
| 1-5/8 | 1.6250 | 6 | 12 | HRSF140 | HRHF140 |
| 1-11/16 | 1.6875 | 6-7/16 | 12-13/16 | HRSF144 | HRHF144 |
| 1-3/4 | 1.7500 | 6-7/16 | 12-13/16 | HRSF14 | HRHF14 |
| 1-13/16 | 1.8125 | 6-7/16 | 12-13/16 | HRSF152 | HRHF152 |
| 1-7/8 | 1.8750 | 6-7/8 | 13-11/16 | HRSF156 | HRHF156 |
| 1-15/16 | 1.9375 | 6-7/8 | 13-11/16 | HRSF160 | HRHF160 |
| 2 | 2.0000 | 6-7/8 | 13-11/16 | HRSF200 | HRHF200 |

TOLERANCES

1/16 - 1/4 dia.: +.0001 to +.0004"

1/4 - 1" dia.: +.0001 to +.0005"

1" - 3" dia.: +.0002 to +.0006"

HIGH SPEED STEEL TOWER BOLT REAMERS

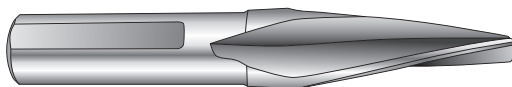
RT-37

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

STRAIGHT
SHANK




LEFT HAND
FLUTE

High Speed Steel Tower Bolt Reamers are designed for lining up bolt holes on cell phone towers, wind mills, and transmission towers. They have three flats on the shank for use in 1/2" three jaw power tools and pneumatic equipment. The extra short length makes them more useful in close quarters.

| SIZE | SHANK DIAMETER | DIAMETER AT POINT | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|-------|----------------|-------------------|--------------|----------------|----------|-------|
| 9/16 | 1/2 | 13/64 | 1-39/64 | 3-1/2 | TBR036 | 44.88 |
| 11/16 | 1/2 | 3/8 | 2-33/64 | 4-21/64 | TBR044 | 58.46 |
| 13/16 | 1/2 | 15/32 | 2-59/64 | 4-51/64 | TBR052 | 78.26 |

TOWER BOLT REAMER SET

| DESCRIPTION | TOWER BOLT REAMER SIZES | ITEM NO. | PRICE |
|--|-------------------------|----------|--------|
| <p>3 PIECE - HIGH SPEED STEEL</p>  | 9/16, 11/16, 13/16 | TBRS-3 | 181.90 |

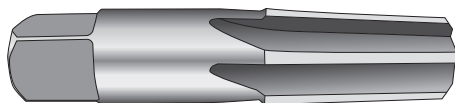
HIGH SPEED STEEL PIPE REAMERS

ICS WIS

SPECIAL PURPOSE

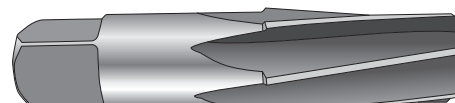
RIGHT HAND CUT

High Speed Steel Taper Pipe Reamers are manufactured with a taper of 3/4" per foot. They are used prior to tapping dry seal and ANPT threads when high quality threads are required.



STRAIGHT FLUTE

Straight Flute Pipe Reamers are designed for use in easy to ream materials.



SPIRAL FLUTE

Spiral Flute Pipe Reamers are designed for reaming harder materials where additional shear is needed.

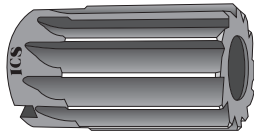
| SIZE | SHANK DIA. | SMALL END | LARGE END | FLUTE LENGTH | OVERALL LENGTH | NO. OF FLUTES | SIZE OF SQUARE | STRAIGHT FLUTE | | HELICAL FLUTE | |
|-------|------------|-----------|-----------|--------------|----------------|---------------|----------------|----------------|--------|---------------|--------|
| | | | | | | | | ITEM NO. | PRICE | ITEM NO. | PRICE |
| 1/16 | .3125 | .2320 | .2910 | 3/4 | 2 | 6 | | PRSF004 | 18.60 | PRSP004 | 22.44 |
| 1/8 | .4375 | .3160 | .3620 | 3/4 | 2-1/8 | 6 | .328 | PRSF008 | 18.60 | PRSP008 | 22.44 |
| 1/4 | .5625 | .4060 | .4620 | 1-1/16 | 2-7/16 | 6 | .421 | PRSF016 | 30.68 | PRSP016 | 27.36 |
| 3/8 | .7000 | .5400 | .6060 | 1-1/16 | 2-9/16 | 8 | .531 | PRSF024 | 38.88 | PRSP024 | 30.00 |
| 1/2 | .6875 | .6650 | .7510 | 1-3/8 | 3-1/8 | 8 | .515 | PRSF032 | 43.24 | PRSP032 | 47.50 |
| 3/4 | .9063 | .8760 | .9620 | 1-3/8 | 3-1/4 | 10 | .679 | PRSF048 | 57.20 | PRSP048 | 67.60 |
| 1 | 1.1250 | 1.1030 | 1.2120 | 1-3/4 | 3-3/4 | 10 | .843 | PRSF100 | 88.80 | PRSP100 | 96.72 |
| 1-1/4 | 1.3125 | 1.4440 | 1.5530 | 1-3/4 | 4 | 10 | .984 | PRSF116 | 132.16 | PRSP116 | 157.36 |
| 1-1/2 | 1.5000 | 1.6840 | 1.7930 | 1-3/4 | 4-1/4 | 10 | 1.125 | PRSF132 | 195.08 | PRSP132 | 191.60 |
| 2 | 1.8750 | 2.1590 | 2.2680 | 1-3/4 | 4-1/2 | 12 | 1.406 | PRSF200 | 270.40 | PRSP200 | 254.16 |
| 2-1/2 | 2.2050 | 2.5610 | 2.7720 | 2-5/8 | 5-1/2 | 12 | | PRSF232 | 485.60 | PRSP232 | 540.00 |
| 3 | 2.6250 | 3.2020 | 3.3800 | 2-3/4 | 6 | 12 | | PRSF300 | 636.80 | PRSP300 | 708.00 |

HIGH SPEED STEEL SHELL REAMERS

ICS **WIS**

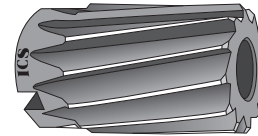
GENERAL PURPOSE

RIGHT HAND CUT



STRAIGHT FLUTE
SRSF

CALL FOR
PRICE



HELICAL FLUTE - LH 10° HELIX
SRHF

High Speed Steel Shell Reamers are designed to be used as a chucking reamer for reaming bearings and other similar work. They are fluted almost their whole length and have a tapered 1/8" per foot hole to be used with shell reamer arbors. One arbor fits several sizes of reamers so only 9 sizes of arbors are needed to fit all sizes of reamers.

| SIZE | OVERALL LENGTH | HOLE DIA. | NO. OF FLUTES | FITS ARBOR NO. | FLUTE | |
|---------|----------------|-----------|---------------|----------------|----------|---------|
| | | | | | STRAIGHT | HELICAL |
| 3/4 | 2-1/4 | 3/8 | 10 | 4 | SRSF048 | SRHF048 |
| 13/16 | 2-1/2 | 1/2 | 10 | 5 | SRSF052 | SRHF052 |
| 7/8 | 2-1/2 | 1/2 | 10 | 5 | SRSF056 | SRHF056 |
| 15/16 | 2-1/2 | 1/2 | 10 | 5 | SRSF060 | SRHF060 |
| 1 | 2-1/2 | 1/2 | 10 | 5 | SRSF100 | SRHF100 |
| 1-1/16 | 2-3/4 | 5/8 | 10 | 6 | SRSF104 | SRHF104 |
| 1-1/8 | 2-3/4 | 5/8 | 10 | 6 | SRSF108 | SRHF108 |
| 1-3/16 | 2-3/4 | 5/8 | 10 | 6 | SRSF112 | SRHF112 |
| 1-1/4 | 2-3/4 | 5/8 | 12 | 6 | SRSF116 | SRHF116 |
| 1-5/16 | 3 | 3/4 | 12 | 7 | SRSF120 | SRHF120 |
| 1-3/8 | 3 | 3/4 | 12 | 7 | SRSF124 | SRHF124 |
| 1-7/16 | 3 | 3/4 | 12 | 7 | SRSF128 | SRHF128 |
| 1-1/2 | 3 | 3/4 | 12 | 7 | SRSF132 | SRHF132 |
| 1-9/16 | 3 | 3/4 | 12 | 7 | SRSF136 | SRHF136 |
| 1-5/8 | 3 | 3/4 | 12 | 7 | SRSF140 | SRHF140 |
| 1-11/16 | 3-1/2 | 1 | 12 | 8 | SRSF144 | SRHF144 |
| 1-3/4 | 3-1/2 | 1 | 12 | 8 | SRSF148 | SRHF148 |
| 1-13/16 | 3-1/2 | 1 | 12 | 8 | SRSF152 | SRHF152 |
| 1-7/8 | 3-1/2 | 1 | 12 | 8 | SRSF156 | SRHF156 |
| 1-15/16 | 3-1/2 | 1 | 12 | 8 | SRSF160 | SRHF160 |
| 2 | 3-1/2 | 1 | 14 | 8 | SRSF200 | SRHF200 |
| 2-1/16 | 3-3/4 | 1-1/4 | 14 | 9 | SRSF204 | SRHF204 |
| 2-1/8 | 3-3/4 | 1-1/4 | 14 | 9 | SRSF208 | SRHF208 |
| 2-3/16 | 3-3/4 | 1-1/4 | 14 | 9 | SRSF212 | SRHF212 |
| 2-1/4 | 3-3/4 | 1-1/4 | 14 | 9 | SRSF216 | SRHF216 |
| 2-5/16 | 3-3/4 | 1-1/4 | 14 | 9 | SRSF220 | SRHF220 |
| 2-3/8 | 3-3/4 | 1-1/4 | 14 | 9 | SRSF224 | SRHF224 |

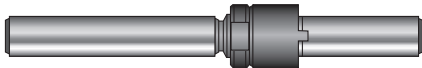
| SIZE | OVERALL LENGTH | HOLE DIA. | NO. OF FLUTES | FITS ARBOR NO. | FLUTE | |
|---------|----------------|-----------|---------------|----------------|----------|---------|
| | | | | | STRAIGHT | HELICAL |
| 2-7/16 | 3-3/4 | 1-1/4 | 14 | 9 | SRSF228 | SRHF228 |
| 2-1/2 | 3-3/4 | 1-1/4 | 14 | 9 | SRSF232 | SRHF232 |
| 2-9/16 | 4 | 1-1/2 | 16 | 10 | SRSF236 | SRHF236 |
| 2-5/8 | 4 | 1-1/2 | 16 | 10 | SRSF240 | SRHF240 |
| 2-11/16 | 4 | 1-1/2 | 16 | 10 | SRSF244 | SRHF244 |
| 2-3/4 | 4 | 1-1/2 | 16 | 10 | SRSF248 | SRHF248 |
| 2-13/16 | 4 | 1-1/2 | 16 | 10 | SRSF252 | SRHF252 |
| 2-7/8 | 4 | 1-1/2 | 16 | 10 | SRSF256 | SRHF256 |
| 2-15/16 | 4 | 1-1/2 | 16 | 10 | SRSF260 | SRHF260 |
| 3 | 4 | 1-1/2 | 16 | 10 | SRSF300 | SRHF300 |
| 3-1/16 | 4-1/2 | 1-3/4 | 18 | 11 | SRSF304 | SRHF304 |
| 3-1/8 | 4-1/2 | 1-3/4 | 18 | 11 | SRSF308 | SRHF308 |
| 3-3/16 | 4-1/2 | 1-3/4 | 18 | 11 | SRSF312 | SRHF312 |
| 3-1/4 | 4-1/2 | 1-3/4 | 18 | 11 | SRSF316 | SRHF316 |
| 3-5/16 | 4-1/2 | 1-3/4 | 18 | 11 | SRSF320 | SRHF320 |
| 3-3/8 | 4-1/2 | 1-3/4 | 18 | 11 | SRSF324 | SRHF324 |
| 3-7/16 | 4-1/2 | 1-3/4 | 18 | 11 | SRSF328 | SRHF328 |
| 3-1/2 | 4-1/2 | 1-3/4 | 18 | 11 | SRSF332 | SRHF332 |
| 3-9/16 | 5 | 2 | 20 | 12 | SRSF336 | SRHF336 |
| 3-5/8 | 5 | 2 | 20 | 12 | SRSF340 | SRHF340 |
| 3-11/16 | 5 | 2 | 20 | 12 | SRSF344 | SRHF344 |
| 3-3/4 | 5 | 2 | 20 | 12 | SRSF348 | SRHF348 |
| 3-13/16 | 5 | 2 | 20 | 12 | SRSF352 | SRHF352 |
| 3-7/8 | 5 | 2 | 20 | 12 | SRSF356 | SRHF356 |
| 3-15/16 | 5 | 2 | 20 | 12 | SRSF360 | SRHF360 |
| 4 | 5 | 2 | 20 | 12 | SRSF400 | SRHF400 |
| 4-3/8 | 5 | 2 | 20 | 12 | SRSF424 | |

SHELL REAMER ARBORS

ICS **WIS**

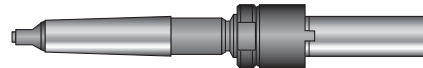
ADAPTERS

GROUND FINISH



STRAIGHT SHANK
SRASS

CALL FOR
PRICE



TAPER SHANK
SRATS

High Speed Steel Shell Reamer Arbors are tapered to fit the hole in the Shell Reamer. They fit together with slots in the reamer which engage lugs on the arbor for driving power.

| SIZE | FITS REAMER SIZES | OVERALL LENGTH | ARBOR DIA. | WRENCH SIZE | STRAIGHT SHANK | | TAPER SHANK | | |
|------|-------------------|----------------|------------|-------------|----------------|----------|-------------|-----|----------|
| | | | | | DIA. | ITEM NO. | TPR LNTH | MT# | ITEM NO. |
| 4 | 21/32 - 25/32 | 9 | 3/8 | 19/32 | 1/2 | SRASS#04 | 2-1/4 | 2 | SRATS#04 |
| 5 | 13/16 - 1-1/32 | 9-1/2 | 1/2 | 25/32 | 5/8 | SRASS#05 | 2-1/2 | 2 | SRATS#05 |
| 6 | 1-1/16 - 1-9/32 | 10 | 5/8 | 7/8 | 3/4 | SRASS#06 | 2-3/4 | 3 | SRATS#06 |
| 7 | 1-5/16 - 1-21/32 | 11 | 3/4 | 1-1/16 | 7/8 | SRASS#07 | 3 | 3 | SRATS#07 |
| 8 | 1-11/16 - 2 | 12 | 1 | 1-7/16 | 1-1/8 | SRASS#08 | 3-1/2 | 4 | SRATS#08 |
| 9 | 2-1/16 - 2-1/2 | 13 | 1-1/4 | 1-13/16 | 1-3/8 | SRASS#09 | 3-3/4 | 4 | SRATS#09 |
| 10 | 2-9/16 - 3 | 14 | 1-1/2 | 2-3/16 | 1-5/8 | SRASS#10 | 4 | 5 | SRATS#10 |
| 11 | 3-1/16 - 3-1/2 | 15 | 1-3/4 | 2-9/16 | 2 | SRASS#11 | 4-1/2 | 5 | SRATS#11 |
| 12 | 3-9/16 - 4 | 16 | 2 | 3-1/8 | 2-1/8 | SRASS#12 | 5 | 5 | SRATS#12 |

HIGH SPEED STEEL

RT-39

AUTOMOTIVE STEERING AND SUSPENSION REAMERS

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

3 FLAT
1/2" SHANK



LEFT HAND
FLUTE

20° SPIRAL FLUTE

High Speed Steel Automotive Steering and Suspension Reamers are designed for rebuilding and repairing automotive suspension systems. They are used to deburr and enlarge tapered holes for tie rod ends, steering arms, and ball joint applications. They are also referred to as Automotive Taper Reamers or Ball Joint Taper Reamers.

| SMALL END | LARGE END | FLUTE LENGTH | OVERALL LENGTH | SHANK DIAMETER | TAPER | ITEM NO. | PRICE |
|----------------|-----------------|--------------|----------------|----------------|--------------------|-----------|--------|
| .4375 (7/16) | .8125 (13/16) | 3 | 5-1/2 | 1/2 | 1-1/2"/ft. (7.15°) | ASSR028 | 60.38 |
| .7500 (3/4) | 1.3125 (1-5/16) | 4-1/2 | 7 | 1/2 | 1-1/2"/ft. (7.15°) | ASSR048 | 154.84 |
| .9375 (15/16) | 1.5000 (1-1/2) | 4-1/2 | 6-1/2 | 1/2 | 1-1/2"/ft. (7.15°) | ASSR060 | 162.60 |
| .3750 (3/8) | 1.1250 (1-1/8) | 4-1/2 | 6-1/2 | 1/2 | 2"/ft. (9.56°) | ASSRA024 | 118.34 |
| .4370 (11.1mm) | .8870 (22.8mm) | 4-1/2 | 6-1/2 | 1/2 | 10:1 (5.71°) | ASSRM11.1 | 75.50 |

HIGH SPEED STEEL

AUTOMOTIVE STEERING AND SUSPENSION REAMER SET

ICS WIS

PLASTIC CASE

RIGHT HAND CUT

| DESCRIPTION | SIZES IN SET | ITEM NO. | PRICE |
|---|--|-----------|--------|
| 2 PC AUTOMOTIVE STEERING & SUSPENSION REAMER SET | 2 PIECE SET .4375, .7500 (7/16) (3/4) | RS-ASSR-2 | 237.34 |
| | 3 PIECE SET .4375, .7500, .9375 (7/16) (3/4) (15/16) | RS-ASSR-3 | 399.94 |
| | 4 PIECE SET .4375, .7500, .9375, .3750 (7/16) (3/4) (15/16) (3/8) | RS-ASSR-4 | 518.28 |
| | 5 PIECE SET .4375, .7500, .9375, .3750, .4370 (7/16) (3/4) (15/16) (3/8) (11.1mm) | RS-ASSR-5 | 593.78 |

HIGH SPEED STEEL CAR REAMERS - 1/2" ROUND SHANK

ICS WIS

HEAVY DUTY

RIGHT HAND CUT

3 FLAT
SHANKLEFT HAND
FLUTE

FAST SPIRAL

High Speed Steel Round Shank Car Reamers are designed for lining up holes in structural steel fabrication bridgework, ship construction, automotive maintenance, and railroad car manufacture. Short Length makes it useful in close quarters with any 1/2" 3 jaw power tool. They are also known as Construction Reamers or Aligning Reamers.

| SIZE | DEC. EQUIV. | SHANK | | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|--------|----------------|----------|--------|-----------------|-------------------|-------------|--------|
| | | DIAMETER | LENGTH | | | | |
| 5/16 | .3125 | 1/2 | 1-1/2 | 2-3/4 | 4-5/8 | CR-RS020 | 43.36 |
| 3/8 | .3750 | 1/2 | 1-1/2 | 2-3/4 | 4-5/8 | CR-RS024 | 43.36 |
| 7/16 | .4375 | 1/2 | 1-1/2 | 3-1/2 | 5-3/8 | CR-RS028 | 43.36 |
| 1/2 | .5000 | 1/2 | 1-1/2 | 4 | 5-7/8 | CR-RS032 | 48.70 |
| 9/16 | .5625 | 1/2 | 1-1/2 | 4 | 5-7/8 | CR-RS036 | 53.00 |
| 5/8 | .6250 | 1/2 | 1-1/2 | 4-1/2 | 6-3/8 | CR-RS040 | 58.80 |
| - | .6520 | 1/2 | 1-1/2 | 4-1/2 | 6-3/8 | *BBBR.6520 | 61.96 |
| 11/16 | .6875 | 1/2 | 1-1/2 | 4-1/2 | 6-3/8 | CR-RS044 | 65.86 |
| 3/4 | .7500 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS048 | 78.92 |
| - | .7760 | 1/2 | 1-1/2 | 5 | 6-7/8 | *BBBR.7760 | 80.56 |
| 13/16 | .8125 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS052 | 80.56 |
| 7/8 | .8750 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS056 | 85.26 |
| 15/16 | .9375 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS060 | 89.38 |
| 1 | 1.0000 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS100 | 103.50 |
| 1-1/16 | 1.0625 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS104 | 119.96 |
| 1-1/8 | 1.1250 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS108 | 133.38 |
| 1-3/16 | 1.1875 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS112 | 144.34 |
| 1-1/4 | 1.2500 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS116 | 157.72 |
| 1-5/16 | 1.3125 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS120 | 171.08 |
| 1-3/8 | 1.3750 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS124 | 203.60 |
| 1-7/16 | 1.4375 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS128 | 215.36 |
| 1-1/2 | 1.5000 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-RS132 | 239.90 |

* Body Bound Bolt Reamer sizes

HIGH SPEED STEEL JOBBER REAMER SET - TAPER SHANK

ICS WIS

PLASTIC CASE

RIGHT HAND CUT

LONG
FLUTE45°
CHAMFER

High Speed Steel Taper Shank Jobber Reamers with Straight Flutes are designed for machine use in applications where long flutes are required. They have approximately the same flute length as hand reamers and are furnished with a 45° chamfer. For longer flutes and overall lengths, see our Machine Reamers on the following pages.

| DESCRIPTION | SIZES IN SET | ITEM NO. | PRICE |
|--|--|--------------|---------|
| 10 PC TAPER SHANK JOBBER REAMER SET (not pictured) | Each set contains: 15/16, 1, 1-1/16, 1-1/8, 1-3/16 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2 | RS-TSJRSF-10 | 2649.96 |

HIGH SPEED STEEL BODY BOUND BOLT REAMERS

ICS WIS

HEAVY DUTY

RIGHT HAND CUT

3 FLAT SHANK



LEFT HAND FLUTE

FAST SPIRAL

Body Bound Bolt Reamers are designed to prevent the movement of a body bound bolt within the hole. They are manufactured to a tight tolerance slightly under the bolt size and used primarily for shoulder bolts on truck frames.

| DECIMAL SIZE | SHANK | | FLUTE | OVERALL | ITEM NO. | PRICE |
|--------------|----------|--------|--------|---------|-----------|-------|
| | DIAMETER | LENGTH | LENGTH | LENGTH | | |
| .6520 | 1/2 | 1-1/2 | 4-1/2 | 6-3/8 | BBBR.6520 | 61.96 |
| .7760 | 1/2 | 1-1/2 | 5 | 6-7/8 | BBBR.7760 | 80.56 |

HIGH SPEED STEEL METRIC 1/2" ROUND SHANK CAR REAMERS

ICS WIS

HEAVY DUTY

RIGHT HAND CUT

3 FLAT SHANK



LEFT HAND FLUTE

FAST SPIRAL

High Speed Steel Metric 1/2" Round Shank Car Reamers are designed for lining up holes in structural steel fabrication, bridgework, ship construction, automotive maintenance, and railroad car manufacture. Short Length makes it useful in close quarters with any 1/2" 3 jaw power tool. They are also known as Construction Reamers or Aligning Reamers.

| SIZE | DEC. EQUIV. | SHANK | | FLUTE | OVERALL | ITEM NO. | PRICE |
|------|-------------|----------|--------|--------|---------|------------|--------|
| | | DIAMETER | LENGTH | LENGTH | LENGTH | | |
| 12mm | .4724 | 1/2 | 1-1/2 | 102mm | 152mm | CR-RSM12.0 | 43.36 |
| 14mm | .5512 | 1/2 | 1-1/2 | 102mm | 152mm | CR-RSM14.0 | 53.00 |
| 16mm | .6299 | 1/2 | 1-1/2 | 125mm | 178mm | CR-RSM16.0 | 58.80 |
| 18mm | .7087 | 1/2 | 1-1/2 | 125mm | 178mm | CR-RSM18.0 | 65.86 |
| 19mm | .7480 | 1/2 | 1-1/2 | 132mm | 184mm | CR-RSM19.0 | 78.92 |
| 20mm | .7874 | 1/2 | 1-1/2 | 132mm | 184mm | CR-RSM20.0 | 80.56 |
| 22mm | .8661 | 1/2 | 1-1/2 | 132mm | 184mm | CR-RSM22.0 | 80.56 |
| 24mm | .9449 | 1/2 | 1-1/2 | 132mm | 184mm | CR-RSM24.0 | 89.38 |
| 25mm | .9843 | 1/2 | 1-1/2 | 132mm | 184mm | CR-RSM25.0 | 103.50 |
| 26mm | 1.0256 | 1/2 | 1-1/2 | 132mm | 184mm | CR-RSM26.0 | 113.40 |
| 28mm | 1.1024 | 1/2 | 1-1/2 | 132mm | 184mm | CR-RSM28.0 | 119.96 |
| 30mm | 1.1811 | 1/2 | 1-1/2 | 132mm | 184mm | CR-RSM30.0 | 144.34 |
| 32mm | 1.2598 | 1/2 | 1-1/2 | 132mm | 184mm | CR-RSM32.0 | 157.72 |

HIGH SPEED STEEL METRIC HEX SHANK CAR REAMERS

ICS WIS

HEAVY DUTY

RIGHT HAND CUT

SAFETY STYLE HEX SHANK



LEFT HAND FLUTE

HELICAL FLUTE

Metric High Speed Steel Hex Shank Car Reamers are designed to be used in portable pneumatic equipment for structural steel erection. Their short overall length makes them useful in close quarters. Hex shank sizes are the same as the socket size for the bolt being used in the reamed hole. They are sometimes referred to as Erector Reamers. All ICS Safety Style Hex Shank Reamers are designed to protect against the danger and loss of falling objects such as a reamer. See OSHA 29CFR Part 1926.759 (falling object protection).

| SIZE | DEC. EQUIV. | HEX SHANK | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|------|-------------|-----------|--------------|----------------|-------------|--------|
| 12mm | .4724 | 24mm | 102mm | 140mm | CR-HXM12.00 | 60.00 |
| 14mm | .5512 | 24mm | 102mm | 140mm | CR-HXM14.00 | 69.82 |
| 16mm | .6299 | 24mm | 114mm | 152mm | CR-HXM16.00 | 69.42 |
| 18mm | .7087 | 24mm | 114mm | 165mm | CR-HXM18.00 | 75.40 |
| 20mm | .7874 | 32mm | 114mm | 178mm | CR-HXM20.00 | 85.90 |
| 22mm | .8661 | 36mm | 127mm | 178mm | CR-HXM22.00 | 93.82 |
| 24mm | .9449 | 36mm | 127mm | 178mm | CR-HXM24.00 | 93.82 |
| 26mm | 1.0256 | 41mm | 127mm | 178mm | CR-HXM26.00 | 113.40 |
| 28mm | 1.1024 | 41mm | 127mm | 178mm | CR-HXM28.00 | 120.00 |
| 30mm | 1.1811 | 46mm | 127mm | 178mm | CR-HXM30.00 | 170.62 |
| 32mm | 1.2598 | 46mm | 127mm | 178mm | CR-HXM32.00 | 178.50 |
| 33mm | 1.2992 | 46mm | 127mm | 200mm | CR-HXM33.00 | 204.30 |
| 36mm | 1.4173 | 46mm | 127mm | 200mm | CR-HXM36.00 | 230.00 |
| 39mm | 1.5354 | 50mm | 127mm | 200mm | CR-HXM39.00 | 241.50 |

HIGH SPEED STEEL CAR REAMERS - COMBINATION HEX/ROUND SHANK

ICS WIS
HEAVY DUTY
RIGHT HAND CUT
**1-1/4 HEX SHANK
ADAPTER**

FAST SPIRAL
**LEFT HAND
FLUTE**

High Speed Steel Combination Hex/Round Shank Car Reamers can be used with ANY 1/2" 3 jaw power tool or in portable pneumatic equipment. They are designed for lining up holes in structural steel fabrication, bridgework, ship construction, automotive maintenance, and railroad manufacturing. Short length makes it useful in close quarters. Safety Style 1-1/4" hex shank size requires only one size square drive impact wrench socket to use. All ICS Safety Style Hex Shank Reamers are designed to protect against the danger and loss of falling objects such as a reamer. See OSHA 29CFR Part 1926.759 (falling object protection).

| SIZE | DEC. EQUIV. | SHANK | | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|--------|-------------|----------|--------|--------------|----------------|-----------|--------|
| | | DIAMETER | LENGTH | | | | |
| 5/16 | .3125 | 1/2 | 1-1/2 | 2-3/4 | 4-5/8 | CR-HXC020 | 69.50 |
| 3/8 | .3750 | 1/2 | 1-1/2 | 2-3/4 | 4-5/8 | CR-HXC024 | 69.50 |
| 7/16 | .4375 | 1/2 | 1-1/2 | 3-1/2 | 5-3/8 | CR-HXC028 | 69.50 |
| 1/2 | .5000 | 1/2 | 1-1/2 | 4 | 5-7/8 | CR-HXC032 | 74.82 |
| 9/16 | .5625 | 1/2 | 1-1/2 | 4 | 5-7/8 | CR-HXC036 | 79.14 |
| 5/8 | .6250 | 1/2 | 1-1/2 | 4-1/2 | 6-3/8 | CR-HXC040 | 84.94 |
| 11/16 | .6875 | 1/2 | 1-1/2 | 4-1/2 | 6-3/8 | CR-HXC044 | 92.00 |
| 3/4 | .7500 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC048 | 105.04 |
| 13/16 | .8125 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC052 | 106.70 |
| 7/8 | .8750 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC056 | 111.40 |
| 15/16 | .9375 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC060 | 115.52 |
| 1 | 1.0000 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC100 | 129.64 |
| 1-1/16 | 1.0625 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC104 | 146.10 |
| 1-1/8 | 1.1250 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC108 | 159.50 |
| 1-3/16 | 1.1875 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC112 | 170.46 |
| 1-1/4 | 1.2500 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC116 | 183.84 |
| 1-5/16 | 1.3125 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC120 | 197.22 |
| 1-3/8 | 1.3750 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC124 | 215.36 |
| 1-7/16 | 1.4375 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC128 | 227.26 |
| 1-1/2 | 1.5000 | 1/2 | 1-1/2 | 5 | 6-7/8 | CR-HXC132 | 251.66 |

HIGH SPEED STEEL CAR REAMERS - HEX SHANK

ICS WIS
HEAVY DUTY
RIGHT HAND CUT
**SAFETY STYLE
HEX SHANK**

HELICAL FLUTE
**LEFT HAND
FLUTE**

High Speed Steel Hex Shank Car Reamers are designed to be used in portable pneumatic equipment for structural steel erection. Their short overall length makes them useful in close quarters. Hex shank sizes are the same as the socket size for the bolt being used in the reamed hole. They are sometimes referred to as Erector Reamers. All ICS Safety Style Hex Shank Reamers are designed to protect against the danger and loss of falling objects such as a reamer. See OSHA 29CFR Part 1926.759 (falling object protection).

| SIZE | DEC. EQUIV. | APPROX. POINT SIZE | HEX SHANK | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|--------|-------------|--------------------|-----------|--------------|----------------|----------|--------|
| 9/16 | .5625 | 9/32 | 1-1/16 | 5 | 5-1/2 | CR-HX036 | 69.82 |
| 5/8 | .6250 | 9/32 | 1-1/16 | 4-1/2 | 6 | CR-HX040 | 69.82 |
| 11/16 | .6875 | 3/8 | 1-1/16 | 4-1/2 | 6-3/8 | CR-HX044 | 75.40 |
| 3/4 | .7500 | 13/32 | 1-1/4 | 5 | 7 | CR-HX048 | 85.90 |
| 13/16 | .8125 | 15/32 | 1-1/4 | 5 | 7 | CR-HX052 | 85.90 |
| 7/8 | .8750 | 15/32 | 1-7/16 | 5 | 7 | CR-HX056 | 93.82 |
| 15/16 | .9375 | 19/32 | 1-7/16 | 5 | 7 | CR-HX060 | 93.82 |
| 1 | 1.0000 | 5/8 | 1-7/16 | 5 | 7 | CR-HX100 | 105.38 |
| 1-1/16 | 1.0625 | 13/16 | 1-5/8 | 5 | 7 | CR-HX104 | 113.40 |
| 1-1/8 | 1.1250 | 55/64 | 1-5/8 | 5 | 7 | CR-HX108 | 126.00 |
| 1-3/16 | 1.1875 | 59/64 | 1-13/16 | 5 | 7 | CR-HX112 | 170.62 |
| 1-1/4 | 1.2500 | 15/16 | 1-13/16 | 5 | 7 | CR-HX116 | 178.50 |
| 1-5/16 | 1.3125 | 1-1/16 | 2 | 5 | 7-7/8 | CR-HX120 | 204.30 |
| 1-3/8 | 1.3750 | 1-1/8 | 2 | 5 | 7-7/8 | CR-HX124 | 220.50 |
| 1-7/16 | 1.4375 | 1-1/8 | 2 | 5 | 7-7/8 | CR-HX128 | 230.00 |
| 1-1/2 | 1.5000 | 1-1/4 | 2 | 5 | 7-7/8 | CR-HX132 | 241.50 |
| 1-9/16 | 1.5625 | 1-5/16 | 2 | 5 | 7-7/8 | CR-HX136 | 309.08 |

HIGH SPEED STEEL BRIDGE REAMERS - COMBINATION HEX/ROUND SHANK

ICS WIS

HEAVY DUTY

RIGHT HAND CUT

1-1/4 HEX SHANK ADAPTER



LEFT HAND FLUTE

SLOW SPIRAL

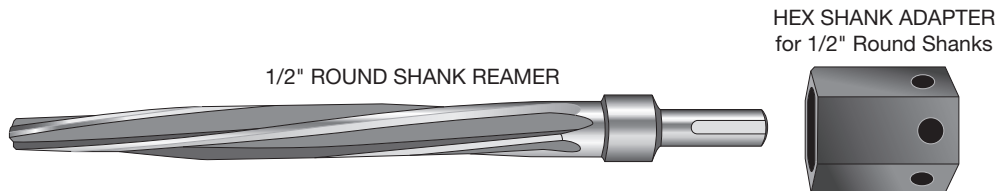
High Speed Steel Combination Hex/Round Shank Bridge Reamers can be used with ANY 1/2" 3 jaw power tool or in portable pneumatic equipment. They are designed for lining up holes in structural steel fabrication, bridgework, ship construction, automotive maintenance, and railroad manufacturing. Short length makes it useful in close quarters. Safety Style 1-1/4" hex shank size requires only one size square drive impact wrench socket to use. All ICS Safety Style Hex Shank Reamers are designed to protect against the danger and loss of falling objects such as a reamer. See OSHA 29CFR Part 1926.759 (falling object protection).

| SIZE | DEC. EQUIV. | DIAMETER AT POINT | SHANK | | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|---------|-------------|-------------------|----------|--------|--------------|----------------|------------|--------|
| | | | DIAMETER | LENGTH | | | | |
| 7/16 | .4375 | 17/64 | 1/2 | 1-1/2 | 4-3/8 | 7-1/8 | BRHFHXC028 | 51.16 |
| 1/2 | .5000 | 5/16 | 1/2 | 1-1/2 | 5-1/8 | 8 | BRHFHXC032 | 53.40 |
| 9/16 | .5625 | 3/8 | 1/2 | 1-1/2 | 5-1/8 | 8-5/8 | BRHFHXC036 | 55.58 |
| 5/8 | .6250 | 25/64 | 1/2 | 1-1/2 | 6-1/8 | 9-1/8 | BRHFHXC040 | 64.04 |
| 11/16 | .6875 | 13/32 | 1/2 | 1-1/2 | 7-1/8 | 9-1/8 | BRHFHXC044 | 76.90 |
| 3/4 | .7500 | 15/32 | 1/2 | 1-1/2 | 7-3/8 | 10 | BRHFHXC048 | 84.02 |
| 13/16 | .8125 | 35/64 | 1/2 | 1-1/2 | 7-3/8 | 10 | BRHFHXC052 | 88.72 |
| 7/8 | .8750 | 39/64 | 1/2 | 1-1/2 | 7-3/8 | 10 | BRHFHXC056 | 100.28 |
| 15/16 | .9375 | 43/64 | 1/2 | 1-1/2 | 7-3/8 | 10 | BRHFHXC060 | 108.08 |
| 1 | 1.0000 | 47/64 | 1/2 | 1-1/2 | 7-3/8 | 10 | BRHFHXC100 | 116.66 |
| 1-1/16 | 1.0625 | 13/16 | 1/2 | 1-1/2 | 7-3/8 | 10 | BRHFHXC104 | 125.90 |
| 1-1/8 | 1.1250 | 55/64 | 1/2 | 1-1/2 | 7-3/8 | 10 | BRHFHXC108 | 134.24 |
| 1-3/16 | 1.1875 | 59/64 | 1/2 | 1-1/2 | 7-3/8 | 10 | BRHFHXC112 | 144.26 |
| 1-1/4 | 1.2500 | 63/64 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC116 | 160.04 |
| 1-5/16 | 1.3125 | 1-1/16 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC120 | 168.24 |
| 1-3/8 | 1.3750 | 1-1/8 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC124 | 181.26 |
| 1-7/16 | 1.4375 | 1-3/16 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC128 | 191.18 |
| 1-1/2 | 1.5000 | 1-1/4 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC132 | 220.16 |
| 1-9/16 | 1.5625 | 1-1/4 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC136 | 350.92 |
| 1-5/8 | 1.6250 | 1-1/4 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC140 | 350.92 |
| 1-11/16 | 1.6875 | 1-3/8 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC144 | 368.90 |
| 1-3/4 | 1.7500 | 1-3/8 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC148 | 404.76 |
| 1-13/16 | 1.8125 | 1-7/16 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC152 | 422.70 |
| 1-7/8 | 1.8750 | 1-1/2 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC156 | 440.64 |
| 1-15/16 | 1.9375 | 1-1/2 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC160 | 458.62 |
| 2 | 2.0000 | 1-3/4 | 1/2 | 1-1/2 | 7-3/8 | 11-1/2 | BRHFHXC200 | 476.58 |

BRIDGE/CAR REAMER ADAPTER/SOCKET

The ICS Hex Shank Adapter eliminates the need to weld a nut to the back of your car or bridge reamer. The ICS Hex Shank Adapter converts all 1/2" Round Shanks to a standard 1-1/4" Hex Shank for use in pneumatic equipment.

ADAPTER ASSEMBLY LAYOUT



Three set screws included for non-slip chucking of car reamer

| DESCRIPTION | ITEM NO. | PRICE |
|---|---------------|-------|
| 1-1/4" Hex Shank to 1/2" Round Shank Safety Adapter | HSA116 | 28.00 |

HIGH SPEED STEEL BRIDGE REAMERS - HEX SHANK

ICS WIS
HEAVY DUTY
RIGHT HAND CUT
**SAFETY STYLE
HEX SHANK**

**LEFT HAND
FLUTE**
HELICAL FLUTE

High Speed Steel Hex Shank Bridge Reamers are designed to be used in portable pneumatic equipment for structural steel erection. Their short overall length makes them useful in close quarters. Hex shank sizes are the same as the socket size for the bolt being used in the reamed hole. They are sometimes referred to as Erector Reamers. All ICS Safety Style Hex Shank Reamers are designed to protect against the danger and loss of falling objects such as a reamer. See OSHA 29CFR Part 1926.759 (falling object protection).

| SIZE | DEC. EQUIV. | DIAMETER AT POINT | HEX SHANK | FLUTE LENGTH | OVERALL LENGTH | ITEM NO. | PRICE |
|---------|-------------|-------------------|-----------|--------------|----------------|-----------|--------|
| 7/16 | .4375 | 17/64 | 1-1/16 | 4-3/8 | 5-7/8 | BRHFHX028 | 51.16 |
| 1/2 | .5000 | 5/16 | 1-1/16 | 5-1/8 | 6-5/8 | BRHFHX032 | 53.40 |
| 9/16 | .5625 | 3/8 | 1-1/16 | 5-1/8 | 6-5/8 | BRHFHX036 | 55.58 |
| 5/8 | .6250 | 25/64 | 1-1/16 | 6-1/8 | 7-5/8 | BRHFHX040 | 64.04 |
| 11/16 | .6875 | 13/32 | 1-1/16 | 7-1/8 | 8-5/8 | BRHFHX044 | 76.90 |
| 3/4 | .7500 | 15/32 | 1-1/4 | 7-3/8 | 8-7/8 | BRHFHX048 | 84.02 |
| 13/16 | .8125 | 35/64 | 1-1/4 | 7-3/8 | 8-7/8 | BRHFHX052 | 88.72 |
| 7/8 | .8750 | 39/64 | 1-7/16 | 7-3/8 | 8-7/8 | BRHFHX056 | 100.28 |
| 15/16 | .9375 | 43/64 | 1-7/16 | 7-3/8 | 8-7/8 | BRHFHX060 | 108.08 |
| 1 | 1.0000 | 47/64 | 1-7/16 | 7-3/8 | 8-7/8 | BRHFHX100 | 116.66 |
| 1-1/16 | 1.0625 | 13/16 | 1-5/8 | 7-3/8 | 8-7/8 | BRHFHX104 | 131.26 |
| 1-1/8 | 1.1250 | 55/64 | 1-5/8 | 7-3/8 | 8-7/8 | BRHFHX108 | 147.94 |
| 1-3/16 | 1.1875 | 59/64 | 1-13/16 | 7-3/8 | 8-7/8 | BRHFHX112 | 165.38 |
| 1-1/4 | 1.2500 | 63/64 | 1-13/16 | 7-3/8 | 11-1/2 | BRHFHX116 | 185.86 |
| 1-5/16 | 1.3125 | 1-1/16 | 2 | 7-3/8 | 11-1/2 | BRHFHX120 | 190.78 |
| 1-3/8 | 1.3750 | 1-1/8 | 2 | 7-3/8 | 11-1/2 | BRHFHX124 | 218.92 |
| 1-7/16 | 1.4375 | 1-3/16 | 2 | 7-3/8 | 11-1/2 | BRHFHX128 | 227.60 |
| 1-1/2 | 1.5000 | 1-1/4 | 2 | 7-3/8 | 11-1/2 | BRHFHX132 | 258.40 |
| 1-9/16 | 1.5625 | 1-1/4 | 2 | 7-3/8 | 11-1/2 | BRHFHX136 | 350.92 |
| 1-5/8 | 1.6250 | 1-1/4 | 2 | 7-3/8 | 11-1/2 | BRHFHX140 | 358.06 |
| 1-11/16 | 1.6875 | 1-3/8 | 2 | 7-3/8 | 11-1/2 | BRHFHX144 | 368.90 |
| 1-3/4 | 1.7500 | 1-3/8 | 2 | 7-3/8 | 11-1/2 | BRHFHX148 | 404.76 |
| 1-13/16 | 1.8125 | 1-7/16 | 2 | 7-3/8 | 11-1/2 | BRHFHX152 | 422.70 |
| 1-7/8 | 1.8750 | 1-1/2 | 2 | 7-3/8 | 11-1/2 | BRHFHX156 | 440.64 |
| 1-15/16 | 1.9375 | 1-1/2 | 2 | 7-3/8 | 11-1/2 | BRHFHX160 | 458.62 |
| 2 | 2.0000 | 1-3/4 | 2 | 7-3/8 | 11-1/2 | BRHFHX200 | 476.58 |

HIGH SPEED STEEL TAPER SHANK BRIDGE REAMERS

ICS WIS

HEAVY DUTY

RIGHT HAND CUT

LONG BODY

LEFT HAND FLUTE



STRAIGHT FLUTE



HELICAL FLUTE

High Speed Steel Taper Shank Bridge Reamers are designed for use in structural steel fabrication bridge work and ship construction to line up bolt and rivet holes. The front portion of the reamer is tapered at approximately 1" in 10 and the balance of the flute is parallel. They can be used in portable electric or pneumatic equipment. NOTE: Because of the heavy duty work involved, some sizes have larger Morse taper shanks than is usual for the diameter. These tools are also referred to as Boilermaker's Reamers, Rivet Hole Reamers, Aligning Reamers, or Construction Taper Reamers.

| SIZE | DIA. | | FLUTE LENGTH | OVERALL LENGTH | MORSE TAPER SHANK | FLUTE | |
|--------|------------|----------|--------------|----------------|-------------------|----------|---------|
| | DEC. EQUIV | AT POINT | | | | STRAIGHT | HELICAL |
| | | | | | | BRSF | BRHF |
| 5/16 | .3125 | 11/64 | 4-3/8 | 8-1/4 | 2 | 34.86 | 34.86 |
| 3/8 | .3750 | 7/32 | 4-3/8 | 8-1/4 | 2 | 34.86 | 34.86 |
| 13/32 | .4062 | 7/32 | 5-1/8 | 8-1/4 | 2 | 34.86 | 34.86 |
| 7/16 | .4375 | 17/64 | 4-3/8 | 8-1/4 | 2 | 39.12 | 39.12 |
| 15/32 | .4688 | 9/32 | 5-1/8 | 8-1/4 | 2 | 39.40 | 39.40 |
| 1/2 | .5000 | 5/16 | 5-1/8 | 9 | 2 | 39.12 | 39.12 |
| 17/32 | .5312 | 11/32 | 5-1/8 | 9 | 2 | 41.14 | 41.14 |
| 9/16 | .5625 | 3/8 | 5-1/8 | 9 | 2 | 41.64 | 41.64 |
| 5/8 | .6250 | 25/64 | 6-1/8 | 10 | 2 | 50.46 | 50.46 |
| 11/16 | .6875 | 13/32 | 7-1/8 | 11-3/4 | 3 | 60.64 | 60.64 |
| 3/4 | .7500 | 15/32 | 7-3/8 | 12 | 3 | 65.12 | 65.12 |
| 13/16 | .8125 | 35/64 | 7-3/8 | 12 | 3 | 70.74 | 70.74 |
| 7/8 | .8750 | 39/64 | 7-3/8 | 12 | 3 | 78.50 | 78.50 |
| 15/16 | .9375 | 43/64 | 7-3/8 | 12 | 3 | 80.88 | 80.88 |
| 1 | 1.0000 | 47/64 | 7-3/8 | 12 | 3 | 89.70 | 89.70 |
| 1-1/16 | 1.0625 | 13/16 | 7-3/8 | 12 | 3 | 98.74 | 98.74 |

| SIZE | DIA. | | FLUTE LENGTH | OVERALL LENGTH | MORSE TAPER SHANK | FLUTE | |
|---------|------------|----------|--------------|----------------|-------------------|----------|---------|
| | DEC. EQUIV | AT POINT | | | | STRAIGHT | HELICAL |
| | | | | | | BRSF | BRHF |
| 1-1/8 | 1.1250 | 55/64 | 7-3/8 | 12 | 3 | 109.96 | 109.96 |
| 1-3/16 | 1.1875 | 59/64 | 7-3/8 | 12 | 3 | 122.26 | 122.26 |
| 1-1/4 | 1.2500 | 63/64 | 7-3/8 | 13 | 4 | 135.96 | 135.96 |
| 1-5/16 | 1.3125 | 1-1/16 | 7-3/8 | 13 | 4 | 148.14 | 148.14 |
| 1-3/8 | 1.3750 | 1-1/8 | 7-3/8 | 13 | 4 | 154.00 | 154.00 |
| 1-7/16 | 1.4375 | 1-3/16 | 7-3/8 | 13 | 4 | 165.82 | 165.82 |
| 1-1/2 | 1.5000 | 1-1/4 | 7-3/8 | 13 | 4 | 187.34 | 187.34 |
| 1-9/16 | 1.5625 | 1-1/4 | 7-3/8 | 13 | 4 | 269.24 | 269.24 |
| 1-5/8 | 1.6250 | 1-1/4 | 7-3/8 | 13 | 4 | 269.24 | 269.24 |
| 1-11/16 | 1.6875 | 1-3/8 | 7-3/8 | 13 | 4 | 287.18 | 287.18 |
| 1-3/4 | 1.7500 | 1-3/8 | 7-3/8 | 13 | 4 | 323.08 | 323.08 |
| 1-13/16 | 1.8125 | 1-7/16 | 7-3/8 | 13 | 4 | 341.02 | 341.02 |
| 1-7/8 | 1.8750 | 1-1/2 | 7-3/8 | 13 | 4 | 358.98 | 358.98 |
| 1-15/16 | 1.9375 | 1-1/2 | 7-3/8 | 13 | 4 | 376.96 | 376.96 |
| 2 | 2.0000 | 1-3/4 | 7-3/8 | 13 | 4 | 394.90 | 394.90 |
| 2-1/16 | 2.0625 | 1-13/16 | 7-3/8 | 13 | 4 | - | 452.02 |

Larger sizes are available. Inquire for quote.

HIGH SPEED STEEL ROUND SHANK BRIDGE REAMERS

ICS WIS

HEAVY DUTY

RIGHT HAND CUT

STRAIGHT SHANK

LEFT HAND FLUTE



HELICAL FLUTE

High Speed Steel Round Shank Bridge Reamers are designed for lining up holes in structural steel fabrication bridgework, ship construction, automotive maintenance, and railroad car manufacture. The front portion of the reamer is tapered at approximately 1" in 10 and the balance of the flute is parallel. Can be used with any 1/2" 3 jaw power tool. Round Shank design helps prevent "whip" caused by tool snagging or binding.

| SIZE | SHANK DIA. | DIA. | | SHANK LENGTH | STRAIGHT SHANK |
|-------|------------|----------|--------------|--------------|----------------|
| | | AT POINT | FLUTE LENGTH | | |
| | | | | | |
| 7/16 | 1/2 | 17/64 | 4-3/8 | 1-1/2 | 45.14 |
| 1/2 | 1/2 | 5/16 | 5-1/8 | 1-1/2 | 49.74 |
| 9/16 | 1/2 | 3/8 | 5-1/8 | 1-1/2 | 51.94 |
| 5/8 | 1/2 | 25/64 | 6-1/8 | 1-1/2 | 58.72 |
| 11/16 | 1/2 | 13/32 | 7-1/8 | 1-1/2 | 69.08 |
| 3/4 | 1/2 | 15/32 | 7-3/8 | 1-1/2 | 73.66 |
| 13/16 | 1/2 | 35/64 | 7-3/8 | 1-1/2 | 73.66 |
| 7/8 | 1/2 | 39/64 | 7-3/8 | 1-1/2 | 80.54 |
| 15/16 | 1/2 | 43/64 | 7-3/8 | 1-1/2 | 82.78 |

| SIZE | SHANK DIA. | DIA. | | SHANK LENGTH | STRAIGHT SHANK |
|--------|------------|----------|--------------|--------------|----------------|
| | | AT POINT | FLUTE LENGTH | | |
| | | | | | |
| 1 | 1/2 | 47/64 | 7-3/8 | 1-1/2 | 91.10 |
| 1-1/16 | 1/2 | 13/16 | 7-3/8 | 1-1/2 | 99.62 |
| 1-1/8 | *1/2 | 55/64 | 7-3/8 | 1-1/2 | 110.12 |
| 1-3/16 | *1/2 | 59/64 | 7-3/8 | 1-1/2 | 121.68 |
| 1-1/4 | *1/2 | 63/64 | 7-3/8 | 1-1/2 | 134.76 |
| 1-5/16 | *1/2 | 1-1/16 | 7-3/8 | 1-1/2 | 152.78 |
| 1-3/8 | *1/2 | 1-1/8 | 7-3/8 | 1-1/2 | 164.32 |
| 1-7/16 | *1/2 | 1-3/16 | 7-3/8 | 1-1/2 | 175.90 |
| 1-1/2 | *1/2 | 1-1/4 | 7-3/8 | 1-1/2 | 196.96 |

* Optional 3/4" Dia. Shank

Note: If work space is limited, consider using car reamers or tower bolt reamers to do the same job.

HIGH SPEED STEEL TAPER PIN DRILL/REAMERS

ICS **WIS**
SPECIAL PURPOSE
118° POINT
**DUAL
PURPOSE**

**TAPERED
FLUTES**

High Speed Steel Taper Pin Drill/Reamers are designed to drill and ream tapered holes in metal to fit taper pins in one operation. They are made with an included taper of 1 in 48 (1/4" per foot) and have chip breakers along the cutting edge.

| SIZE | DIAMETER | | FLUTE LENGTH | OVERALL LENGTH | FOR NO. SIZE | ITEM NO. | PRICE |
|--------|-----------|-----------|-----------------|-------------------|-----------------|-------------|--------|
| | SMALL END | LARGE END | | | | | |
| 3/32 | .0664 | .095 | 1-3/8 | 2-9/16 | 5/0 | TPD/R006 | 54.48 |
| 7/64 | .0772 | .111 | 1-5/8 | 2-7/8 | 4/0 | TPD/R007 | 54.48 |
| 1/8 | .0879 | .127 | 1-7/8 | 3-1/8 | 3/0 | TPD/R008 | 55.22 |
| 9/64 | .1013 | .143 | 2 | 3-1/4 | 2/0 | TPD/R009 | 70.04 |
| 5/32 | .1137 | .158 | 2-1/8 | 3-3/8 | 0 | TPD/R010 | 63.20 |
| 11/64 | .1245 | .174 | 2-3/8 | 3-3/4 | 1 | TPD/R011 | 79.60 |
| 3/16 | .1325 | .195 | 3 | 4-3/8 | 2 | TPD/R012 | 79.68 |
| 7/32 | .1575 | .220 | 3 | 4-1/2 | 3 | TPD/R014 | 102.86 |
| 1/4 | .1775 | .253 | 3-5/8 | 5-1/4 | 4 | TPD/R016 | 82.26 |
| 9/32 | .1983 | .292 | 4-1/2 | 6-1/4 | 5 | TPD/R018 | 129.04 |
| 5/16 | .2223 | .316 | 4-1/2 | 6-3/8 | - | TPD/R020 | 129.04 |
| 11/32 | .2455 | .347 | 4-7/8 | 6-7/8 | 6 | TPD/R022 | 187.48 |
| 3/8 | .2664 | .381 | 5-1/2 | 7-3/4 | - | TPD/R024 | 187.48 |
| 13/32 | .2818 | .412 | 6-1/4 | 8-1/2 | 7 | TPD/R026 | 207.36 |
| 7/16 | .3128 | .443 | 6-1/4 | 8-7/8 | - | TPD/R028 | 207.36 |
| 1/2 | .3600 | .506 | 7 | 9-3/4 | 8 | TPD/R032 | 219.92 |
| 5/8 | .4638 | .633 | 8-1/8 | 11-3/8 | 9 | TPD/R040 | 414.72 |
| 3/4 | .5647 | .760 | 9-3/8 | 12-7/8 | 10 | TPD/R048 | 467.10 |
| 7/8 | .7060 | .878 | 8-1/4 | 11-1/4 | 11 | TPD/R056 | 663.40 |
| 1-1/32 | .8420 | 1.050 | 10 | 13-5/8 | 12 | TPD/R102 | 798.00 |
| 1-1/4 | 1.009 | 1.259 | 12 | 14 | 13 | TPD/R116 | 840.00 |
| 1-1/2 | 1.250 | 1.342 | 14 | 18-1/4 | 14 | TPD/R132 | 945.00 |

HIGH SPEED STEEL TAPER PIN REAMERS




RT-47

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

High Speed Steel Taper Pin Reamers are manufactured with a taper of 1/4" per foot. They are used to ream holes into which standard taper pins will fit. The point of each reamer will enter hole reamed by next smaller size. Hole to be reamed should be a few thousandths smaller than the small diameter of the finished reamed hole.

| ITEM NO. | FLUTE STYLE | DESIGN USE | REAMING APPLICATION |
|--------------|---|------------|--|
| TPRSF |  OXIDE FINISH | Hand | For use in easy to ream materials. |
| TPRSP |  BLACK/GOLD FINISH | Hand | For use in hard to ream materials and where the reamer tends to wedge itself. |
| TPRHF |  GOLD COBALT FINISH | Machine | For machine reaming of holes for taper pins on a production basis. Helical design throws the chips forward to alleviate packing of the flutes. |

| NOMINAL SIZE | PIN SIZE NO. | DIAMETER | | FLUTE LENGTH | OVERALL LENGTH | NO. OF FLUTES | SHANK DIA. | SIZE OF SQUARE | FLUTE | | |
|--------------|--------------|-----------|-----------|--------------|----------------|---------------|------------|----------------|--------|--------|--------|
| | | SMALL END | LARGE END | | | | | | TPRSF | TPRSP | TPRHF |
| 5/64 | 7/0 | .0497 | .0666 | 13/16 | 1-13/16 | 4 | 5/64 | .060 | 25.66 | 26.76 | 26.76 |
| 3/32 | 6/0 | .0611 | .0806 | 15/16 | 1-15/16 | 4 | 3/32 | .070 | 25.66 | 26.76 | 26.76 |
| 7/64 | 5/0 | .0719 | .0966 | 1-3/16 | 2-3/16 | 4 | 7/64 | .080 | 23.50 | 25.66 | 25.66 |
| 1/8 | 4/0 | .0869 | .1142 | 1-5/16 | 2-5/16 | 4 | 1/8 | .095 | 23.50 | 25.66 | 25.66 |
| 9/64 | 3/0 | .1029 | .1302 | 1-5/16 | 2-5/16 | 4 | 9/64 | .105 | 23.50 | 25.66 | 25.66 |
| 5/32 | 2/0 | .1137 | .1462 | 1-9/16 | 2-9/16 | 4 | 5/32 | .115 | 21.00 | 22.42 | 22.42 |
| 11/64 | 0 | .1287 | .1638 | 1-11/16 | 2-15/16 | 6 | 11/64 | .130 | 20.14 | 21.60 | 21.60 |
| 3/16 | 1 | .1447 | .1798 | 1-11/16 | 2-15/16 | 6 | 3/16 | .140 | 19.66 | 21.82 | 21.82 |
| 13/64 | 2 | .1605 | .2008 | 1-15/16 | 3-3/16 | 6 | 13/64 | .150 | 19.66 | 22.14 | 22.14 |
| 15/64 | 3 | .1813 | .2294 | 2-5/16 | 3-11/16 | 6 | 15/64 | .175 | 19.66 | 22.14 | 22.14 |
| 17/64 | 4 | .2071 | .2604 | 2-9/16 | 4-1/16 | 6 | 17/64 | .200 | 21.82 | 23.70 | 23.70 |
| 5/16 | 5 | .2409 | .2994 | 2-13/16 | 4-5/16 | 6 | 5/16 | .235 | 23.50 | 25.52 | 25.52 |
| 23/64 | 6 | .2773 | .3540 | 3-11/16 | 5-7/16 | 6 | 23/64 | .270 | 28.30 | 31.34 | 31.34 |
| 13/32 | 7 | .3297 | .4220 | 4-7/16 | 6-5/16 | 6 | 13/32 | .305 | 36.38 | 39.40 | 39.40 |
| 7/16 | 8 | .3971 | .5050 | 5-3/16 | 7-3/16 | 6 | 7/16 | .330 | 46.46 | 50.90 | 50.90 |
| 9/16 | 9 | .4805 | .6066 | 6-1/16 | 8-5/16 | 6 | 9/16 | .420 | 56.52 | 61.54 | 61.54 |
| 5/8 | 10 | .5799 | .7216 | 6-13/16 | 9-5/16 | 6 | 5/8 | .470 | 62.12 | 68.26 | 68.26 |
| 7/8 | 11 | .7060 | .8780 | 8-1/4 | 11-1/4 | 6 | 11/16 | .503 | 120.76 | 149.10 | 149.10 |
| 1 | 12 | .8420 | 1.0500 | 10 | 13-5/8 | 6 | 3/4 | .569 | 147.00 | 198.22 | 198.22 |
| 1-1/4 | 13 | 1.0090 | 1.2590 | 12 | 16 | 6 | 1-1/16 | .855 | 262.50 | 283.50 | 283.50 |
| 1-1/2 | 14 | 1.2500 | 1.5420 | 14 | 18-1/4 | 6 | 1-3/8 | 1.072 | 403.20 | 418.90 | 418.90 |

HIGH SPEED STEEL TAPER PIN REAMER SETS

ICS WIS

PLASTIC CASE

RIGHT HAND CUT

| DESCRIPTION | SIZES IN SET | ITEM NO. | PRICE |
|------------------------------------|---|--------------------|--------|
| 11 PC TAPER PIN REAMER SETS | Straight Flute • 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 | RS-TPRSF-11 | - |
| | Spiral Flute • 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 | RS-TPRSP-11 | 411.40 |
| | Helical • 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 | RS-TPRHF-11 | - |



HIGH SPEED STEEL METRIC TAPER PIN REAMERS

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT

High Speed Steel Metric Taper Pin Reamers are manufactured with a taper of 1 in 50. They are used to ream holes into which standard taper pins will fit. The point of each reamer will enter a hole reamed by next smaller size. Hole to be reamed should be a few thousandths smaller than the small diameter of the finished reamed hole.

| ITEM NO. | FLUTE STYLE | DESIGN USE | REAMING APPLICATION |
|---------------|--|-----------------|--|
| TPRSFM |  Straight (Right Hand) Flute | Hand or Machine | For hand or machine reaming tapered holes in easy to ream materials to receive 1:50 taper pins (DIN1 and DIN7178) (metric sizes) |
| TPRHFM |  Helical Slow Spiral (Left Hand) Flute | Hand or Machine | For hand or machine reaming tapered holes in hard to ream materials to receive 1:50 taper pins (DIN1 and DIN7178) (metric sizes) |

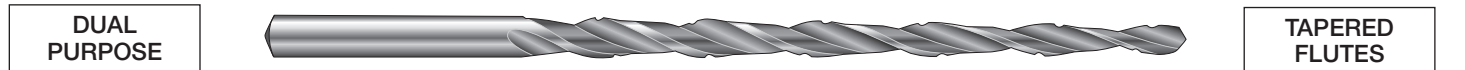
| SIZE | PIN SIZE NO. | PIN DIAMETER | | FLUTE LENGTH | OVERALL LENGTH | SHANK DIAMETER | STRAIGHT FLUTE | | HELICAL FLUTE | |
|-------|--------------|--------------|-----------|--------------|----------------|----------------|----------------|--------|---------------|--------|
| | | SMALL END | LARGE END | | | | ITEM NO. | PRICE | ITEM NO. | PRICE |
| 1.50 | 1.50 | 1.40 | 2.14 | 37.00 | 57.00 | 2.15 | TPRSFM01.50 | - | TPRHFM01.50 | - |
| 2.00 | 2.00 | 1.90 | 2.86 | 48.00 | 68.00 | 3.10 | TPRSFM02.00 | 36.12 | TPRHFM02.00 | 36.12 |
| 2.50 | 2.50 | 2.40 | 3.36 | 48.00 | 68.00 | 3.20 | TPRSFM02.50 | 36.12 | TPRHFM02.50 | 36.12 |
| 3.00 | 3.00 | 2.90 | 4.06 | 58.00 | 80.00 | 4.00 | TPRSFM03.00 | 25.00 | TPRHFM03.00 | 25.00 |
| 4.00 | 4.00 | 3.90 | 5.26 | 68.00 | 93.00 | 5.00 | TPRSFM04.00 | 25.10 | TPRHFM04.00 | 25.10 |
| 5.00 | 5.00 | 4.90 | 6.36 | 73.00 | 100.00 | 6.25 | TPRSFM05.00 | 25.10 | TPRHFM05.00 | 25.10 |
| 6.00 | 6.00 | 5.90 | 8.00 | 105.00 | 135.00 | 8.00 | TPRSFM06.00 | 28.34 | TPRHFM06.00 | 28.34 |
| 6.50 | 6.50 | 6.40 | 8.60 | 110.00 | 140.00 | 8.20 | TPRSFM06.50 | - | TPRHFM06.50 | 31.86 |
| 7.00 | 7.00 | 6.90 | 9.40 | 125.00 | 160.00 | 9.00 | TPRSFM07.00 | - | TPRHFM07.00 | 36.12 |
| 8.00 | 8.00 | 7.90 | 10.80 | 145.00 | 180.00 | 10.00 | TPRSFM08.00 | 38.46 | TPRHFM08.00 | 38.46 |
| 10.00 | 10.00 | 9.90 | 13.40 | 175.00 | 215.00 | 12.50 | TPRSFM10.00 | 56.54 | TPRHFM10.00 | 56.54 |
| 12.00 | 12.00 | 11.86 | 16.00 | 210.00 | 255.00 | 14.00 | TPRSFM12.00 | 60.90 | TPRHFM12.00 | 60.90 |
| 13.00 | 13.00 | 12.86 | 17.00 | 210.00 | 255.00 | 16.00 | TPRSFM13.00 | 124.70 | TPRHFM13.00 | 124.70 |
| 14.00 | 14.00 | 13.96 | 18.50 | 227.00 | 303.00 | 16.00 | TPRSFM14.00 | - | TPRHFM14.00 | - |
| 16.00 | 16.00 | 15.80 | 20.40 | 230.00 | 280.00 | 18.00 | TPRSFM16.00 | 126.00 | TPRHFM16.00 | 126.00 |
| 20.00 | 20.00 | 19.80 | 24.80 | 250.00 | 310.00 | 22.50 | TPRSFM20.00 | 175.30 | TPRHFM20.00 | 175.30 |
| 25.00 | 25.00 | 24.70 | 30.70 | 300.00 | 370.00 | 28.00 | TPRSFM25.00 | 279.42 | TPRHFM25.00 | 279.42 |
| 30.00 | 30.00 | 29.70 | 36.10 | 320.00 | 400.00 | 31.50 | TPRSFM30.00 | 390.70 | TPRHFM30.00 | 390.70 |
| 40.00 | 40.00 | 39.70 | 46.50 | 340.00 | 430.00 | 40.00 | TPRSFM40.00 | 631.58 | TPRHFM40.00 | 631.58 |
| 50.00 | 50.00 | 49.70 | 56.90 | 360.00 | 460.00 | 50.00 | TPRSFM50.00 | 938.70 | TPRHFM50.00 | 938.70 |

HIGH SPEED STEEL METRIC TAPER PIN DRILL/REAMERS

ICS WIS

SPECIAL PURPOSE

RIGHT HAND CUT



High Speed Steel Metric Taper Pin Drill/Reamers are designed to drill and ream tapered holes in metal to fit taper pins in one operation. They are made with an included taper of 1 in 50 and have chip breakers along the cutting edge.

| SIZE | METRIC DIAMETER | | METRIC FLUTE LENGTH | METRIC OVERALL LENGTH | FOR NO. SIZE | SHANK DIAMETER | ITEM NO. | PRICE |
|-------|-----------------|-----------|---------------------|-----------------------|--------------|----------------|-------------|--------|
| | SMALL END | LARGE END | | | | | | |
| 2.00 | 1.98 | 2.84 | 43.00 | 65.00 | 2.00 | 2.82 | TPD/RM02.00 | 48.92 |
| 2.50 | 2.33 | 3.46 | 56.00 | 89.00 | 2.50 | 3.50 | TPD/RM02.50 | 44.84 |
| 3.00 | 2.84 | 4.16 | 66.00 | 98.00 | 3.00 | 4.12 | TPD/RM03.00 | 44.80 |
| 4.00 | 3.78 | 5.40 | 81.00 | 119.00 | 4.00 | 5.32 | TPD/RM04.00 | 70.04 |
| 5.00 | 4.70 | 6.64 | 97.00 | 138.00 | 5.00 | 6.61 | TPD/RM05.00 | 86.76 |
| 6.00 | 5.71 | 8.28 | 129.00 | 179.00 | 6.00 | 8.21 | TPD/RM06.00 | 78.58 |
| 8.00 | 7.64 | 10.72 | 154.00 | 211.00 | 8.00 | 10.07 | TPD/RM08.00 | 110.72 |
| 10.00 | 9.65 | 13.16 | 175.00 | 246.00 | 10.00 | 13.10 | TPD/RM10.00 | 141.80 |
| 12.00 | 11.96 | 15.70 | 198.00 | 275.00 | 12.00 | 15.65 | TPD/RM12.00 | 220.02 |
| 13.00 | 12.61 | 16.74 | 206.00 | 303.00 | 13.00 | 16.71 | TPD/RM13.00 | 266.48 |
| 14.00 | 13.80 | 18.00 | 210.00 | 310.00 | 14.00 | 18.00 | TPD/RM14.00 | 283.50 |
| 16.00 | 15.80 | 20.40 | 230.00 | 335.00 | 16.00 | 21.00 | TPD/RM16.00 | 415.00 |

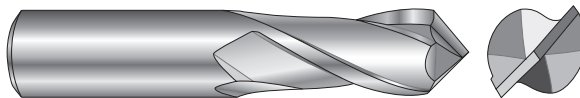
SOLID CARBIDE 60° & 90° DRILL MILLS

ICS USA

HEAVY DUTY

RIGHT HAND CUT

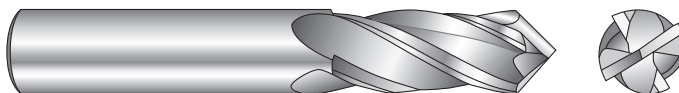
2 FLUTE - SINGLE END



Solid Carbide Drill Mills are designed to be a 5 in 1 multi-purpose tool for drilling, chamfering, spotting, side milling, and countersinking.

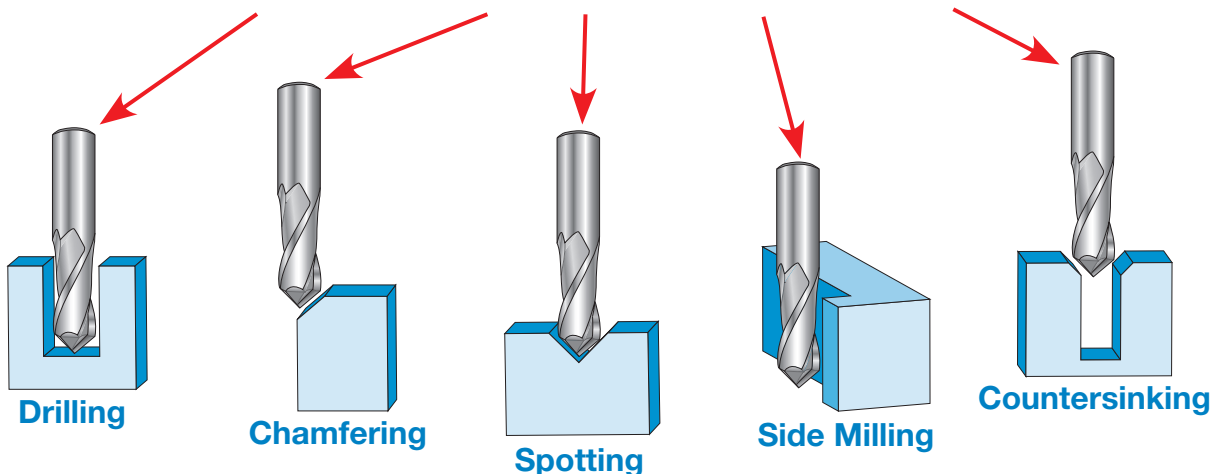
| SIZE | SHANK DIAMETER | FLUTE LENGTH | OVERALL LENGTH | 2 FLUTE - 60° POINT ANGLE | | 2 FLUTE - 90° POINT ANGLE | |
|------|----------------|--------------|----------------|---------------------------|--------|---------------------------|--------|
| | | | | ITEM NO. | PRICE | ITEM NO. | PRICE |
| 1/8 | 1/8 | 1/2 | 1-1/2 | SCDM260-008 | 17.02 | SCDM290-008 | 17.02 |
| 3/16 | 3/16 | 5/8 | 2 | SCDM260-012 | 22.68 | SCDM290-012 | 22.68 |
| 1/4 | 1/4 | 3/4 | 2-1/2 | SCDM260-016 | 30.46 | SCDM290-016 | 30.46 |
| 5/16 | 5/16 | 13/16 | 2-1/2 | SCDM260-020 | 41.16 | SCDM290-020 | 41.16 |
| 3/8 | 3/8 | 1 | 2-1/2 | SCDM260-024 | 42.64 | SCDM290-024 | 42.64 |
| 7/16 | 7/16 | 1 | 2-3/4 | SCDM260-028 | 43.44 | SCDM290-028 | 43.44 |
| 1/2 | 1/2 | 1 | 3 | SCDM260-032 | 79.60 | SCDM290-032 | 79.60 |
| 5/8 | 5/8 | 1-1/4 | 3-1/2 | SCDM260-040 | 133.78 | SCDM290-040 | 133.78 |
| 3/4 | 3/4 | 1-1/2 | 4 | SCDM260-048 | 220.92 | SCDM290-048 | 220.92 |

4 FLUTE - SINGLE END



| SIZE | SHANK DIAMETER | FLUTE LENGTH | OVERALL LENGTH | 4 FLUTE - 60° POINT ANGLE | | 4 FLUTE - 90° POINT ANGLE | |
|------|----------------|--------------|----------------|---------------------------|--------|---------------------------|--------|
| | | | | ITEM NO. | PRICE | ITEM NO. | PRICE |
| 1/8 | 1/8 | 1/2 | 1-1/2 | SCDM460-008 | 17.02 | SCDM490-008 | 17.02 |
| 3/16 | 3/16 | 5/8 | 2 | SCDM460-012 | 22.68 | SCDM490-012 | 22.68 |
| 1/4 | 1/4 | 3/4 | 2-1/2 | SCDM460-016 | 30.46 | SCDM490-016 | 30.46 |
| 5/16 | 5/16 | 13/16 | 2-1/2 | SCDM460-020 | 41.16 | SCDM490-020 | 41.16 |
| 3/8 | 3/8 | 1 | 2-1/2 | SCDM460-024 | 42.64 | SCDM490-024 | 42.64 |
| 7/16 | 7/16 | 1 | 2-3/4 | SCDM460-028 | 43.44 | SCDM490-028 | 43.44 |
| 1/2 | 1/2 | 1 | 3 | SCDM460-032 | 79.60 | SCDM490-032 | 79.60 |
| 5/8 | 5/8 | 1-1/4 | 3-1/2 | SCDM460-040 | 133.78 | SCDM490-040 | 133.78 |
| 3/4 | 3/4 | 1-1/2 | 4 | SCDM460-048 | 220.92 | SCDM490-048 | 220.92 |

5 USES IN 1 TOOL



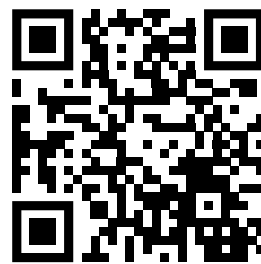
ICS CUTTING TOOLS, INC
511 MAIN STREET • CASCO, WI 54205-0125 USA



SCAN FOR LATEST ONLINE CATALOGS



SCAN TO OPEN THE WEBSITE



(920) 837-2526 • FAX (920) 837-2530
www.icscuttingtools.com • info@icscuttingtools.com