



MARXMAN™

MAINTENANCE TOOLS

MAINTENANCE SOLUTIONS



DRILLS
REAMERS
TAPS & DIES
END MILLS
TOOL BITS
BURRS
SAWS
SETS
ACCESSORIES

Morse Cutting Tools, Inc.
Marxman™ Tools

Phone: 800.255.1701 Fax: 800.338.4857
www.morsecuttingtools.com

2011
CATALOG

EASY**ORDERING**

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Technical support product application specialist on hand.



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ISO 9001:2008**



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Vision Statement

We are Morse Cutting Tools, a family of individuals dedicated to contributing value to our customers by providing high quality products and always quality customer service.

We seek to challenge ourselves to show respect for each other at all times.

As we grow into the 21st century, we shall continually focus upon employee wellness, community responsibility and a sensitive balance between personal and professional fulfillment.

Morse Cutting Tools Marxman™ Tools

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MORSE CUTTING TOOLS
TERMS OF SALE

ACCEPTANCE OF TERMS OF SALE

No conditions stated by Buyer in its offer or acceptance shall be binding on "Seller" if in conflict with, inconsistent with, or in addition to, "Seller" terms. Credit is conditional upon determination by "Seller" each time an order is received. By use of our website you agree to our Legal and Privacy Policies. You certify, represent, and warrant that all purchases made by employees/agents of your organization utilizing your Morse Cutting Tools account number are authorized purchases of your organization. You acknowledge and agree that it is your responsibility to verify and maintain the protection, security, and distribution of your account number, user names, and passwords associated with purchasing via Morse Cutting Tools and morsecuttingtools.com. Furthermore, you expressly agree that all liability relating to password management resides with you and your organization and that under no circumstances, including negligence or misconduct, shall Morse Cutting Tools be liable for any damages that result from the use of our website. You acknowledge that your purchasing rights and privileges may be modified at any time upon notice from Morse Cutting Tools. Orders are accepted on the basis of terms of sale in effect at the time the order is received and approved by the "Seller" at "Seller's" Main Offices. Acceptance of any products delivered hereunder by "Seller" or any of its Affiliates or Assignees shall constitute Buyer's agreement to said Terms of Sale as set forth herein or found on our website.

BACKORDERS

If merchandise is not in stock, it will be placed on backorder for 90 days. Unless we have customer authorization to hold merchandise on backorder longer than 90 days, it will automatically be cancelled and you will be notified.

CLAIMS

All claims MUST be made within 5 days of receipt. To expedite service please refer to our shipper or invoice number. Damages incurred in commercial shipments must be claimed through the common carrier.

COMMERCIAL CREDIT ACCOUNT TERMS

Unless otherwise agreed to in writing, upon approved credit, standard terms of payment shall be 30 Days Net. A 1-1/2% monthly service charge may be added on invoices not paid when due. Returned checks and electronic payments are subject to \$15.00 charge. If Buyer fails to fulfill these terms or if "Seller" at any time has any doubt as to Buyer's financial responsibility, "Seller" may demand immediate full payment and decline to make further deliveries. Any indebtedness owing from Buyer to "Seller" can be set off and applied by "Seller" and associated companies on any indebtedness at any time from time to time either before or after maturity or demand. Buyer/applicant agrees to pay any collection cost incurred to collect delinquent amounts, including attorney's fees.

CREDIT BALANCE

Buyer agrees that any credit balance issued will be applied within one (1) year of its issuance. If not applied or requested within one (1) year, any credit balance remaining will be subject to cancellation, and "Seller" shall have no further liability.

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UPS: Notify your local UPS office immediately. Advise us so we can reship the merchandise and place a claim. Keep damaged goods and containers for UPS inspection.

Truck Shipments: Shippers are not responsible for merchandise damaged or lost by motor freight carriers. If your shipment is damaged or short, have it noted by the carrier on the delivery receipt. Without this proper notation, you accept it at your own risk.

Canadian Shipments: If your shipment is damaged or short, have it noted by the carrier on the delivery receipt. Without this proper notation, you accept it at your own risk. Advise us so we can reship the merchandise and place a claim. Keep damaged goods and containers for Purolator inspection.

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USA: Internet stock orders accepted by 4:30 pm EST will ship same day. All internet orders are eligible for UPS Next Day Delivery (UPS Red) at 50% off the base rate and we pay the fuel surcharge. If your order is greater than \$750, we will ship it free. Orders over \$500 are also eligible for free UPS ground. All other orders will ship at the selected UPS service and billed at the published rate. Non internet stock orders over \$500 are eligible for free UPS Ground Only. We shall not be liable for any injury, loss, damage, or delay in delivery resulting from the handling or use of the goods after or during such delivery.

CANADA: Shipments into Canada are freight free. All orders are duty paid, customs cleared, and shipped pre-paid via Purolator. All small packages are shipped via Purolator, with service based on Toronto origin. Large shipments over 150 lbs. are subject to LTL standards. No reference is made to Morse Cutting Tools on the packing slip or shipping label on drop shipments to your customer. In stock orders accepted by 4:00 pm EST will ship same day. Other restrictions may apply. We reserve the right to select other carriers as necessary. We shall not be liable for any injury, loss, damage, or delay in delivery resulting from the handling or use of the goods after or during such delivery.

DISCLAIMER OF WARRANTIES

Morse Cutting Tools warrants to original equipment manufacturers, distributors and industrial and commercial use of its products that each new product which it manufactures or supplies is free from defects in material and workmanship. Its sole obligation under this warranty is limited to furnishing, without additional charge, a replacement, for, or, at its options, repairing or issuing credit for any such product which shall, within one year from the date of sale by Morse Cutting Tools, be returned freight prepaid to the facility designated by a Morse Cutting Tools representative and which, upon inspection, is determined by Morse Cutting Tools to be defective in materials or workmanship. The provisions of this warranty shall not apply to any product which has been subjected to misuse, improper operating conditions, machine setup or which has been repaired or altered, if such would adversely affect performance of the product. Complete written information with respect to all such matters must be furnished to Morse Cutting Tools, as a prerequisite to its consideration of any claim or complaint under this warranty. The repair, replacement or issuance of credit for parts provided for in this warranty constitute the Buyer's EXCLUSIVE REMEDY.

This warranty is in lieu of all other warranties, expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose. In no event shall Morse Cutting Tools be liable for any special, incidental or consequential damages (including, but not limited to, lost profits). Morse Cutting Tools makes no warranty, express or implied, except as set forth above; and Morse Cutting Tools neither assumes nor authorizes any other person or entity to assume for of any other obligation or liability in connection with any of its products.

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USA: A \$5.00 handling charge will apply to all orders under \$50.00 net at distributor cost.

Canada: A \$5.00 handling charge will apply to all orders under \$100.00 net at distributor cost.

INDEMNITY

The buyer shall defend and indemnify "Seller" from and against any and all loss of or damage to the merchandise, usual wear and tear excepted; any claim, cause of action, damages, liability, cost or expenses (including attorney's fees) which may arise or be incurred in any manner in favor of any person relating to the merchandise or any part of the merchandise, including by way of example but not of limitation, claims arising out of or incident to the construction, purchase, delivery, installation, ownership, leasing, sale, or return of the merchandise or as a result of its use, maintenance, repair, operation or condition thereof, whether or not any claimed defects in such merchandise or latent or are discoverable; and any claim, cause of action, cost, or expense arising for alleged patent infringement of, for, or as a result of claims for alleged strict liability in tort. The obligations of Buyer herein contained shall survive the expiration of the Agreement as to any loss, damages, claims, causes of action liabilities, costs, or expenses.

INSPECTIONS

Any inspection of goods agreed to by the parties will be made at Seller's location, Manufacturer's plant, or other source of supply and must be made before shipment. Any goods not rejected by Buyer before shipment will be deemed accepted.

INVENTORY

We do our best to maintain in stock full and complete inventories of all regular lines. All merchandise subject to prior sale.

LIMITATION OF LIABILITY

IN NO EVENT SHALL "SELLER" BE LIABLE FOR LOSS OF PROFITS, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY BREACH OF THIS AGREEMENT OR OBLIGATIONS UNDER THIS AGREEMENT, NOR SHALL "SELLER" BE LIABLE FOR ANY DAMAGES CAUSED BY DELAY IN DELIVERY, INSTALLATION, OR FURNISHING OF THE MERCHANDISE OR SERVICES BY ANY MANUFACTURER OF THE MERCHANDISE OR OTHERWISE

NOTICE TO SUBSEQUENT PURCHASER OR REPACKER

For imported articles, the requirements of 19 U.S.C. 1304 and 19 CFR part 134 provide that the articles or their containers must be marked in a conspicuous place as legibly, indelibly, and permanently as the nature of the article or container will permit, to indicate to an ultimate purchaser in the United States the English name of the country of origin of the article.

PRICES

USA: All prices are in US dollars. All prices are subject to change without notice. Typographical or similar errors are subject to correction.

Canada: All prices are in Canadian dollars. All prices are subject to change without notice. Typographical or similar errors are subject to correction.

PROMOTIONAL AND ADVERTISING MATERIAL

Customer authorizes "Seller", its affiliates or representatives, to send e-mails or faxes, of any kind, including but not limited to correspondence, promotional and advertising material, to "Buyer" or its affiliates.

QUOTATIONS

Quotations are valid for 30 days.

RESPONSIBILITY

The value of a defective product or material sent in error is our only liability. All technical data has been supplied by the manufacturer and is listed only as a convenience. All specifications are subject to change without notice. Photos shown in any of our advertising material, catalog and website are general representations of the various items and may include optional equipment. We do not warrant or represent that the merchandise complies with the provisions of any law, particularly including the Walsh-Healy Public Contracts Act and the Occupational Safety and Health Act of 1970, and regulations promulgated thereunder, unless the manufacturer so warrants.

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Customer must obtain a Returned Goods Authorization ("RGA") Number prior to returning goods. No merchandise will be accepted without an "RGA Number." Unless we have erred, returns must be prepaid and are subject to restocking charge. No merchandise will be accepted for return which is made up special, discontinued, or which has been held for over 30 days. We reserve the right to determine if the purchaser has abused the item in question. If it cannot be returned to stock, credit will not be given. Returns not accompanied by a copy of shipper, invoice, or invoice number may not be accepted or subject to restocking charge. Returns due to customer error must be prepaid and are subject to restocking charge. Any claims for discrepancies in shipment must be made within 5 days of receipt of merchandise.

SAFETY

Buyer will cause each person who receives or uses purchased goods to read and comply with all safety instruction provided by Seller and Manufacturer, including all product safety notices, warnings, instructions and training materials, manuals, or other similar safety documentation. Buyer will instruct each user in the proper use of the goods and implement and enforce the safety documentation. Buyer will be solely responsible for complying with local, state and federal or provincial laws, codes or regulations relating to safety of the workplace where the goods are used. Cutting Tools may shatter when broken. The wearing of eye protection is strongly recommended in the vicinity of their use.

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USA: "Seller" is required to charge state and local tax on items for which sales tax exemption certification have not been provided. When ordering, please indicate tax exemption and provide certification.

Canada: "Seller" is required to charge GST (goods and services tax) / HST (harmonized sales tax) on products shipped to Canada

TITLE

To secure payment and performance of all buyers obligations hereunder, whether represented by commercial account or evidenced by notes, judgments or otherwise, "Seller" hereby retains title to the equipment and a security interest herein until payment in full and performance by buyer of said obligations.

TERMS OF SALE ARE SUBJECT TO CHANGE WITHOUT NOTICE. CURRENT TERMS AVAILABLE AT WWW.MORSECUTTINGTOOLS.COM

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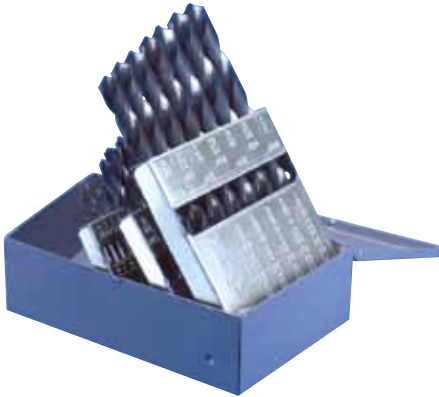
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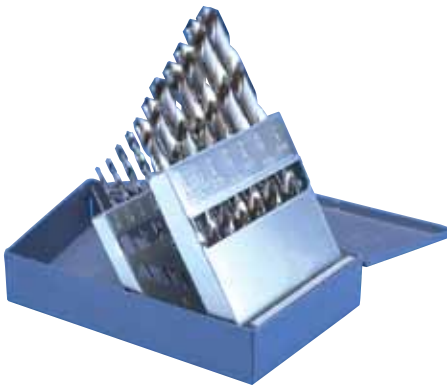


List No. 330

MADE IN USA

List No. 330QI

IMPORT

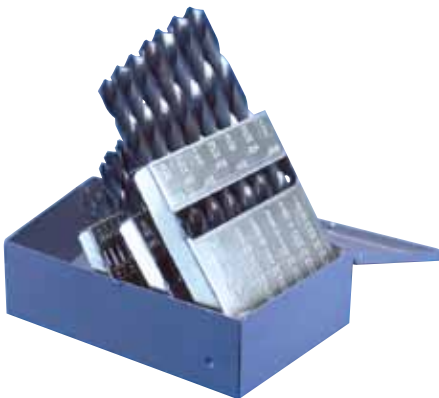


List No. 330B

MADE IN USA

List No. 385

MADE IN USA



List No. 330L

MADE IN USA

LIST NO. 330 – Jobber Length – Made In USA

Surface Treated — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/4 by 64ths	13	81370
1/16 to 1/2 by 32nds	15	81498
1/16 to 3/8 by 64ths	21	81371
A to Z	26	81373
1/16 to 1/2 by 64ths	29	81372
Nos. 1 to 60	60	81374

LIST NO. 330QI – Jobber Length – Import

Surface Treated — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/4 by 64ths	13	87602
1/16 to 3/8 by 64ths	21	87608
A to Z	26	87609
1/16 to 1/2 by 64ths	29	87605
Nos. 1 to 60	60	87607

LIST NO. 330B – Jobber Length – Made In USA

Bright — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/4 by 64ths	13	81376
1/16 to 1/2 by 32nds	15	81499
1/16 to 3/8 by 64ths	21	81377
A to Z	26	81379
1/16 to 1/2 by 64ths	29	81378
Nos. 1 to 60	60	81500

LIST NO. 385 – Jobber Length – Made In USA

TYPE B HEAVY DUTY

Surface Treated — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/2 by 64ths	29	81503

135° Split Point

LIST NO. 330L – Jobber Length – Made In USA

LEFT HAND

Bright — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/2 by 32nds	15	81507
1/16 to 1/2 by 64ths	29	81508

DRILL SETS

Jobber Length Drill Sets - In Index Cases

LIST NO. 384 - Jobber Length - Made In USA

MARXBORE™ HEAVY DUTY

Gold & Black — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/2 by 64ths	29	81502

135° Split Point

LIST NO. 384QI - Jobber Length - Import

MARXBORE™ HEAVY DUTY

Gold & Black — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/2 by 64ths	29	88135

135° Split Point

LIST NO. 387QI - Jobber Length - Import

MARXBORE™ HEAVY DUTY

**Gold & Black — High Speed Steel
3-FLATS SHANK***

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/2 by 64ths	29	88134

135° Split Point

LIST NO. 355 - Jobber Length - Made In USA

MARXBORE™ HEAVY DUTY

**Gold & Black — High Speed Steel
WIDE LAND PARABOLIC FLUTE***

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/2 by 64ths	29	87329

135° Split Point

Sets in Clip-On Drill Index

High Impact Plastic • Weather Resistant • Clip Onto Belt

LIST NO. 383 - MECHANIC LENGTH - Made In USA

3-FLATS SHANK • 3/8" REDUCED SHANK

Gold & Black — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/2 by 64ths	29	82146

LIST NO. 384 - Jobber Length - Made In USA

MARXBORE™ HEAVY DUTY

Gold & Black — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/2 by 64ths	29	81509



List No. 384

MADE IN USA

List No. 384QI

IMPORT

List No. 387QI
3-Flat Shank

IMPORT

* 3-Flats on shank to eliminate slipping in drill chuck. Sizes below 3/16" feature standard round shank.

List No. 355

Wide Land
Parabolic Flute

MADE IN USA

* Wide Land Parabolic Flute enhances chip flow, especially in deeper drilling applications in a wide range of material types.

List No. 383
Mechanic Length

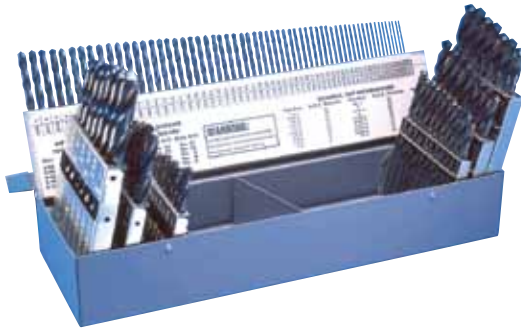
List No. 384
Jobber Length



MADE IN USA

DRILL SETS

Jobber Length Drill Sets In Index Cases



List No. 330
List No. 330B

MADE IN USA

LIST NO. 330 - 330B - Jobber Length - Made In USA

3-IN-1

Surface Treated — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
Nos. 1 to 60 A to Z 1/16 to 1/2 by 64ths	115	81375

Bright — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
Nos. 1 to 60 A to Z 1/16 to 1/2 by 64ths	115	81501

List No. 330QI

IMPORT

LIST NO. 330QI - Jobber Length - Import

3-IN-1

Surface Treated — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
Nos. 1 to 60 A to Z 1/16 to 1/2 by 64ths	115	87606

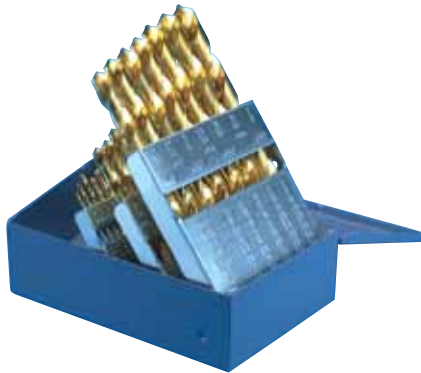
List No. 330C

MADE IN USA

LIST NO. 330C - Jobber Length - Made In USA

M42 COBALT — HEAVY DUTY

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/2 by 32nds A to Z	15 26	81399 81401
1/16 to 1/2 by 64ths Nos. 1 to 60	29 60	81400 81402



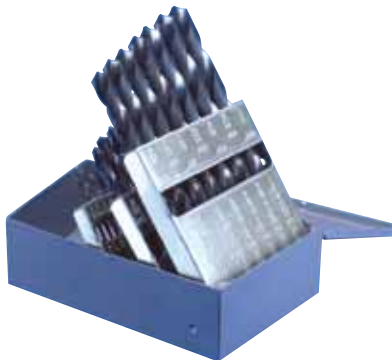
List No. 330G

MADE IN USA

LIST NO. 330G - Jobber Length - Made In USA

TiN COATED — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1/16 to 1/4 by 64ths	13	81506
1/16 to 1/2 by 32nds	15	81505
1/16 to 1/2 by 64ths	29	81504



List No. 330QI

IMPORT

LIST NO. 330QI - Jobber Length - Import

Surface Treated — High Speed Steel

SIZE RANGE	PIECES PER SET	EDP NO.
1.0mm to 10.0mm by .5mm	19	87603
1.0mm to 13.0mm by .5mm	25	87604

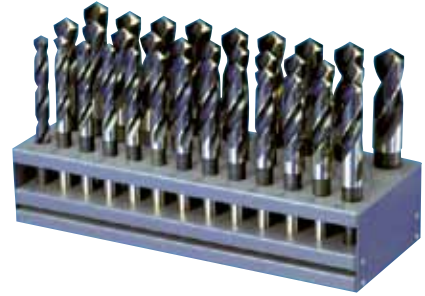
DRILL SETS

Reduced Shank Drill Sets

LIST NO. 424R – Round Shank – Made In USA

High Speed Steel — 1/2" Shank — S & D Drills

SIZE RANGE	PIECES PER SET	EDP NO.
9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1	8	81406
1/2" to 1" by 64ths	33	81409



List No. 424R

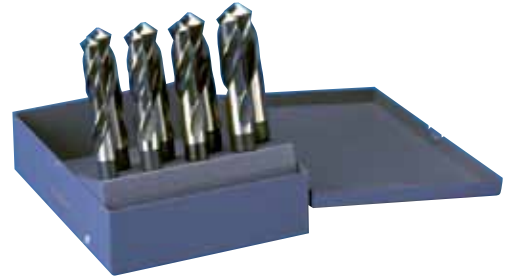
MADE IN USA

8-Pc. • USA • Sets in Index Cases
33-Pc. • USA • Sets in Metal Stands

LIST NO. 424 – 3 FLAT SHANK – Made In USA

High Speed Steel — 1/2" Shank — S & D Drills

SIZE RANGE	PIECES PER SET	EDP NO.
9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1	8	81407
1/2" to 1" by 64ths	33	81408



List No. 424

MADE IN USA

Gold & Black — 118° Split Point

LIST NO. 424RQI – Round Shank – Import

High Speed Steel — 1/2" Shank — S & D Drills

SIZE RANGE	PIECES PER SET	EDP NO.
9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1	8	87600

In Plastic Case



List No. 424RQI

IMPORT

LIST NO. 424RQI – Round Shank – Import

High Speed Steel — 1/2" Shank — S & D Drills

SIZE RANGE	PIECES PER SET	EDP NO.
33/64" to 1" by 64ths	32	87601

In Wooden Stand



List No. 424RQI

IMPORT

DRILLS - METALWORKING

Mechanic Length Drills

High Speed Steel — Gold & Black Finish
135° Split Point - 3/8" Reduced Shank
3-Flat Shanks



List No. 383

MADE IN USA

- Shorter length — in-between a jobber and screw machine length — allows access to those tight jobs
- 135° self-centering split point eliminates "walking" and reduces thrust. Recommended for a wide variety of low to medium tensile strength materials.
- Shorter length results in a sturdier, more rigid drill that is less prone to breakage
- 3/8" reduced shank on drills above 3/8" expands the size range capacity of smaller drill chucks
- 3/16" and above feature 3-flats on the shank to eliminate slipping in the drill chuck. Sizes below 3/16" feature standard round shank.

STANDARD PACKAGE

Sizes 1/16" thru 3/8" - 12 each
Sizes 25/64" thru 1/2" - 6 each

LIST NO. 383

SIZE	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
1/16	7/8	1-7/8	82115
5/64	1	2	82116
3/32	1-1/4	2-1/4	82117
7/64	1-5/16	2-3/8	82118
1/8	1-7/16	2-1/2	82119
9/64	1-9/16	2-5/8	82120
5/32	1-11/16	2-3/4	82121
11/64	1-13/16	2-7/8	82122
3/16	1-7/8	3	82123
13/64	1-15/16	3-1/8	82124

SIZE	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
7/32	2	3-1/4	82125
15/64	2-1/16	3-3/8	82126
1/4	2	3-1/2	82127
17/64	2-1/8	3-5/8	82128
9/32	2-1/4	3-3/4	82129
19/64	2-3/8	3-7/8	82130
5/16	2-1/2	4	82131
21/64	2-9/16	4-1/16	82132
11/32	2-5/8	4-1/8	82133
23/64	2-11/16	4-3/16	82134
3/8	2-11/16	4-1/4	82135
25/64	2-3/4	4-5/16	82136
13/32	2-13/16	4-3/8	82137
27/64	2-7/8	4-7/16	82138
7/16	2-15/16	4-1/2	82139
29/64	3	4-5/8	82140
15/32	3-1/8	4-3/4	82141
31/64	3-1/4	4-7/8	82142
1/2	3-3/8	5	82143

Mechanic Length Drill Sets

29-Pc. Set
1/16" - 1/2" by 64ths
Metal Index Case

EDP No. 82144



29-Pc. Set
1/16" - 1/2" by 64ths
Clip-On Drill Index

High Impact Plastic
Weather Resistant
Clip Onto Belt

EDP No. 82146



DRILLS - METALWORKING

Jobber Length Drills

Straight Shank - High Speed Steel 118° Point - General Purpose

Designed for drilling of a wide variety of material.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.

Bright Finish with polished flutes enhances chip ejection especially for aluminum and other non-ferrous materials.

STANDARD PACKAGE

Fractional Sizes

Sizes 1/64" thru 3/8" - 12 each
 Sizes 25/64" thru 1/2" - 6 each
 Sizes 33/64" thru 11/16" - 1 each

Letter Sizes

Sizes A thru V - 12 each
 Sizes W thru Z - 6 each

MINIMUM ORDER REQUIREMENT
STANDARD PACKAGE QUANTITY

LIST NO. 330, 330B & 330QI

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.		
				330 TREATED	330B BRIGHT	330QI TREATED
1/64	.0156	3/16	3/4	80130	80281	-
1/32	.0312	1/2	1-3/8	80131	80282	-
3/64	.0469	3/4	1-3/4	80132	80283	-
1/16	.0625	7/8	1-7/8	80133	80284	85000
5/64	.0781	1	2	80134	80285	85001
3/32	.0937	1-1/4	2-1/4	80135	80286	85002
7/64	.1094	1-1/2	2-5/8	80136	80287	85003
1/8	.1250	1-5/8	2-3/4	80137	80288	85004
9/64	.1406	1-3/4	2-7/8	80138	80289	85005
5/32	.1562	2	3-1/8	80139	80290	85006
11/64	.1719	2-1/8	3-1/4	80140	80291	85007
3/16	.1875	2-5/16	3-1/2	80141	80292	85008
13/64	.2031	2-7/16	3-5/8	80142	80293	85009
7/32	.2187	2-1/2	3-3/4	80143	80294	85010
15/64	.2344	2-5/8	3-7/8	80144	80295	85011
1/4-E	.2500	2-3/4	4	80145	80296	85012
17/64	.2656	2-7/8	4-1/8	80146	80297	85013
9/32	.2812	2-15/16	4-1/4	80147	80298	85014
19/64	.2969	3-1/16	4-3/8	80148	80299	85015
5/16	.3125	3-3/16	4-1/2	80149	80300	85016
21/64	.3281	3-5/16	4-5/8	80150	80301	85017
11/32	.3437	3-7/16	4-3/4	80151	80302	85018
23/64	.3594	3-1/2	4-7/8	80152	80303	85019
3/8	.3750	3-5/8	5	80153	80304	85020
25/64	.3906	3-3/4	5-1/8	80154	80305	85021
13/32	.4062	3-7/8	5-1/4	80155	80306	85022
27/64	.4219	3-15/16	5-3/8	80156	80307	85023
7/16	.4375	4-1/16	5-1/2	80157	80308	85024
29/64	.4531	4-3/16	5-5/8	80158	80309	85025
15/32	.4687	4-5/16	5-3/4	80159	80310	85026
31/64	.4844	4-3/8	5-7/8	80160	80311	85027
1/2	.5000	4-1/2	6	80161	80312	85028



BLACK OXIDE TREATED
List No. 330

MADE IN USA

BRIGHT FINISH
List No. 330B

MADE IN USA

BLACK OXIDE TREATED
List No. 330QI

IMPORT

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.		
				330 TREATED	330B BRIGHT	330QI TREATED
33/64	.5156	4-13/16	6-5/8	80162	-	-
17/32	.5312	4-13/16	6-5/8	80163	-	-
35/64	.5469	4-13/16	6-5/8	80164	-	-
9/16	.5625	4-13/16	6-5/8	80165	-	-
37/64	.5781	4-13/16	6-5/8	80166	-	-
19/32	.5938	5-3/16	7-1/8	80167	-	-
39/64	.6094	5-3/16	7-1/8	80168	-	-
5/8	.6250	5-3/16	7-1/8	80169	-	-
41/64	.6406	5-3/16	7-1/8	80170	-	-
21/32	.6562	5-3/16	7-1/8	80171	-	-
43/64	.6719	5-5/8	7-5/8	80172	-	-
11/16	.6875	5-5/8	7-5/8	80173	-	-

LETTER SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.		
				330 TREATED	330B BRIGHT	330QI TREATED
A	.2349	2-5/8	3-7/8	80174	80326	85029
B	.2380	2-3/4	4	80175	80327	85030
C	.2420	2-3/4	4	80176	80328	85031
D	.2460	2-3/4	4	80177	80329	85032
1/4-E	.2500	2-3/4	4	80145	80296	85012
F	.2570	2-7/8	4-1/8	80179	80331	85033
G	.2610	2-7/8	4-1/8	80180	80332	85034
H	.2660	2-7/8	4-1/8	80181	80333	85035
I	.2720	2-7/8	4-1/8	80182	80334	85036
J	.2770	2-7/8	4-1/8	80183	80335	85037
K	.2810	2-15/16	4-1/4	80184	80336	85038
L	.2900	2-15/16	4-1/4	80185	80337	85039
M	.2950	3-1/16	4-3/8	80186	80338	85040
N	.3020	3-1/16	4-3/8	80187	80339	85041
O	.3160	3-3/16	4-1/2	80188	80340	85042
P	.3230	3-5/16	4-5/8	80189	80341	85043
Q	.3320	3-7/16	4-3/4	80190	80342	85044
R	.3390	3-7/16	4-3/4	80191	80343	85045
S	.3480	3-1/2	4-7/8	80192	80344	85046
T	.3580	3-1/2	4-7/8	80193	80345	85047
U	.3680	3-5/8	5	80194	80346	85048
V	.3770	3-5/8	5	80195	80347	85049
W	.3860	3-3/4	5-1/8	80196	80348	85050
X	.3970	3-3/4	5-1/8	80197	80349	85051
Y	.4040	3-7/8	5-1/4	80198	80350	85052
Z	.4130	3-7/8	5-1/4	80199	80351	85053

DRILLS - METALWORKING

Jobber Length Drills

Straight Shank - High Speed Steel
118° Point - General Purpose

Designed for drilling of a wide variety of material.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.

Bright Finish with polished flutes enhances chip ejection especially for aluminum and other non-ferrous materials.

STANDARD PACKAGE

Wire Gage Sizes

#1 thru #80 - 12 each

**MINIMUM
ORDER
REQUIREMENT**

**STANDARD
PACKAGE
QUANTITY**

LIST NO. 330, 330B & 330QI

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.		
				330 TREATED	330B BRIGHT	330QI TREATED
80	.0135	1/8	3/4	80280	80440	-
79	.0145	1/8	3/4	80279	80439	-
78	.0160	3/16	7/8	80278	80438	-
77	.0180	3/16	7/8	80277	80437	-
76	.0200	3/16	7/8	80276	80436	-
75	.0210	1/4	1	80275	80435	-
74	.0225	1/4	1	80274	80434	-
73	.0240	5/16	1-1/8	80273	80433	-
72	.0250	5/16	1-1/8	80272	80432	-
71	.0260	3/8	1-1/4	80271	80431	-
70	.0280	3/8	1-1/4	80270	80430	-
69	.0292	1/2	1-3/8	80269	80429	-
68	.0310	1/2	1-3/8	80268	80428	-
67	.0320	1/2	1-3/8	80267	80427	-
66	.0330	1/2	1-3/8	80266	80426	-
65	.0350	5/8	1-1/2	80265	80425	-
64	.0360	5/8	1-1/2	80264	80424	-
63	.0370	5/8	1-1/2	80263	80423	-
62	.0380	5/8	1-1/2	80262	80422	-
61	.0390	11/16	1-5/8	80261	80421	-
60	.0400	11/16	1-5/8	80260	80420	85114
59	.0410	11/16	1-5/8	80259	80419	85113
58	.0420	11/16	1-5/8	80258	80418	85112
57	.0430	3/4	1-3/4	80257	80417	85111
56	.0465	3/4	1-3/4	80256	80416	85110
55	.0520	7/8	1-7/8	80255	80415	85109
54	.0550	7/8	1-7/8	80254	80414	85108
53	.0595	7/8	1-7/8	80253	80413	85107
52	.0635	7/8	1-7/8	80252	80412	85106
51	.0670	1	2	80251	80411	85105
50	.0700	1	2	80250	80410	85104
49	.0730	1	2	80249	80409	85103
48	.0760	1	2	80248	80408	85102
47	.0785	1	2	80247	80407	85101
46	.0810	1-1/8	2-1/8	80246	80406	85100
45	.0820	1-1/8	2-1/8	80245	80405	85099
44	.0860	1-1/8	2-1/8	80244	80404	85098
43	.0890	1-1/4	2-1/4	80243	80403	85097
42	.0935	1-1/4	2-1/4	80242	80402	85096
41	.0960	1-3/8	2-3/8	80241	80401	85095



BLACK OXIDE TREATED
List No. 330

MADE IN USA

BRIGHT FINISH
List No. 330B

MADE IN USA

BLACK OXIDE TREATED
List No. 330QI

IMPORT

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.		
				330 TREATED	330B BRIGHT	330QI TREATED
40	.0980	1-3/8	2-3/8	80240	80400	85094
39	.0995	1-3/8	2-3/8	80239	80399	85093
38	.1015	1-7/16	2-1/2	80238	80398	85092
37	.1040	1-7/16	2-1/2	80237	80397	85091
36	.1065	1-7/16	2-1/2	80236	80396	85090
35	.1100	1-1/2	2-5/8	80235	80395	85089
34	.1110	1-1/2	2-5/8	80234	80394	85088
33	.1130	1-1/2	2-5/8	80233	80393	85087
32	.1160	1-5/8	2-3/4	80232	80392	85086
31	.1200	1-5/8	2-3/4	80231	80391	85085
30	.1285	1-5/8	2-3/4	80230	80390	85084
29	.1360	1-3/4	2-7/8	80229	80389	85083
28	.1405	1-3/4	2-7/8	80228	80388	85082
27	.1440	1-7/8	3	80227	80387	85081
26	.1470	1-7/8	3	80226	80386	85080
25	.1495	1-7/8	3	80225	80385	85079
24	.1520	2	3-1/8	80224	80384	85078
23	.1540	2	3-1/8	80223	80383	85077
22	.1570	2	3-1/8	80222	80382	85076
21	.1590	2-1/8	3-1/4	80221	80381	85075
20	.1610	2-1/8	3-1/4	80220	80380	85074
19	.1660	2-1/8	3-1/4	80219	80379	85073
18	.1695	2-1/8	3-1/4	80218	80378	85072
17	.1730	2-3/16	3-3/8	80217	80377	85071
16	.1770	2-3/16	3-3/8	80216	80376	85070
15	.1800	2-3/16	3-3/8	80215	80375	85069
14	.1820	2-3/16	3-3/8	80214	80374	85068
13	.1850	2-5/16	3-1/2	80213	80373	85067
12	.1890	2-5/16	3-1/2	80212	80372	85066
11	.1910	2-5/16	3-1/2	80211	80371	85065
10	.1935	2-7/16	3-5/8	80210	80370	85064
9	.1960	2-7/16	3-5/8	80209	80369	85063
8	.1990	2-7/16	3-5/8	80208	80368	85062
7	.2010	2-7/16	3-5/8	80207	80367	85061
6	.2040	2-1/2	3-3/4	80206	80366	85060
5	.2055	2-1/2	3-3/4	80205	80365	85059
4	.2090	2-1/2	3-3/4	80204	80364	85058
3	.2130	2-1/2	3-3/4	80203	80363	85057
2	.2210	2-5/8	3-7/8	80202	80362	85056
1	.2280	2-5/8	3-7/8	80201	80361	85055

DRILLS - METALWORKING

Metric Jobber Length Drills

Straight Shank - High Speed Steel

118° Point - General Purpose

Designed for drilling of a wide variety of materials.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.



BLACK OXIDE TREATED
List No. 333QI

IMPORT

STANDARD PACKAGE

1.0mm thru 9.5mm - 12 each
9.6mm thru 13.0mm - 6 each

LIST NO. 333QI

METRIC SIZES

SIZE MM	DECIMAL EQUIV.	FLUTE LENGTH		OAL		EDP NO.
		MM	IN.	MM	IN.	
1.00	.0394	17	11/16	41	1-5/8	85115
1.05	.0413	17	11/16	41	1-5/8	85116
1.10	.0433	19	3/4	44	1-3/4	85117
1.15	.0453	19	3/4	44	1-3/4	85118
1.20	.0472	22	7/8	48	1-7/8	85119
1.25	.0492	22	7/8	48	1-7/8	85120
1.30	.0512	22	7/8	48	1-7/8	85121
1.35	.0531	22	7/8	48	1-7/8	85122
1.40	.0551	22	7/8	48	1-7/8	85123
1.45	.0571	22	7/8	48	1-7/8	85124
1.50	.0591	22	7/8	48	1-7/8	85125
1.55	.0610	22	7/8	48	1-7/8	85126
1.60	.0630	22	7/8	48	1-7/8	85127
1.65	.0650	25	1	51	2	85128
1.70	.0669	25	1	51	2	85129
1.75	.0689	25	1	51	2	85130
1.80	.0709	25	1	51	2	85131
1.85	.0728	25	1	51	2	85132
1.90	.0748	25	1	51	2	85133
2.00	.0787	25	1	51	2	85134
2.10	.0827	29	1-5/32	54	2-1/8	85135
2.15	.0846	29	1-5/32	54	2-1/8	85136
2.20	.0866	32	1-1/4	57	2-1/4	85137
2.25	.0886	32	1-1/4	57	2-1/4	85138
2.30	.0906	32	1-1/4	57	2-1/4	85139
2.35	.0925	32	1-1/4	57	2-1/4	85140
2.40	.0945	35	1-3/8	60	2-23/64	85141

METRIC SIZES

SIZE MM	DECIMAL EQUIV.	FLUTE LENGTH		OAL		EDP NO.
		MM	IN.	MM	IN.	
2.45	.0965	35	1-3/8	60	2-23/64	85142
2.50	.0984	35	1-3/8	60	2-23/64	85143
2.60	.1024	37	1-15/32	64	2-1/2	85144
2.70	.1063	37	1-15/32	64	2-1/2	85145
2.80	.1102	38	1-1/2	67	2-5/8	85146
2.90	.1142	41	1-5/8	70	2-3/4	85147
3.00	.1181	41	1-5/8	70	2-3/4	85148
3.10	.1220	41	1-5/8	70	2-3/4	85149
3.20	.1260	41	1-5/8	70	2-3/4	85150
3.30	.1299	45	1-3/4	73	2-7/8	85151
3.40	.1339	45	1-3/4	73	2-7/8	85152
3.50	.1378	45	1-3/4	73	2-7/8	85153
3.60	.1417	48	1-7/8	76	3	85154
3.70	.1457	48	1-7/8	76	3	85155
3.80	.1496	48	1-7/8	76	3	85156
3.90	.1535	51	2	79	3-1/8	85157
4.00	.1575	54	2-1/8	83	3-1/4	85158
4.10	.1614	54	2-1/8	83	3-1/4	85159
4.20	.1654	54	2-1/8	83	3-1/4	85160
4.30	.1693	54	2-1/8	83	3-1/4	85161
4.40	.1732	56	2-13/64	86	3-3/8	85162
4.50	.1772	56	2-13/64	86	3-3/8	85163
4.60	.1811	56	2-13/64	86	3-3/8	85164
4.70	.1850	59	2-21/64	89	3-1/2	85165
4.80	.1890	59	2-21/64	89	3-1/2	85166
4.90	.1929	62	2-7/16	92	3-5/8	85167
5.00	.1969	62	2-7/16	92	3-5/8	85168

(continued)

DRILLS - METALWORKING

Metric Jobber Length Drills

Straight Shank - High Speed Steel

118° Point - General Purpose

Designed for drilling of a wide variety of materials.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.



BLACK OXIDE TREATED
List No. 333QI

IMPORT

STANDARD PACKAGE

1.0mm thru 9.5mm - 12 each
9.6mm thru 13.0mm - 6 each

LIST NO. 333QI

(continued)

METRIC SIZES

SIZE MM	DECIMAL EQUIV.	FLUTE LENGTH		OAL		EDP NO.
		MM	IN.	MM	IN.	
5.10	.2008	62	2-7/16	92	3-5/8	85169
5.20	.2047	64	2-1/2	95	3-3/4	85170
5.30	.2087	64	2-1/2	95	3-3/4	85171
5.40	.2126	64	2-1/2	95	3-3/4	85172
5.50	.2165	64	2-1/2	95	3-3/4	85223
5.60	.2205	67	2-5/8	98	3-7/8	85173
5.70	.2244	67	2-5/8	98	3-7/8	85174
5.80	.2283	67	2-5/8	98	3-7/8	85175
5.90	.2323	67	2-5/8	98	3-7/8	85176
6.00	.2362	70	2-3/4	102	4	85177
6.10	.2402	70	2-3/4	102	4	85178
6.20	.2441	70	2-3/4	102	4	85179
6.30	.2480	70	2-3/4	102	4	85180
6.40	.2520	73	2-7/8	105	4-1/8	85181
6.50	.2559	73	2-7/8	105	4-1/8	85182
6.60	.2598	73	2-7/8	105	4-1/8	85183
6.70	.2638	73	2-7/8	105	4-1/8	85184
6.80	.2677	73	2-7/8	105	4-1/8	85185
6.90	.2717	73	2-7/8	105	4-1/8	85186
7.00	.2756	73	2-7/8	105	4-1/8	85187
7.10	.2795	75	2-61/64	108	4-1/4	85188
7.20	.2835	75	2-61/64	108	4-1/4	85189
7.30	.2874	75	2-61/64	108	4-1/4	85190
7.40	.2913	78	3	111	4-3/8	85191
7.50	.2953	78	3	111	4-3/8	85192
7.60	.2992	78	3	111	4-3/8	85193
7.70	.3031	81	3-3/16	114	4-1/2	85194
7.80	.3071	81	3-3/16	114	4-1/2	85195

METRIC SIZES

SIZE MM	DECIMAL EQUIV.	FLUTE LENGTH		OAL		EDP NO.
		MM	IN.	MM	IN.	
7.90	.3110	81	3-3/16	114	4-1/2	85196
8.00	.3150	81	3-3/16	114	4-1/2	85197
8.10	.3189	84	3-5/16	117	4-9/16	85198
8.20	.3228	84	3-5/16	117	4-9/16	85199
8.30	.3268	84	3-5/16	117	4-9/16	85200
8.40	.3307	87	3-27/64	121	4-3/4	85201
8.50	.3346	87	3-27/64	121	4-3/4	85202
8.60	.3386	87	3-27/64	121	4-3/4	85203
8.70	.3425	87	3-27/64	121	4-3/4	85204
8.80	.3465	89	3-1/2	124	4-7/8	85205
8.90	.3504	89	3-1/2	124	4-7/8	85206
9.00	.3543	89	3-1/2	124	4-7/8	85207
9.10	.3583	89	3-1/2	124	4-7/8	85208
9.20	.3622	92	3-5/8	127	5	85209
9.30	.3661	92	3-5/8	127	5	85210
9.40	.3701	92	3-5/8	127	5	85211
9.50	.3740	92	3-5/8	127	5	85212
9.60	.3780	95	3-3/4	130	5-1/8	85213
9.70	.3819	95	3-3/4	130	5-1/8	85214
9.80	.3898	95	3-3/4	130	5-1/8	85215
10.00	.3937	95	3-3/4	130	5-1/8	85216
10.50	.4134	98	3-55/64	133	5-1/4	85217
11.00	.4331	103	4-1/16	140	5-1/2	85218
11.50	.4528	106	4-7/32	143	5-5/8	85219
12.00	.4724	111	4-3/8	149	5-7/8	85220
12.50	.4921	114	4-1/2	152	6	85221
13.00	.5118	114	4-1/2	152	6	85222

DRILLS - METALWORKING

Aircraft Type B Heavy Duty Jobber Length Drills

Straight Shank - High Speed Steel
135° Split Point - Black Oxide Treated



135° Self-centering split point eliminates "walking" and reduces thrust. Recommended for a wide variety of low to medium tensile strength materials.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention

List No. 385

MADE IN USA

List No. 385QI

IMPORT

STANDARD PACKAGE

Fractional Sizes

Sizes 1/16" thru 3/8" — 12 each
Sizes 25/64" thru 1/2" — 6 each

Letter Sizes

Sizes A-V — 12 each
Sizes W-Z — 6 each

LIST NO. 385 & 385QI

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				385	385QI
1/16	.0625	7/8	1-7/8	80444	86060
5/64	.0781	1	2	80445	86061
3/32	.0937	1-1/4	2-1/4	80446	86062
7/64	.1094	1-1/2	2-5/8	80447	86063
1/8	.1250	1-5/8	2-3/4	80448	86064
9/64	.1406	1-3/4	2-7/8	80449	86065
5/32	.1562	2	3-1/8	80450	86066
11/64	.1719	2-1/8	3-1/4	80451	86067
3/16	.1875	2-5/16	3-1/2	80452	86068
13/64	.2031	2-7/16	3-5/8	80453	86069
7/32	.2187	2-1/2	3-3/4	80454	86070
15/64	.2344	2-5/8	3-7/8	80455	86071
1/4	.2500	2-3/4	4	80456	86072
17/64	.2656	2-7/8	4-1/8	80457	86073
9/32	.2812	2-15/16	4-1/4	80458	86074
19/64	.2969	3-1/16	4-3/8	80459	86075
5/16	.3125	3-3/16	4-1/2	80460	86076
21/64	.3281	3-5/16	4-5/8	80461	86077
11/32	.3437	3-7/16	4-3/4	80462	86078
23/64	.3594	3-1/2	4-7/8	80463	86079
3/8	.3750	3-5/8	5	80464	86080
25/64	.3906	3-3/4	5-1/8	80465	86081
13/32	.4062	3-7/8	5-1/4	80466	86082
27/64	.4219	3-15/16	5-3/8	80467	86083
7/16	.4375	4-1/16	5-1/2	80468	86084
29/64	.4531	4-3/16	5-5/8	80469	86085
15/32	.4687	4-5/16	5-3/4	80470	86086
31/64	.4844	4-3/8	5-7/8	80471	86087
1/2	.5000	4-1/2	6	80472	86088

LIST NO. 385QI

LETTER SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO. 385QI
A	.2340	2-5/8	3-7/8	86089
B	.2380	2-3/4	4	86090
C	.2420	2-3/4	4	86091
D	.2460	2-3/4	4	86092
1/4-E	.2500	2-3/4	4	86072
F	.2570	2-7/8	4-1/8	86093
G	.2610	2-7/8	4-1/8	86094
H	.2660	2-7/8	4-1/8	86095
I	.2720	2-7/8	4-1/8	86096
J	.2770	2-7/8	4-1/8	86097
K	.2810	2-15/16	4-1/4	86098
L	.2900	2-15/16	4-1/4	86099
M	.2950	3-1/16	4-3/8	86100
N	.3020	3-1/16	4-3/8	86101
O	.3160	3-3/16	4-1/2	86102
P	.3230	3-5/16	4-5/8	86103
Q	.3320	3-7/16	4-3/4	86104
R	.3390	3-7/16	4-3/4	86105
S	.3480	3-1/2	4-7/8	86106
T	.3580	3-1/2	4-7/8	86107
U	.3680	3-5/8	5	86108
V	.3770	3-5/8	5	86109
W	.3860	3-3/4	5-1/8	86110
X	.3970	3-3/4	5-1/8	86111
Y	.4040	3-7/8	5-1/4	86112
Z	.4130	3-7/8	5-1/4	86113

DRILLS - METALWORKING

Aircraft Type B Heavy Duty Jobber Length Drills

Straight Shank – High Speed Steel

135° Split Point – Black Oxide Treated



135° Self-centering split point eliminates “walking” and reduces thrust. Recommended for a wide variety of low to medium tensile strength materials.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention

List No. 385QI

IMPORT

STANDARD PACKAGE

Wire Gage Sizes

#1 thru #60 — 12 each

LIST NO. 385QI

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO. 385QI
60	.0400	11/16	1-5/8	86114*
59	.0410	11/16	1-5/8	86115*
58	.0420	11/16	1-5/8	86116*
57	.0430	3/4	1-3/4	86117*
56	.0465	3/4	1-3/4	86118*
55	.0520	7/8	1-7/8	86119*
54	.0550	7/8	1-7/8	86120*
53	.0595	7/8	1-7/8	86121*
52	.0635	7/8	1-7/8	86122
51	.0670	1	2	86123
50	.0700	1	2	86124
49	.0730	1	2	86125
48	.0760	1	2	86126
47	.0785	1	2	86127
46	.0810	1-1/8	2-1/8	86128
45	.0820	1-1/8	2-1/8	86129
44	.0860	1-1/8	2-1/8	86130
43	.0890	1-1/4	2-1/4	86131
42	.0935	1-1/4	2-1/4	86132
41	.0960	1-3/8	2-3/8	86133
40	.0980	1-3/8	2-3/8	86134
39	.0995	1-3/8	2-3/8	86135
38	.1015	1-7/16	2-1/2	86136
37	.1040	1-7/16	2-1/2	86137
36	.1065	1-7/16	2-1/2	86138
35	.1100	1-1/2	2-5/8	86139
34	.1110	1-1/2	2-5/8	86140
33	.1130	1-1/2	2-5/8	86141
32	.1160	1-5/8	2-3/4	86142
31	.1200	1-5/8	2-3/4	86143

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO. 385QI
30	.1285	1-5/8	2-3/4	86144
29	.1360	1-3/4	2-7/8	86145
28	.1405	1-3/4	2-7/8	86146
27	.1440	1-7/8	3	86147
26	.1470	1-7/8	3	86148
25	.1495	1-7/8	3	86149
24	.1520	2	3-1/8	86150
23	.1540	2	3-1/8	86151
22	.1570	2	3-1/8	86152
21	.1590	2-1/8	3-1/4	86153
20	.1610	2-1/8	3-1/4	86154
19	.1660	2-1/8	3-1/4	86155
18	.1695	2-1/8	3-1/4	86156
17	.1730	2-3/16	3-3/8	86157
16	.1770	2-3/16	3-3/8	86158
15	.1800	2-3/16	3-3/8	86159
14	.1820	2-3/16	3-3/8	86160
13	.1850	2-5/16	3-1/2	86161
12	.1890	2-5/16	3-1/2	86162
11	.1910	2-5/16	3-1/2	86163
10	.1935	2-7/16	3-5/8	86164
9	.1960	2-7/16	3-5/8	86165
8	.1990	2-7/16	3-5/8	86166
7	.2010	2-7/16	3-5/8	86167
6	.2040	2-1/2	3-3/4	86168
5	.2055	2-1/2	3-3/4	86169
4	.2090	2-1/2	3-3/4	86170
3	.2130	2-1/2	3-3/4	86171
2	.2210	2-5/8	3-7/8	86172
1	.2280	2-5/8	3-7/8	86173

*Sizes #53 and smaller furnished with 135° regular point.

DRILLS - METALWORKING

MARXBORE™ Heavy Duty Jobber Length Drills

Straight Shank – High Speed Steel
135° Split Point – Heavy Duty

135° Self-centering split point eliminates “walking” and reduces thrust. Recommended for a wide variety of low to medium tensile strength materials.

STANDARD PACKAGE

Fractional Sizes

Sizes 1/16" thru 3/8" — 12 ea.
Sizes 25/64" thru 1/2" — 6 ea.

Letter Sizes

Sizes A-V — 12 each
Sizes W-Z — 6 each

LIST NO. 384, 384QI & 387QI

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	384 EDP NO.	384QI EDP NO.	387QI EDP NO.
1/16	.0625	7/8	1-7/8	80590	87950	-
5/64	.0781	1	2	80591	87951	-
3/32	.0938	1-1/4	2-1/4	80592	87952	-
7/64	.1094	1-1/2	2-5/8	80593	87953	-
1/8	.1250	1-5/8	2-3/4	80594	87954	-
9/64	.1406	1-3/4	2-7/8	80595	87955	-
5/32	.1562	2	3-1/8	80596	87956	-
11/64	.1719	2-1/8	3-1/4	80597	87957	-
3/16	.1875	2-5/16	3-1/2	80598	87958	88113
13/64	.2031	2-7/16	3-5/8	80599	87959	88114
7/32	.2188	2-1/2	3-3/4	80600	87960	88115
15/64	.2344	2-5/8	3-7/8	80601	87961	88116
1/4-E	.2500	2-3/4	4	80602	87962	88117
17/64	.2656	2-7/8	4-1/8	80603	87963	88118
9/32	.2812	2-15/16	4-1/4	80604	87964	88119
19/64	.2969	3-1/16	4-3/8	80605	87965	88120
5/16	.3125	3-3/16	4-1/2	80606	87966	88121
21/64	.3281	3-5/16	4-5/8	80607	87967	88122
11/32	.3438	3-7/16	4-3/4	80608	87968	88123
23/64	.3594	3-1/2	4-7/8	80609	87969	88124
3/8	.3750	3-5/8	5	80610	87970	88125
25/64	.3906	3-3/4	5-1/8	80611	87971	88126
13/32	.4062	3-7/8	5-1/4	80612	87972	88127
27/64	.4219	3-15/16	5-3/8	80613	87973	88128
7/16	.4375	4-1/16	5-1/2	80614	87974	88129
29/64	.4531	4-3/16	5-5/8	80615	87975	88130
15/32	.4688	4-5/16	5-3/4	80616	87976	88131
31/64	.4844	4-3/8	5-7/8	80617	87977	88132
1/2	.5000	4-1/2	6	80618	87978	88133



Gold & Black Finish

List No. 384
Round Shank

MADE IN USA

List No. 384QI
Round Shank

IMPORT

List No. 387QI
3-FLAT SHANK

IMPORT

3-Flat Shank features 3-flats on the shank to eliminate slipping in the drill chuck.

LIST NO. 384 & 384QI

LETTER SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	384 EDP NO.	384QI EDP NO.
A	.2340	2-5/8	3-7/8	80619	87980
B	.2380	2-3/4	4	80620	87981
C	.2420	2-3/4	4	80621	87982
D	.2460	2-3/4	4	80622	87983
1/4-E	.2500	2-3/4	4	80602	87962
F	.2570	2-7/8	4-1/8	80624	87984
G	.2610	2-7/8	4-1/8	80625	87985
H	.2660	2-7/8	4-1/8	80626	87986
I	.2720	2-7/8	4-1/8	80627	87987
J	.2770	2-7/8	4-1/8	80628	87988
K	.2810	2-15/16	4-1/4	80629	87989
L	.2900	2-15/16	4-1/4	80630	87990
M	.2950	3-1/16	4-3/8	80631	87991
N	.3020	3-1/16	4-3/8	80632	87992
O	.3160	3-3/16	4-1/2	80633	87993
P	.3230	3-5/16	4-5/8	80634	87994
Q	.3320	3-7/16	4-3/4	80635	87995
R	.3390	3-7/16	4-3/4	80636	87996
S	.3480	3-1/2	4-7/8	80637	87997
T	.3580	3-1/2	4-7/8	80638	87998
U	.3680	3-5/8	5	80639	87999
V	.3770	3-5/8	5	80640	88000
W	.3860	3-3/4	5-1/8	80641	88001
X	.3970	3-3/4	5-1/8	80642	88002
Y	.4040	3-7/8	5-1/4	80643	88003
Z	.4130	3-7/8	5-1/4	80644	88004

DRILLS - METALWORKING

MARXBORE™ Heavy Duty Jobber Length Drills

Straight Shank – High Speed Steel
135° Split Point – Heavy Duty

135° Self-centering split point eliminates “walking” and reduces thrust. Recommended for a wide variety of low to medium tensile strength materials.



Gold & Black Finish

List No. 384

MADE IN USA

List No. 384QI

IMPORT

STANDARD PACKAGE

Wire Gage Sizes
#1 thru #60 — 12 each

LIST NO. 384 & 384QI

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	384 EDP NO.	384QI EDP NO.
60	.0400	11/16	1-5/8	80704*	88005*
59	.0410	11/16	1-5/8	80703*	88006*
58	.0420	11/16	1-5/8	80702*	88007*
57	.0430	3/4	1-3/4	80701*	88008*
56	.0465	3/4	1-3/4	80700*	88009*
55	.0520	7/8	1-7/8	80699*	88010*
54	.0550	7/8	1-7/8	80698*	88011*
53	.0595	7/8	1-7/8	80697*	88012*
52	.0635	7/8	1-7/8	80696	88013
51	.0670	1	2	80695	88014
50	.0700	1	2	80694	88015
49	.0730	1	2	80693	88016
48	.0760	1	2	80692	88017
47	.0785	1	2	80691	88018
46	.0810	1-1/8	2-1/8	80690	88019
45	.0820	1-1/8	2-1/8	80689	88020
44	.0860	1-1/8	2-1/8	80688	88021
43	.0890	1-1/4	2-1/4	80687	88022
42	.0935	1-1/4	2-1/4	80686	88023
41	.0960	1-3/8	2-3/8	80685	88024
40	.0980	1-3/8	2-3/8	80684	88025
39	.0995	1-3/8	2-3/8	80683	88026
38	.1015	1-7/16	2-1/2	80682	88027
37	.1040	1-7/16	2-1/2	80681	88028
36	.1065	1-7/16	2-1/2	80680	88029
35	.1100	1-1/2	2-5/8	80679	88030
34	.1110	1-1/2	2-5/8	80678	88031
33	.1130	1-1/2	2-5/8	80677	88032
32	.1160	1-5/8	2-3/4	80676	88033
31	.1200	1-5/8	2-3/4	80675	88034

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	384 EDP NO.	384QI EDP NO.
30	.1285	1-5/8	2-3/4	80674	88035
29	.1360	1-3/4	2-7/8	80673	88036
28	.1405	1-3/4	2-7/8	80672	88037
27	.1440	1-7/8	3	80671	88038
26	.1470	1-7/8	3	80670	88039
25	.1495	1-7/8	3	80669	88040
24	.1520	2	3-1/8	80668	88041
23	.1540	2	3-1/8	80667	88042
22	.1570	2	3-1/8	80666	88043
21	.1590	2-1/8	3-1/4	80665	88044
20	.1610	2-1/8	3-1/4	80664	88045
19	.1660	2-1/8	3-1/4	80663	88046
18	.1695	2-1/8	3-1/4	80662	88047
17	.1730	2-3/16	3-3/8	80661	88048
16	.1770	2-3/16	3-3/8	80660	88049
15	.1800	2-3/16	3-3/8	80659	88050
14	.1820	2-3/16	3-3/8	80658	88051
13	.1850	2-5/16	3-1/2	80657	88052
12	.1890	2-5/16	3-1/2	80656	88053
11	.1910	2-5/16	3-1/2	80655	88054
10	.1935	2-7/16	3-5/8	80654	88055
9	.1960	2-7/16	3-5/8	80653	88056
8	.1990	2-7/16	3-5/8	80652	88057
7	.2010	2-7/16	3-5/8	80651	88058
6	.2040	2-1/2	3-3/4	80650	88059
5	.2055	2-1/2	3-3/4	80649	88060
4	.2090	2-1/2	3-3/4	80648	88061
3	.2130	2-1/2	3-3/4	80647	88062
2	.2210	2-5/8	3-7/8	80646	88063
1	.2280	2-5/8	3-7/8	80645	88064

*Sizes #53 and smaller furnished with 135° regular point.

DRILLS - METALWORKING

MARXBORE™ Heavy Duty Jobber Length Drills

Straight Shank – High Speed Steel
135° Split Point – Heavy Duty

135° Self-centering split point eliminates “walking” and reduces thrust. Recommended for a wide variety of low to medium tensile strength materials.



Gold & Black Finish

List No. 334

MADE IN USA

Metric Sizes

1.0mm thru 9.5mm — 12 each

10mm thru 13.0mm — 6 each

LIST NO. 334

METRIC SIZES

SIZE MM	DECIMAL EQUIV.	FLUTE LENGTH		OAL		EDP NO.
		MM	IN.	MM	IN.	
1.00	.0394	12	15/32	34	1-21/64	87610*
1.50	.0591	18	45/65	40	1-9/16	87611*
1.60	.0630	20	25/32	43	1-11/16	87612
1.80	.0709	22	55/64	46	1-51/64	87613
2.00	.0787	24	15/16	49	1-59/64	87614
2.05	.0807	24	15/16	49	1-59/64	87615
2.10	.0827	24	15/16	49	1-59/64	87616
2.30	.0906	27	1-1/16	53	2-5/64	87617
2.40	.0945	30	1-11/64	57	2-15/64	87618
2.50	.0984	30	1-11/64	57	2-15/64	87619
2.60	.1024	30	1-11/64	57	2-15/64	87620
2.90	.1142	33	1-19/64	61	2-25/64	87621
3.00	.1181	33	1-19/64	61	2-25/64	87622
3.10	.1220	36	1-13/32	65	2-35/64	87623
3.20	.1260	36	1-13/32	65	2-35/64	87624
3.30	.1299	36	1-13/32	65	2-35/64	87625
3.40	.1339	39	1-17/32	70	2-3/4	87626
3.50	.1378	39	1-17/32	70	2-3/4	87627
4.00	.1575	43	1-11/16	75	2-61/64	87628
4.10	.1614	43	1-11/16	75	2-61/64	87629
4.20	.1654	43	1-11/16	75	2-61/64	87630
4.50	.1772	47	1-27/32	80	3-9/64	87631
4.80	.1890	52	2-3/64	86	3-3/8	87632

*Sizes 1.5mm and smaller furnished with 135° regular point.

METRIC SIZES

SIZE MM	DECIMAL EQUIV.	FLUTE LENGTH		OAL		EDP NO.
		MM	IN.	MM	IN.	
5.00	.1969	52	2-3/64	86	3-3/8	87633
5.10	.2008	52	2-3/64	86	3-3/8	87634
5.20	.2047	52	2-3/64	86	3-3/8	87635
5.50	.2165	57	2-15/64	93	3-21/32	87636
6.00	.2362	57	2-15/64	93	3-21/32	87637
6.40	.2520	63	2-15/32	101	3-31/32	87638
6.50	.2559	63	2-15/32	101	3-31/32	87639
6.70	.2638	63	2-15/32	101	3-31/32	87640
6.80	.2677	69	2-23/32	109	4-9/32	87641
7.00	.2756	69	2-23/32	109	4-9/32	87642
7.50	.2953	69	2-23/32	109	4-9/32	87643
8.00	.3150	75	2-61/64	117	4-19/32	87644
8.50	.3346	75	2-61/64	117	4-19/32	87645
9.00	.3543	81	3-3/16	125	4-59/64	87646
9.50	.3740	81	3-3/16	125	4-59/64	87647
10.00	.3937	87	3-27/64	133	5-15/64	87648
10.20	.4016	87	3-27/64	133	5-15/64	87649
10.50	.4134	87	3-27/64	133	5-15/64	87650
11.00	.4331	94	3-45/64	142	5-37/64	87651
11.50	.4528	94	3-45/64	142	5-37/64	87652
12.00	.4724	101	3-31/32	151	5-15/16	87653
12.50	.4921	101	3-31/32	151	5-15/16	87654
13.00	.5118	101	3-31/32	151	5-15/16	87655

DRILLS - METALWORKING

MARXBORE™ Wide Land Parabolic Flute Heavy Duty Jobber Length Drills

Straight Shank – High Speed Steel
135° Split Point – Heavy Duty

135° Self-centering split point eliminates “walking” and reduces thrust. **Parabolic Flute** design enhances chip flow, coolant flow and heat dissipation especially in deeper drilling applications. **Wide Land Parabolic Flute** recommended for a wide range of material types.

LIST NO. 355

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
1/16	.0625	7/8	1-7/8	87300
5/64	.0781	1	2	87301
3/32	.0937	1-1/4	2-1/4	87302
7/64	.1094	1-1/2	2-5/8	87303
1/8	.1250	1-5/8	2-3/4	87304
9/64	.1406	1-3/4	2-7/8	87305
5/32	.1562	2	3-1/8	87306
11/64	.1719	2-1/8	3-1/4	87307
3/16	.1875	2-5/16	3-1/2	87308
13/64	.2031	2-7/16	3-5/8	87309
7/32	.2187	2-1/2	3-3/4	87310
15/64	.2344	2-5/8	3-7/8	87311
1/4	.2500	2-3/4	4	87312
17/64	.2656	2-7/8	4-1/8	87313
9/32	.2812	2-15/16	4-1/4	87314



List No. 355 — Gold & Black Finish
Wide Land Parabolic Flute

MADE IN USA

STANDARD PACKAGE

Fractional Sizes

1/16" thru 3/8" — 12 each
25/64" thru 1/2" — 6 each

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
19/64	.2969	3-1/16	4-3/8	87315
5/16	.3125	3-3/16	4-1/2	87316
21/64	.3281	3-5/16	4-5/8	87317
11/32	.3437	3-7/16	4-3/4	87318
23/64	.3594	3-1/2	4-7/8	87319
3/8	.3750	3-5/8	5	87320
25/64	.3906	3-3/4	5-1/8	87321
13/32	.4062	3-7/8	5-1/4	87322
27/64	.4219	3-15/16	5-3/8	87323
7/16	.4375	4-1/16	5-1/2	87324
29/64	.4531	4-3/16	5-5/8	87325
15/32	.4687	4-5/16	5-3/4	87326
31/64	.4844	4-3/8	5-7/8	87327
1/2	.5000	4-1/2	6	87328

Left Hand Jobber Length Drills

Straight Shank – High Speed Steel
118° Point

Used extensively in screw machine operations and in close center multiple spindle gear driven drilling heads where adjacent spindles operate alternately right and left hand.

LIST NO. 330L

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
1/16	.0625	7/8	1-7/8	81651
5/64	.0781	1	2	81652
3/32	.0937	1-1/4	2-1/4	81653
7/64	.1094	1-1/2	2-5/8	81654
1/8	.1250	1-5/8	2-3/4	81655
9/64	.1406	1-3/4	2-7/8	81656
5/32	.1562	2	3-1/8	81657
11/64	.1719	2-1/8	3-1/4	81658
3/16	.1875	2-5/16	3-1/2	81659
13/64	.2031	2-7/16	3-5/8	81660
7/32	.2187	2-1/2	3-3/4	81661
15/64	.2344	2-5/8	3-7/8	81662
1/4	.2500	2-3/4	4	81663
17/64	.2656	2-7/8	4-1/8	81664
9/32	.2812	2-15/16	4-1/4	81665



List No. 330L

MADE IN USA

STANDARD PACKAGE

Fractional Sizes

1/16" thru 3/8" — 12 each
25/64" thru 1/2" — 6 each

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
19/64	.2969	3-1/16	4-3/8	81666
5/16	.3125	3-3/16	4-1/2	81667
21/64	.3281	3-5/16	4-5/8	81668
11/32	.3437	3-7/16	4-3/4	81669
23/64	.3594	3-1/2	4-7/8	81670
3/8	.3750	3-5/8	5	81671
25/64	.3906	3-3/4	5-1/8	81672
13/32	.4062	3-7/8	5-1/4	81673
27/64	.4219	3-15/16	5-3/8	81674
7/16	.4375	4-1/16	5-1/2	81675
29/64	.4531	4-3/16	5-5/8	81676
15/32	.4687	4-5/16	5-3/4	81677
31/64	.4844	4-3/8	5-7/8	81678
1/2	.5000	4-1/2	6	81679

DRILLS - METALWORKING

TiN Coated Jobber Length Drills Straight Shank - High Speed Steel 118° Point - General Purpose



TiN COATED

MADE IN USA

List No. 330G

Designed for drilling of a wide variety of materials.

Titanium Nitride (TiN) Coating increases tool surface hardness, wear resistance, heat resistance, chip flow and resists chip welding. Enhanced hole quality and higher speeds.

STANDARD PACKAGE

Fractional Sizes

Sizes 1/16" thru 3/8" - 12 each

Sizes 25/64" thru 1/2" - 6 each

Letter Sizes

Sizes A thru V - 12 each

Sizes W thru Z - 6 each

LIST NO. 330G

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
1/16	.0625	7/8	1-7/8	80475
5/64	.0781	1	2	80476
3/32	.0937	1-1/4	2-1/4	80477
7/64	.1094	1-1/2	2-5/8	80478
1/8	.1250	1-5/8	2-3/4	80479
9/64	.1406	1-3/4	2-7/8	80480
5/32	.1562	2	3-1/8	80481
11/64	.1719	2-1/8	3-1/4	80482
3/16	.1875	2-5/16	3-1/2	80483
13/64	.2031	2-7/16	3-5/8	80484
7/32	.2187	2-1/2	3-3/4	80485
15/64	.2344	2-5/8	3-7/8	80486
1/4-E	.2500	2-3/4	4	80487
17/64	.2656	2-7/8	4-1/8	80488
9/32	.2812	2-15/16	4-1/4	80489
19/64	.2969	3-1/16	4-3/8	80490
5/16	.3125	3-3/16	4-1/2	80491
21/64	.3281	3-5/16	4-5/8	80492
11/32	.3437	3-7/16	4-3/4	80493
23/64	.3594	3-1/2	4-7/8	80494
3/8	.3750	3-5/8	5	80495
25/64	.3906	3-3/4	5-1/8	80496
13/32	.4062	3-7/8	5-1/4	80497
27/64	.4219	3-15/16	5-3/8	80498
7/16	.4375	4-1/16	5-1/2	80499
29/64	.4531	4-3/16	5-3/8	80500
15/32	.4687	4-5/16	5-3/4	80501
31/64	.4844	4-3/8	5-7/8	80502
1/2	.5000	4-1/2	6	80503

LETTER SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
A	.2349	2-5/8	3-7/8	80504
B	.2380	2-3/4	4	80505
C	.2420	2-3/4	4	80506
D	.2460	2-3/4	4	80507
1/4-E	.2500	2-3/4	4	80487
F	.2570	2-7/8	4-1/8	80509
G	.2610	2-7/8	4-1/8	80510
H	.2660	2-7/8	4-1/8	80511
I	.2720	2-7/8	4-1/8	80512
J	.2770	2-7/8	4-1/8	80513
K	.2810	2-15/16	4-1/4	80514
L	.2900	2-15/16	4-1/4	80515
M	.2950	3-1/16	4-3/8	80516
N	.3020	3-1/16	4-3/8	80517
O	.3160	3-3/16	4-1/2	80518
P	.3230	3-5/16	4-5/8	80519
Q	.3320	3-7/16	4-3/4	80520
R	.3390	3-7/16	4-3/4	80521
S	.3480	3-1/2	4-7/8	80522
T	.3580	3-1/2	4-7/8	80523
U	.3680	3-5/8	5	80524
V	.3770	3-5/8	5	80525
W	.3860	3-3/4	5-1/8	80526
X	.3970	3-3/4	5-1/8	80527
Y	.4040	3-7/8	5-1/4	80528
Z	.4130	3-7/8	5-1/4	80529

DRILLS - METALWORKING

TiN Coated Jobber Length Drills Straight Shank - High Speed Steel 118° Point - General Purpose



TiN COATED
List No. 330G

MADE IN USA

STANDARD PACKAGE

Wire Gage Sizes
#1 thru #60 - 12 each

Designed for drilling of a wide variety of materials.

Titanium Nitride (TiN) Coating increases tool surface hardness, wear resistance, heat resistance, chip flow and resists chip welding. Enhanced hole quality and higher speeds.

LIST NO. 330G

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
60	.0400	11/16	1-5/8	80530
59	.0410	11/16	1-5/8	80531
58	.0420	11/16	1-5/8	80532
57	.0430	3/4	1-3/4	80533
56	.0465	3/4	1-3/4	80534
55	.0520	7/8	1-7/8	80535
54	.0550	7/8	1-7/8	80536
53	.0595	7/8	1-7/8	80537
52	.0635	7/8	1-7/8	80538
51	.0670	1	2	80539
50	.0700	1	2	80540
49	.0730	1	2	80541
48	.0760	1	2	80542
47	.0785	1	2	80543
46	.0810	1-1/8	2-1/8	80544
45	.0820	1-1/8	2-1/8	80545
44	.0860	1-1/8	2-1/8	80546
43	.0890	1-1/4	2-1/4	80547
42	.0935	1-1/4	2-1/4	80548
41	.0960	1-3/8	2-3/8	80549
40	.0980	1-3/8	2-3/8	80550
39	.0995	1-3/8	2-3/8	80551
38	.1015	1-7/16	2-1/2	80552
37	.1040	1-7/16	2-1/2	80553
36	.1065	1-7/16	2-1/2	80554
35	.1100	1-1/2	2-5/8	80555
34	.1110	1-1/2	2-5/8	80556
33	.1130	1-1/2	2-5/8	80557
32	.1160	1-5/8	2-3/4	80558
31	.1200	1-5/8	2-3/4	80559

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
30	.1285	1-5/8	2-3/4	80560
29	.1360	1-3/4	2-7/8	80561
28	.1405	1-3/4	2-7/8	80562
27	.1440	1-7/8	3	80563
26	.1470	1-7/8	3	80564
25	.1495	1-7/8	3	80565
24	.1520	2	3-1/8	80566
23	.1540	2	3-1/8	80567
22	.1570	2	3-1/8	80568
21	.1590	2-1/8	3-1/4	80569
20	.1610	2-1/8	3-1/4	80570
19	.1660	2-1/8	3-1/4	80571
18	.1695	2-1/8	3-1/4	80572
17	.1730	2-3/16	3-3/8	80573
16	.1770	2-3/16	3-3/8	80574
15	.1800	2-3/16	3-3/8	80575
14	.1820	2-3/16	3-3/8	80576
13	.1850	2-5/16	3-1/2	80577
12	.1890	2-5/16	3-1/2	80578
11	.1910	2-5/16	3-1/2	80579
10	.1935	2-7/16	3-5/8	80580
9	.1960	2-7/16	3-5/8	80581
8	.1990	2-7/16	3-5/8	80582
7	.2010	2-7/16	3-5/8	80583
6	.2040	2-1/2	3-3/4	80584
5	.2055	2-1/2	3-3/4	80585
4	.2090	2-1/2	3-3/4	80586
3	.2130	2-1/2	3-3/4	80587
2	.2210	2-5/8	3-7/8	80588
1	.2280	2-5/8	3-7/8	80589

Cobalt Jobber Length Drills Straight Shank - Cobalt 135° Split Point - Heavy Duty



135° Self-centering split point eliminates "walking" and reduces thrust. Heavy duty construction. Cobalt steel offers increased hardness, toughness, wear resistance and heat resistance. Recommended for drilling tough, high tensile strength materials that generate higher cutting temperatures including high alloy steels, ferrous castings, titanium, inconel, stainless steels and other difficult-to-drill materials.

List No. 330C

MADE IN USA

STANDARD PACKAGE

Fractional Sizes

Sizes 1/64" thru 3/8" — 12 each
 Sizes 25/64" thru 1/2" — 6 each

Letter Sizes

Sizes A thru V — 12 each
 Sizes W thru Z — 6 each

LIST NO. 330C

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
1/64	.0156	3/16	3/4	80720
1/32	.0312	1/2	1-3/8	80721
3/64	.0469	3/4	1-3/4	80722
1/16	.0625	7/8	1-7/8	80723
5/64	.0781	1	2	80724
3/32	.0937	1-1/4	2-1/4	80725
7/64	.1094	1-1/2	2-5/8	80726
1/8	.1250	1-5/8	2-3/4	80727
9/64	.1406	1-3/4	2-7/8	80728
5/32	.1562	2	3-1/8	80729
11/64	.1719	2-1/8	3-1/4	80730
3/16	.1875	2-5/16	3-1/2	80731
13/64	.2031	2-7/16	3-5/8	80732
7/32	.2187	2-1/2	3-3/4	80733
15/64	.2344	2-5/8	3-7/8	80734
1/4-E	.2500	2-3/4	4	80735
17/64	.2656	2-7/8	4-1/8	80736
9/32	.2812	2-15/16	4-1/4	80737
19/64	.2969	3-1/16	4-3/8	80738
5/16	.3125	3-3/16	4-1/2	80739
21/64	.3281	3-5/16	4-5/8	80740
11/32	.3437	3-7/16	4-3/4	80741
23/64	.3594	3-1/2	4-7/8	80742
3/8	.3750	3-5/8	5	80743
25/64	.3906	3-3/4	5-1/8	80744
13/32	.4062	3-7/8	5-1/4	80745
27/64	.4219	3-15/16	5-3/8	80746
7/16	.4375	4-1/16	5-1/2	80747
29/64	.4531	4-3/16	5-5/8	80748
15/32	.4687	4-5/16	5-3/4	80749
31/64	.4844	4-3/8	5-7/8	80750
1/2	.5000	4-1/2	6	80751

LETTER SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
A	.2340	2-5/8	3-7/8	80921
B	.2380	2-3/4	4	80922
C	.2420	2-3/4	4	80923
D	.2460	2-3/4	4	80924
1/4-E	.2500	2-3/4	4	80735
F	.2570	2-7/8	4-1/8	80926
G	.2610	2-7/8	4-1/8	80927
H	.2660	2-7/8	4-1/8	80928
I	.2720	2-7/8	4-1/8	80929
J	.2770	2-7/8	4-1/8	80930
K	.2810	2-15/16	4-1/4	80931
L	.2900	2-15/16	4-1/4	80932
M	.2950	3-1/16	4-3/8	80933
N	.3020	3-1/16	4-3/8	80934
O	.3160	3-3/16	4-1/2	80935
P	.3230	3-5/16	4-5/8	80936
Q	.3320	3-7/16	4-3/4	80937
R	.3390	3-7/16	4-3/4	80938
S	.3480	3-1/2	4-7/8	80939
T	.3580	3-1/2	4-7/8	80940
U	.3680	3-5/8	5	80941
V	.3770	3-5/8	5	80942
W	.3860	3-3/4	5-1/8	80943
X	.3970	3-3/4	5-1/8	80944
Y	.4040	3-7/8	5-1/4	80945
Z	.4130	3-7/8	5-1/4	80946

DRILLS - METALWORKING

Cobalt Jobber Length Drills Straight Shank - Cobalt 135° Split Point - Heavy Duty



135° Self-centering split point eliminates "walking" and reduces thrust. Heavy duty construction. Cobalt steel offers increased hardness, toughness, wear resistance and heat resistance. Recommended for drilling tough, high tensile strength materials that generate higher cutting temperatures including high alloy steels, ferrous castings, titanium, inconel, stainless steels and other difficult-to-drill materials.

List No. 330C

MADE IN USA

STANDARD PACKAGE

Wire Gage Sizes

#1 thru #60 — 12 each

LIST NO. 330C

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
60	.0400	11/16	1-5/8	80811*
59	.0410	11/16	1-5/8	80810*
58	.0420	11/16	1-5/8	80809*
57	.0430	3/4	1-3/4	80808*
56	.0465	3/4	1-3/4	80807*
55	.0520	7/8	1-7/8	80806*
54	.0550	7/8	1-7/8	80805*
53	.0595	7/8	1-7/8	80804*
52	.0635	7/8	1-7/8	80803
51	.0670	1	2	80802
50	.0700	1	2	80801
49	.0730	1	2	80800
48	.0760	1	2	80799
47	.0785	1	2	80798
46	.0810	1-1/8	2-1/8	80797
45	.0820	1-1/8	2-1/8	80796
44	.0860	1-1/8	2-1/8	80795
43	.0890	1-1/4	2-1/4	80794
42	.0935	1-1/4	2-1/4	80793
41	.0960	1-3/8	2-3/8	80792
40	.0980	1-3/8	2-3/8	80791
39	.0995	1-3/8	2-3/8	80790
38	.1015	1-7/16	2-1/2	80789
37	.1040	1-7/16	2-1/2	80788
36	.1065	1-7/16	2-1/2	80787
35	.1100	1-1/2	2-5/8	80786
34	.1110	1-1/2	2-5/8	80785
33	.1130	1-1/2	2-5/8	80784
32	.1160	1-5/8	2-3/4	80783
31	.1200	1-5/8	2-3/4	80782

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
30	.1285	1-5/8	2-3/4	80781
29	.1360	1-3/4	2-7/8	80780
28	.1405	1-3/4	2-7/8	80779
27	.1440	1-7/8	3	80778
26	.1470	1-7/8	3	80777
25	.1495	1-7/8	3	80776
24	.1520	2	3-1/8	80775
23	.1540	2	3-1/8	80774
22	.1570	2	3-1/8	80773
21	.1590	2-1/8	3-1/4	80772
20	.1610	2-1/8	3-1/4	80771
19	.1660	2-1/8	3-1/4	80770
18	.1695	2-1/8	3-1/4	80769
17	.1730	2-3/16	3-3/8	80768
16	.1770	2-3/16	3-3/8	80767
15	.1800	2-3/16	3-3/8	80766
14	.1820	2-3/16	3-3/8	80765
13	.1850	2-5/16	3-1/2	80764
12	.1890	2-5/16	3-1/2	80763
11	.1910	2-5/16	3-1/2	80762
10	.1935	2-7/16	3-5/8	80761
9	.1960	2-7/16	3-5/8	80760
8	.1990	2-7/16	3-5/8	80759
7	.2010	2-7/16	3-5/8	80758
6	.2040	2-1/2	3-3/4	80757
5	.2055	2-1/2	3-3/4	80756
4	.2090	2-1/2	3-3/4	80755
3	.2130	2-1/2	3-3/4	80754
2	.2210	2-5/8	3-7/8	80753
1	.2280	2-5/8	3-7/8	80752

* Sizes #53 and smaller furnished with 135° regular point.

DRILLS - METALWORKING

Screw Machine Length Drills

High Speed Steel — 118° Point
General Purpose — Bright Finish

Developed primarily for use in screw machines, these short length drills provide maximum rigidity resulting in increased hole accuracy and extended tool life. Recommended for drilling a wide variety of materials including non-ferrous materials and low tensile strength steels.



List No. 435

MADE IN USA

List No. 435QI

IMPORT

STANDARD PACKAGE

Fractional Sizes

Sizes 1/16" thru 3/8" — 12 each

Sizes 25/64" thru 1/2" — 6 each

LIST NO. 435 & 435QI

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				435	435QI
1/16	.0625	5/8	1-5/8	80950	85290
5/64	.0781	11/16	1-11/16	80951	85291
3/32	.0937	3/4	1-3/4	80952	85292
7/64	.1094	13/16	1-13/16	80953	85293
1/8	.1250	7/8	1-7/8	80954	85294
9/64	.1406	15/16	1-15/16	80955	85295
5/32	.1562	1	2-1/16	80956	85296
11/64	.1719	1-1/16	2-1/8	80957	85297
3/16	.1875	1-1/8	2-3/16	80958	85298
13/64	.2031	1-3/16	2-1/4	80959	85299
7/32	.2187	1-1/4	2-3/8	80960	85300
15/64	.2344	1-5/16	2-7/16	80961	85301
1/4	.2500	1-3/8	2-1/2	80962	85302
17/64	.2656	1-7/16	2-5/8	80963	85303
9/32	.2812	1-1/2	2-11/16	80964	85304

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				435	435QI
19/64	.2969	1-9/16	2-3/4	80965	85305
5/16	.3125	1-5/8	2-13/16	80966	85306
21/64	.3281	1-11/16	2-15/16	80967	85307
11/32	.3437	1-11/16	3	80968	85308
23/64	.3594	1-3/4	3-1/16	80969	85309
3/8	.3750	1-13/16	3-1/8	80970	85310
25/64	.3906	1-7/8	3-1/4	80971	85311
13/32	.4062	1-15/16	3-5/16	80972	85312
27/64	.4219	2	3-3/8	80973	85313
7/16	.4375	2-1/16	3-7/16	80974	85314
29/64	.4531	2-1/8	3-9/16	80975	85315
15/32	.4687	2-1/8	3-5/8	80976	85316
31/64	.4844	2-3/16	3-11/16	80977	85317
1/2	.5000	2-1/4	3-3/4	80978	85318

DRILLS - METALWORKING

Screw Machine Length Drills

High Speed Steel — 118° Point
General Purpose — Bright Finish

Developed primarily for use in screw machines, these short length drills provide maximum rigidity resulting in increased hole accuracy and extended tool life. Recommended for drilling a wide variety of materials including non-ferrous materials and low tensile strength steels.



List No. 435

MADE IN USA

List No. 435QI

IMPORT

STANDARD PACKAGE

Wire Gage Sizes

#1 thru #60 — 12 each

LIST NO. 435 & 435QI

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				435	435QI
60	.0400	1/2	1-3/8	81120	85319
59	.0410	1/2	1-3/8	81119	85320
58	.0420	1/2	1-3/8	81118	85321
57	.0430	1/2	1-3/8	81117	85322
56	.0465	1/2	1-3/8	81116	85323
55	.0520	5/8	1-5/8	81115	85324
54	.0550	5/8	1-5/8	81114	85325
53	.0595	5/8	1-5/8	81113	85326
52	.0635	11/16	1-11/16	81112	85327
51	.0670	11/16	1-11/16	81111	85328
50	.0700	11/16	1-11/16	81110	85329
49	.0730	11/16	1-11/16	81109	85330
48	.0760	11/16	1-11/16	81108	85331
47	.0785	3/4	1-3/4	81107	85332
46	.0810	3/4	1-3/4	81106	85333
45	.0820	3/4	1-3/4	81105	85334
44	.0860	3/4	1-3/4	81104	85335
43	.0890	3/4	1-3/4	81103	85336
42	.0935	3/4	1-3/4	81102	85337
41	.0960	13/16	1-13/16	81101	85338
40	.0980	13/16	1-13/16	81100	85339
39	.0995	13/16	1-13/16	81099	85340
38	.1015	13/16	1-13/16	81098	85341
37	.1040	13/16	1-13/16	81097	85342
36	.1065	13/16	1-13/16	81096	85343
35	.1100	7/8	1-7/8	81095	85344
34	.1110	7/8	1-7/8	81094	85345
33	.1130	7/8	1-7/8	81093	85346
32	.1160	7/8	1-7/8	81092	85347
31	.1200	7/8	1-7/8	81091	85348

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				435	435QI
30	.1285	15/16	1-15/16	81090	85349
29	.1360	15/16	1-15/16	81089	85350
28	.1405	15/16	1-15/16	81088	85351
27	.1440	1	2-1/16	81087	85352
26	.1470	1	2-1/16	81086	85353
25	.1495	1	2-1/16	81085	85354
24	.1520	1	2-1/16	81084	85355
23	.1540	1	2-1/16	81083	85356
22	.1570	1-1/16	2-1/8	81082	85357
21	.1590	1-1/16	2-1/8	81081	85358
20	.1610	1-1/16	2-1/8	81080	85359
19	.1660	1-1/16	2-1/8	81079	85360
18	.1695	1-1/16	2-1/8	81078	85361
17	.1730	1-1/8	2-3/16	81077	85362
16	.1770	1-1/8	2-3/16	81076	85363
15	.1800	1-1/8	2-3/16	81075	85364
14	.1820	1-1/8	2-3/16	81074	85365
13	.1850	1-1/8	2-3/16	81073	85366
12	.1890	1-3/16	2-1/4	81072	85367
11	.1910	1-3/16	2-1/4	81071	85368
10	.1935	1-3/16	2-1/4	81070	85369
9	.1960	1-3/16	2-1/4	81069	85370
8	.1990	1-3/16	2-1/4	81068	85371
7	.2010	1-3/16	2-1/4	81067	85372
6	.2040	1-1/4	2-3/8	81066	85373
5	.2055	1-1/4	2-3/8	81065	85374
4	.2090	1-1/4	2-3/8	81064	85375
3	.2130	1-1/4	2-3/8	81063	85376
2	.2210	1-5/16	2-7/16	81062	85377
1	.2280	1-5/16	2-7/16	81061	85378

DRILLS - METALWORKING

Aircraft Type C Heavy Duty Screw Machine Length Drills

Straight Shank — High Speed Steel
135° Split Point — Black Oxide Treated
Heavy Duty



List No. 398

MADE IN USA

List No. 398QI

IMPORT

Heavy duty construction. 135° self-centering split point eliminates "walking" and reduces thrust. Short length provides maximum rigidity for increased hole accuracy and extended tool life. Recommended for drilling a wide range of low to medium tensile strength materials.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.

STANDARD PACKAGE

Fractional Sizes

Sizes 1/16" thru 3/8" — 12 each

Sizes 25/64" thru 1/2" — 6 each

Letter Sizes

A thru V — 12 each

W thru Z — 6 each

LIST NO. 398 & 398QI

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				398	398QI
1/16	.0625	5/8	1-5/8	81215	85379
5/64	.0781	11/16	1-11/16	81216	85380
3/32	.0937	3/4	1-3/4	81217	85381
7/64	.1094	13/16	1-13/16	81218	85382
1/8	.1250	7/8	1-7/8	81219	85383
9/64	.1406	15/16	1-15/16	81220	85384
5/32	.1562	1	2-1/16	81221	85385
11/64	.1719	1-1/16	2-1/8	81222	85386
3/16	.1875	1-1/8	2-3/16	81223	85387
13/64	.2031	1-3/16	2-1/4	81224	85388
7/32	.2187	1-1/4	2-3/8	81225	85389
15/64	.2344	1-5/16	2-7/16	81226	85390
1/4	.2500	1-3/8	2-1/2	81227	85391
17/64	.2656	1-7/16	2-5/8	81228	85392
9/32	.2812	1-1/2	2-11/16	81229	85393

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				398	398QI
19/64	.2969	1-9/16	2-3/4	81230	85394
5/16	.3125	1-5/8	2-13/16	81231	85395
21/64	.3281	1-11/16	2-15/16	81232	85396
11/32	.3437	1-11/16	3	81233	85397
23/64	.3594	1-3/4	3-1/16	81234	85398
3/8	.3750	1-13/16	3-1/8	81235	85399
25/64	.3906	1-7/8	3-1/4	81236	85400
13/32	.4062	1-15/16	3-5/16	81237	85401
27/64	.4219	2	3-3/8	81238	85402
7/16	.4375	2-1/16	3-7/16	81239	85403
29/64	.4531	2-1/8	3-9/16	81240	85404
15/32	.4687	2-1/8	3-5/8	81241	85405
31/64	.4844	2-3/16	3-11/16	81242	85406
1/2	.5000	2-1/4	3-3/4	81243	85407

LIST NO. 398

LETTER SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO. 398
A	.2340	1-5/16	2-7/16	81190
B	.2380	1-3/8	2-1/2	81191
C	.2420	1-3/8	2-1/2	81192
D	.2460	1-3/8	2-1/2	81193
E (1/4)	.2500	1-3/8	2-1/2	81227
F	.2570	1-7/16	2-5/8	81194
G	.2610	1-7/16	2-5/8	81195
H	.2660	1-1/2	2-11/16	81196
I	.2720	1-1/2	2-11/16	81197
J	.2770	1-1/2	2-11/16	81198
K	.2810	1-1/2	2-11/16	81199
L	.2900	1-9/16	2-3/4	81200
M	.2950	1-9/16	2-3/4	81201

LETTER SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO. 398
N	.3020	1-5/8	2-13/16	81202
O	.3160	1-11/16	2-15/16	81203
P	.3230	1-11/16	2-15/16	81204
Q	.3320	1-11/16	3	81205
R	.3390	1-11/16	3	81206
S	.3480	1-3/4	3-1/16	81207
T	.3580	1-3/4	3-1/16	81208
U	.3680	1-13/16	3-1/8	81209
V	.3770	1-7/8	3-1/4	81210
W	.3860	1-7/8	3-1/4	81211
X	.3970	1-15/16	3-5/16	81212
Y	.4040	1-15/16	3-5/16	81213
Z	.4130	2	3-3/8	81214

DRILLS - METALWORKING

Aircraft Type C Heavy Duty Screw Machine Length Drills

Straight Shank — High Speed Steel
135° Split Point — Black Oxide Treated
Heavy Duty

Heavy duty construction. 135° self-centering split point eliminates "walking" and reduces thrust. Short length provides maximum rigidity for increased hole accuracy and extended tool life. Recommended for drilling a wide range of low to medium tensile strength materials.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.



List No. 398QI

IMPORT

STANDARD PACKAGE

Wire Gage Sizes

#1 thru #60 — 12 eac

LIST NO. 398QI

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO. 398QI
60	.0400	1/2	1-3/8	85408*
59	.0410	1/2	1-3/8	85409*
58	.0420	1/2	1-3/8	85410*
57	.0430	1/2	1-3/8	85411*
56	.0465	1/2	1-3/8	85412*
55	.0520	5/8	1-5/8	85413*
54	.0550	5/8	1-5/8	85414*
53	.0595	5/8	1-5/8	85415*
52	.0635	11/16	1-11/16	85416
51	.0670	11/16	1-11/16	85417
50	.0700	11/16	1-11/16	85418
49	.0730	11/16	1-11/16	85419
48	.0760	11/16	1-11/16	85420
47	.0785	3/4	1-3/4	85421
46	.0810	3/4	1-3/4	85422
45	.0820	3/4	1-3/4	85423
44	.0860	3/4	1-3/4	85424
43	.0890	3/4	1-3/4	85425
42	.0935	3/4	1-3/4	85426
41	.0960	13/16	1-13/16	85427
40	.0980	13/16	1-13/16	85428
39	.0995	13/16	1-13/16	85429
38	.1015	13/16	1-13/16	85430
37	.1040	13/16	1-13/16	85431
36	.1065	13/16	1-13/16	85432
35	.1100	7/8	1-7/8	85433
34	.1110	7/8	1-7/8	85434
33	.1130	7/8	1-7/8	85435
32	.1160	7/8	1-7/8	85436
31	.1200	7/8	1-7/8	85437

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO. 398QI
30	.1285	15/16	1-15/16	85438
29	.1360	15/16	1-15/16	85439
28	.1405	15/16	1-15/16	85440
27	.1440	1	2-1/16	85441
26	.1470	1	2-1/16	85442
25	.1495	1	2-1/16	85443
24	.1520	1	2-1/16	85444
23	.1540	1	2-1/16	85445
22	.1570	1-1/16	2-1/8	85446
21	.1590	1-1/16	2-1/8	85447
20	.1610	1-1/16	2-1/8	85448
19	.1660	1-1/16	2-1/8	85449
18	.1695	1-1/16	2-1/8	85450
17	.1730	1-1/8	2-3/16	85451
16	.1770	1-1/8	2-3/16	85452
15	.1800	1-1/8	2-3/16	85453
14	.1820	1-1/8	2-3/16	85454
13	.1850	1-1/8	2-3/16	85455
12	.1890	1-3/16	2-1/4	85456
11	.1910	1-3/16	2-1/4	85457
10	.1935	1-3/16	2-1/4	85458
9	.1960	1-3/16	2-1/4	85459
8	.1990	1-3/16	2-1/4	85460
7	.2010	1-3/16	2-1/4	85461
6	.2040	1-1/4	2-3/8	85462
5	.2055	1-1/4	2-3/8	85463
4	.2090	1-1/4	2-3/8	85464
3	.2130	1-1/4	2-3/8	85465
2	.2210	1-5/16	2-7/16	85466
1	.2280	1-5/16	2-7/16	85467

*Sizes #53 and smaller furnished with 135° regular point.

MARXBORE™ Heavy Duty Screw Machine Length Drills

Straight Shank — High Speed Steel
135° Split Point — Heavy Duty

Heavy duty construction. 135° Self-centering split point eliminates "walking" and reduces thrust. Short length provides maximum rigidity for increased hole accuracy and extended tool life. Recommended for drilling a wide range of low to medium tensile strength materials.



List No. 386 — Gold & Black Finish

MADE IN USA

STANDARD PACKAGE

Fractional Sizes

Sizes 1/16" thru 3/8" — 12 each

Sizes 25/64" thru 1/2" — 6 each

LIST NO. 386

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
1/16	.0625	5/8	1-5/8	86470
5/64	.0781	11/16	1-11/16	86471
3/32	.0937	3/4	1-3/4	86472
7/64	.1094	13/16	1-13/16	86473
1/8	.1250	7/8	1-7/8	86474
9/64	.1406	15/16	1-15/16	86475
5/32	.1562	1	2-1/16	86476
11/64	.1719	1-1/16	2-1/8	86477
3/16	.1875	1-1/8	2-3/16	86478
13/64	.2031	1-3/16	2-1/4	86479
7/32	.2187	1-1/4	2-3/8	86480
15/64	.2344	1-5/16	2-7/16	86481
1/4	.2500	1-3/8	2-1/2	86482
17/64	.2656	1-7/16	2-5/8	86483
9/32	.2812	1-1/2	2-11/16	86484

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
19/64	.2969	1-9/16	2-3/4	86485
5/16	.3125	1-5/8	2-13/16	86486
21/64	.3281	1-11/16	2-15/16	86487
11/32	.3437	1-11/16	3	86488
23/64	.3594	1-3/4	3-1/16	86489
3/8	.3750	1-13/16	3-1/8	86490
25/64	.3906	1-7/8	3-1/4	86491
13/32	.4062	1-15/16	3-5/16	86492
27/64	.4219	2	3-3/8	86493
7/16	.4375	2-1/16	3-7/16	86494
29/64	.4531	2-1/8	3-9/16	86495
15/32	.4687	2-1/8	3-5/8	86496
31/64	.4844	2-3/16	3-11/16	86497
1/2	.5000	2-1/4	3-3/4	86498

DRILLS - METALWORKING

MARXBORE™ Heavy Duty Screw Machine Length Drills

Straight Shank — High Speed Steel
135° Split Point — Heavy Duty

Heavy duty construction. 135° Self-centering split point eliminates "walking" and reduces thrust. Short length provides maximum rigidity for increased hole accuracy and extended tool life. Recommended for drilling a wide range of low to medium tensile strength materials..



List No. 386 — Gold & Black Finish

MADE IN USA

STANDARD PACKAGE

Wire Gage Sizes

#1 thru #40 — 12 each

LIST NO. 386

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
40	.0980	13/16	1-13/16	86499
39	.0995	13/16	1-13/16	86500
38	.1015	13/16	1-13/16	86501
37	.1040	13/16	1-13/16	86502
36	.1065	13/16	1-13/16	86503
35	.1100	7/8	1-7/8	86504
34	.1110	7/8	1-7/8	86505
33	.1130	7/8	1-7/8	86506
32	.1160	7/8	1-7/8	86507
31	.1200	7/8	1-7/8	86508
30	.1285	15/16	1-15/16	86509
29	.1360	15/16	1-15/16	86510
28	.1405	15/16	1-15/16	86511
27	.1440	1	2-1/16	86512
26	.1470	1	2-1/16	86513
25	.1495	1	2-1/16	86514
24	.1520	1	2-1/16	86515
23	.1540	1	2-1/16	86516
22	.1570	1-1/16	2-1/8	86517
21	.1590	1-1/16	2-1/8	86518

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
20	.1610	1-1/16	2-1/8	86519
19	.1660	1-1/16	2-1/8	86520
18	.1695	1-1/16	2-1/8	86521
17	.1730	1-1/8	2-3/16	86522
16	.1770	1-1/8	2-3/16	86523
15	.1800	1-1/8	2-3/16	86524
14	.1820	1-1/8	2-3/16	86525
13	.1850	1-1/8	2-3/16	86526
12	.1890	1-3/16	2-1/4	86527
11	.1910	1-3/16	2-1/4	86528
10	.1935	1-3/16	2-1/4	86529
9	.1960	1-3/16	2-1/4	86530
8	.1990	1-3/16	2-1/4	86531
7	.2010	1-3/16	2-1/4	86532
6	.2040	1-1/4	2-3/8	86533
5	.2055	1-1/4	2-3/8	86534
4	.2090	1-1/4	2-3/8	86535
3	.2130	1-1/4	2-3/8	86536
2	.2210	1-5/16	2-7/16	86537
1	.2280	1-5/16	2-7/16	86538

Cobalt Screw Machine Length Drills

Straight Shank — Cobalt
135° Split Point — Heavy Duty



List No. 387

MADE IN USA

135° Self-centering split point eliminates “walking” and reduces thrust. Short length provides maximum rigidity for increased hole accuracy and extended tool life. Heavy duty construction. Cobalt steel offers increased hardness, toughness, wear resistance and heat resistance. Recommended for drilling tough, high tensile strength materials that generate higher cutting temperatures including high alloy steels, ferrous castings, titanium, inconel, stainless steels and other difficult-to-drill materials.

STANDARD PACKAGE

Fractional Sizes

Sizes 1/16" thru 3/8" — 12 each

Sizes 25/64" thru 1/2" — 6 each

LIST NO. 387

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
1/16	.0625	5/8	1-5/8	84590
5/64	.0781	11/16	1-11/16	84591
3/32	.0937	3/4	1-3/4	84592
7/64	.1094	13/16	1-13/16	84593
1/8	.1250	7/8	1-7/8	84594
9/64	.1406	15/16	1-15/16	84595
5/32	.1562	1	2-1/16	84596
11/64	.1719	1-1/16	2-1/8	84597
3/16	.1875	1-1/8	2-3/16	84598
13/64	.2031	1-3/16	2-1/4	84599
7/32	.2187	1-1/4	2-3/8	84600
15/64	.2344	1-5/16	2-7/16	84601
1/4	.2500	1-3/8	2-1/2	84602
17/64	.2656	1-7/16	2-5/8	84603
9/32	.2812	1-1/2	2-11/16	84604

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
19/64	.2969	1-9/16	2-3/4	84605
5/16	.3125	1-5/8	2-13/16	84606
21/64	.3281	1-11/16	2-15/16	84607
11/32	.3437	1-11/16	3	84608
23/64	.3594	1-3/4	3-1/16	84609
3/8	.3750	1-13/16	3-1/8	84610
25/64	.3906	1-7/8	3-1/4	84611
13/32	.4062	1-15/16	3-5/16	84611
27/64	.4219	2	3-3/8	84613
7/16	.4375	2-1/16	3-7/16	84614
29/64	.4531	2-1/8	3-9/16	84615
15/32	.4687	2-1/8	3-5/8	84616
31/64	.4844	2-3/16	3-11/16	84617
1/2	.5000	2-1/4	3-3/4	84618

DRILLS - METALWORKING

Cobalt Screw Machine Length Drills

Straight Shank — Cobalt
135° Split Point — Heavy Duty

Sizes #53 and smaller 135° Regular Point

135° Self-centering split point eliminates “walking” and reduces thrust. Short length provides maximum rigidity for increased hole accuracy and extended tool life. Heavy duty construction. Cobalt steel offers increased hardness, toughness, wear resistance and heat resistance. Recommended for drilling tough, high tensile strength materials that generate higher cutting temperatures including high alloy steels, ferrous castings, titanium, inconel, stainless steels and other difficult-to-drill materials.

LIST NO. 387

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
60	.0400	1/2	1-3/8	84679
59	.0410	1/2	1-3/8	84678
58	.0420	1/2	1-3/8	84677
57	.0430	1/2	1-3/8	84676
56	.0465	1/2	1-3/8	84675
55	.0520	5/8	1-5/8	84674
54	.0550	5/8	1-5/8	84673
53	.0595	5/8	1-5/8	84672
52	.0635	11/16	1-11/16	84671
51	.0670	11/16	1-11/16	84670
50	.0700	11/16	1-11/16	84669
49	.0730	11/16	1-11/16	84668
48	.0760	11/16	1-11/16	84667
47	.0785	3/4	1-3/4	84666
46	.0810	3/4	1-3/4	84665
45	.0820	3/4	1-3/4	84664
44	.0860	3/4	1-3/4	84663
43	.0890	3/4	1-3/4	84662
42	.0935	3/4	1-3/4	84661
41	.0960	13/16	1-13/16	84660
40	.0980	13/16	1-13/16	84659
39	.0995	13/16	1-13/16	84658
38	.1015	13/16	1-13/16	84657
37	.1040	13/16	1-13/16	84656
36	.1065	13/16	1-13/16	84655
35	.1100	7/8	1-7/8	84654
34	.1110	7/8	1-7/8	84653
33	.1130	7/8	1-7/8	84652
32	.1160	7/8	1-7/8	84651
31	.1200	7/8	1-7/8	84650



List No. 387

MADE IN USA

STANDARD PACKAGE

Wire Gage Sizes

Sizes #1 thru #60 — 12 each

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
30	.1285	15/16	1-15/16	84649
29	.1360	15/16	1-15/16	84648
28	.1405	15/16	1-15/16	84647
27	.1440	1	2-1/16	84646
26	.1470	1	2-1/16	84645
25	.1495	1	2-1/16	84644
24	.1520	1	2-1/16	84643
23	.1540	1	2-1/16	84642
22	.1570	1-1/16	2-1/8	84641
21	.1590	1-1/16	2-1/8	84640
20	.1610	1-1/16	2-1/8	84639
19	.1660	1-1/16	2-1/8	84638
18	.1695	1-1/16	2-1/8	84637
17	.1730	1-1/8	2-3/16	84636
16	.1770	1-1/8	2-3/16	84635
15	.1800	1-1/8	2-3/16	84634
14	.1820	1-1/8	2-3/16	84633
13	.1850	1-1/8	2-3/16	84632
12	.1890	1-3/16	2-1/4	84631
11	.1910	1-3/16	2-1/4	84630
10	.1935	1-3/16	2-1/4	84629
9	.1960	1-3/16	2-1/4	84628
8	.1990	1-3/16	2-1/4	84627
7	.2010	1-3/16	2-1/4	84626
6	.2040	1-1/4	2-3/8	84625
5	.2055	1-1/4	2-3/8	84624
4	.2090	1-1/4	2-3/8	84623
3	.2130	1-1/4	2-3/8	84622
2	.2210	1-5/16	2-7/16	84621
1	.2280	1-5/16	2-7/16	84620

DRILLS - METALWORKING

Carbide Tipped Glass and Tile Drills

Spear Point

Excellent wear resistance for drilling glass, tile, porcelain, ceramic and other hard fragile materials without chipping or cracking the material. Extra long carbide tip for many regrinds.



List No. 415

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 415

SIZE	DECIMAL EQUIV.	OVERALL LENGTH	SHANK DIAMETER	EDP NO.
1/8	.1250	2-1/2	7/64	84680
3/16	.1875	2-1/2	5/32	84681
1/4	.2500	2-1/2	7/32	84682
5/16	.3125	3	1/4	84683
3/8	.3750	3-1/2	5/16	84684

SIZE	DECIMAL EQUIV.	OVERALL LENGTH	SHANK DIAMETER	EDP NO.
7/16	.4375	3-1/2	3/8	84685
1/2	.5000	3-1/2	7/16	84686
9/16	.5625	4	1/2	84687
5/8	.6250	4	9/16	84688

Carbide Tipped Jobber Length Drills

118° Point

Heavy duty construction. Excellent wear resistance. Recommended for drilling cast iron, non-ferrous metals, composites, hard plastics, fiberglass and other abrasive non-ferrous materials.

NOT FOR USE IN STEEL.



List No. 420

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 420

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
1/8	.1250	1-5/8	2-3/4	84690
9/64	.1406	1-3/4	2-7/8	84691
5/32	.1562	2	3-1/8	84692
11/64	.1719	2-1/8	3-1/4	84693
3/16	.1875	2-5/16	3-1/2	84694
13/64	.2031	2-7/16	3-5/8	84695
7/32	.2187	2-1/2	3-3/4	84696
15/64	.2344	2-5/8	3-7/8	84697
1/4-E	.2500	2-3/4	4	84698
17/64	.2656	2-7/8	4-1/8	84699
9/32	.2812	2-15/16	4-1/4	84700
19/64	.2969	3-1/16	4-3/8	84701
5/16	.3125	3-3/16	4-1/2	84702

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
21/64	.3281	3-5/16	4-5/8	84703
11/32	.3437	3-7/16	4-3/4	84704
23/64	.3594	3-1/2	4-7/8	84705
3/8	.3750	3-5/8	5	84706
25/64	.3906	3-3/4	5-1/8	84707
13/32	.4062	3-7/8	5-1/4	84708
27/64	.4219	3-15/16	5-3/8	84709
7/16	.4375	4-1/16	5-1/2	84710
29/64	.4531	4-3/16	5-5/8	84711
15/32	.4687	4-5/16	5-3/4	84712
31/64	.4844	4-3/8	5-7/8	84713
1/2	.5000	4-1/2	6	84714

DRILLS - METALWORKING

Double End Body Drills

High Speed Steel
135° Split Point

Designed for drilling auto and truck bodies and other thin sheet metal applications. 135° Self-centering split point eliminates "walking" of the drill point and reduces thrust for faster penetration.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.

Bright Finish with polished flutes enhances chip ejection especially for aluminum and other non-ferrous materials.



Black Oxide Treated
List No. 400

MADE IN USA

Bright Finish
List No. 400B

MADE IN USA

STANDARD PACKAGE

All sizes — 12 each

LIST NO. 400 & 400B

DOUBLE END DRILLS

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				400 TREATED	400B BRIGHT
7/64	.1094	5/8	1-15/16	81530	86412
1/8	.1250	5/8	1-15/16	81531	86413
9/64	.1406	5/8	2	81532	86414
5/32	.1562	5/8	2-1/8	81533	86415
3/16	.1897	5/8	2-5/16	81534	86416

DOUBLE END DRILLS

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				400 TREATED	400B BRIGHT
7/32	.2188	3/4	2-9/16	81535	86417
1/4	.2500	13/16	2-5/8	81536	86418
11	.1910	5/8	2-5/16	81537	86419
20	.1610	5/8	2-1/8	81538	86420
30	.1285	5/8	2	81539	86421

3/8" Reduced Shank Drills

High Speed Steel — 118° Point

Expand the size range capacity of 3/8 drill chucks. Recommended for drilling a wide range of materials.



List No. 422QI

IMPORT

STANDARD PACKAGE

Sizes 25/64" thru 1/2" — 6 each

Sizes 9/16" thru 5/8" — 1 each

LIST NO. 422QI

3/8" SHANK DRILLS

SIZE	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
25/64	2-3/4	5-1/4	86400
13/32	3-1/4	5-1/4	86401
27/64	3-1/2	5-1/2	86402
7/16	2-1/4	4	86403
7/16	3-1/2	5-1/2	86404
29/64	3-1/2	5-1/2	86405

3/8" SHANK DRILLS

SIZE	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
15/32	3-1/2	5-1/2	86406
31/64	3-1/2	5-1/4	86407
1/2	4	6	86408
9/16	3-3/8	6-1/4	86409
19/32	3-5/8	6-1/4	86410
5/8	3-5/8	6-1/4	86411

DRILLS - METALWORKING

1/2" Reduced Shank Silver & Deming Drills

118° Point — High Speed Steel
ROUND SHANKS



List No. 424R

MADE IN USA

List No. 424RQI

IMPORT

Expand the size range capacity of 1/2" drill chucks. Recommended for drilling a wide range of materials of low to medium tensile strength.

LIST NO. 424R & 424RQI

ROUND SHANKS 118° Point

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				424R	424RQI
33/64	.5156	3-1/8	6	80045	85700
17/32	.5312	3-1/8	6	80046	85701
35/64	.5469	3-1/8	6	80047	85702
9/16	.5625	3-1/8	6	80048	85703
37/64	.5781	3-1/8	6	80049	85704
19/32	.5938	3-1/8	6	80050	85705
39/64	.6094	3-1/8	6	80051	85706
5/8	.6250	3-1/8	6	80052	85707
41/64	.6406	3-1/8	6	80053	85708
21/32	.6562	3-1/8	6	80054	85709
43/64	.6719	3-1/8	6	80055	85710
11/16	.6875	3-1/8	6	80056	85711
45/64	.7031	3-1/8	6	80057	85712
23/32	.7188	3-1/8	6	80058	85713
47/64	.7344	3-1/8	6	80059	85714
3/4	.7500	3-1/8	6	80060	85715
49/64	.7656	3-1/8	6	80061	85716
25/32	.7812	3-1/8	6	80062	85717
51/64	.7969	3-1/8	6	80063	85718
13/16	.8125	3-1/8	6	80064	85719
53/64	.8281	3-1/8	6	80065	85720
27/32	.8438	3-1/8	6	80066	85721
55/64	.8594	3-1/8	6	80067	85722
7/8	.8750	3-1/8	6	80068	85723
57/64	.8902	3-1/8	6	80069	85724

ROUND SHANKS 118° Point

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				424R	424RQI
29/32	.9062	3-1/8	6	80070	85725
59/64	.9219	3-1/8	6	80071	85726
15/16	.9375	3-1/8	6	80072	85727
61/64	.9531	3-1/8	6	80073	85728
31/32	.9688	3-1/8	6	80074	85729
63/64	.9844	3-1/8	6	80075	85730
1	1.0000	3-1/8	6	80076	85731
1-1/32	1.0312	3-1/8	6	80078	-
1-1/16	1.0625	3-1/8	6	80079	-
1-3/32	1.0937	3-1/8	6	80080	-
1-1/8	1.1250	3-1/8	6	80081	85732
1-5/32	1.1562	3-1/8	6	80082	-
1-3/16	1.1875	3-1/8	6	80083	-
1-7/32	1.2188	3-1/8	6	80084	-
1-1/4	1.2500	3-1/8	6	80085	85733
1-9/32	1.2812	3-1/8	6	80705	-
1-5/16	1.3125	3-1/8	6	80086	85734
1-11/32	1.3438	3-1/8	6	80706	-
1-3/8	1.3750	3-1/8	6	80087	85735
1-13/32	1.4062	3-1/8	6	80707	-
1-7/16	1.4375	3-1/8	6	80088	85736
1-15/32	1.4687	3-1/8	6	80708	-
1-1/2	1.5000	3-1/8	6	80089	85737

DRILLS - METALWORKING

MarxKut™ 1/2" Reduced Shank Silver & Deming Drills 118° Split Point — High Speed Steel 3-FLAT SHANKS



List No. 424 — Gold & Black Finish

MADE IN USA

Expand the size range capacity of 1/2" drill chucks. Recommended for drilling a wide range of materials of low to medium tensile strength.

3-Flat Shank for positive hold.

118° Self-Centering Split Point reduces "wandering" and thrust.

LIST NO. 424

3-FLAT SHANKS 118° Split Point

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
33/64	.5156	3-1/8	6	80090
17/32	.5312	3-1/8	6	80091
35/64	.5469	3-1/8	6	80092
9/16	.5625	3-1/8	6	80093
37/64	.5781	3-1/8	6	80094
19/32	.5938	3-1/8	6	80095
39/64	.6094	3-1/8	6	80096
5/8	.6250	3-1/8	6	80097
41/64	.6406	3-1/8	6	80098
21/32	.6562	3-1/8	6	80099
43/64	.6719	3-1/8	6	80100
11/16	.6875	3-1/8	6	80101
45/64	.7031	3-1/8	6	80102
23/32	.7188	3-1/8	6	80103
47/64	.7344	3-1/8	6	80104
3/4	.7500	3-1/8	6	80105
49/64	.7656	3-1/8	6	80106
25/32	.7812	3-1/8	6	80107
51/64	.7969	3-1/8	6	80108
13/16	.8125	3-1/8	6	80109
53/63	.8281	3-1/8	6	80110
27/32	.8438	3-1/8	6	80111

3-FLAT SHANKS 118° Split Point

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
55/64	.8594	3-1/8	6	80112
7/8	.8750	3-1/8	6	80113
57/64	.8902	3-1/8	6	80114
29/32	.9062	3-1/8	6	80115
59/64	.9219	3-1/8	6	80116
15/16	.9375	3-1/8	6	80117
61/64	.9531	3-1/8	6	80118
31/32	.9688	3-1/8	6	80119
63/64	.9844	3-1/8	6	80120
1	1.0000	3-1/8	6	80121
1-1/32	1.0312	3-1/8	6	80709
1-1/16	1.0625	3-1/8	6	80710
1-3/32	1.0937	3-1/8	6	80711
1-1/8	1.1250	3-1/8	6	80122
1-5/32	1.1562	3-1/8	6	80712
1-3/16	1.1875	3-1/8	6	80713
1-7/32	1.2188	3-1/8	6	80714
1-1/4	1.2500	3-1/8	6	80123
1-5/16	1.3125	3-1/8	6	80124
1-3/8	1.3750	3-1/8	6	80125
1-7/16	1.4375	3-1/8	6	80126
1-1/2	1.5000	3-1/8	6	80127

DRILLS - METALWORKING

Taper Length Drills

Straight Shank — High Speed Steel
118° Point — Black Oxide Treated
General Purpose



Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.

Taper length drills have approximately the same flute lengths and overall lengths as taper shank drills, for deeper hole drilling. Shanks are the same diameter as the drill body. Recommended for drilling a wide range of materials.

List No. 314

MADE IN USA

List No. 314QI

IMPORT

STANDARD PACKAGE

Fractional Sizes

1/16" thru 15/64" — 12 each
 1/4" thru 3/8" — 6 each
 25/64" and over — 1 each

LIST NO. 314 & 314QI

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				314	314QI
1/16	.0625	1-3/4	3	81247	-
5/64	.0781	2	3-3/4	81248	85468
3/32	.0938	2-1/4	4-1/4	81249	85469
7/64	.1094	2-1/2	4-5/8	81250	85470
1/8	.1250	2-3/4	5-1/8	81251	85471
9/64	.1406	3	5-3/8	81252	85472
5/32	.1562	3	5-3/8	81253	85473
11/64	.1719	3-3/8	5-3/4	81254	85474
3/16	.1875	3-3/8	5-3/4	81255	85475
13/64	.2031	3-5/8	6	81256	85476
7/32	.2188	3-5/8	6	81257	85477
15/64	.2344	3-3/4	6-1/8	81258	85478
1/4	.2500	3-3/4	6-1/8	81259	85479
17/64	.2656	3-7/8	6-1/4	81260	85480
9/32	.2812	3-7/8	6-1/4	81261	85481
19/64	.2969	4	6-3/8	81262	85482
5/16	.3125	4	6-3/8	81263	85483
21/64	.3281	4-1/8	6-1/2	81264	85484
11/32	.3438	4-1/8	6-1/2	81265	85485
23/64	.3594	4-1/4	6-3/4	81266	85486
3/8	.3750	4-1/4	6-3/4	81267	85487
25/64	.3906	4-3/8	7	81268	85488
13/32	.4062	4-3/8	7	81269	85489
27/64	.4219	4-5/8	7-1/4	81270	85490
7/16	.4375	4-5/8	7-1/4	81271	85491
29/64	.4531	4-3/4	7-1/2	81272	85492
15/32	.4688	4-3/4	7-1/2	81273	85493
31/64	.4844	4-3/4	7-3/4	81274	85494
1/2	.5000	4-3/4	7-3/4	81275	85495
33/64	.5156	4-3/4	8	81276	85496
17/32	.5312	4-3/4	8	81277	85497

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
				314	314QI
35/64	.5469	4-7/8	8-1/4	81278	85498
9/16	.5625	4-7/8	8-1/4	81279	85499
37/64	.5781	4-7/8	8-3/4	81280	85500
19/32	.5938	4-7/8	8-3/4	81281	85501
39/64	.6094	4-7/8	8-3/4	81282	85502
5/8	.6250	4-7/8	8-3/4	81283	85503
41/64	.6406	5-1/8	9	81284	85504
21/32	.6562	5-1/8	9	81285	85505
43/64	.6719	5-3/8	9-1/4	81286	85506
11/16	.6875	5-3/8	9-1/4	81287	85507
45/64	.7031	5-5/8	9-1/2	81288	85508
23/32	.7188	5-5/8	9-1/2	81289	85509
47/64	.7344	5-7/8	9-3/4	81290	85510
3/4	.7500	5-7/8	9-3/4	81291	85511
49/64	.7656	6	9-7/8	81292	85512
25/32	.7812	6	9-7/8	81293	85513
51/64	.7969	6-1/8	10	81294	85514
13/16	.8125	6-1/8	10	81295	85515
53/64	.8281	6-1/8	10	81296	85516
27/32	.8438	6-1/8	10	81297	85517
55/64	.8594	6-1/8	10	81298	85518
7/8	.8750	6-1/8	10	81299	85519
57/64	.8906	6-1/8	10	81300	85520
29/32	.9062	6-1/8	10	81301	85521
59/64	.9219	6-1/8	10-3/4	81302	85522
15/16	.9375	6-1/8	10-3/4	81303	85523
61/64	.9531	6-3/8	11	81304	85524
31/32	.9688	6-3/8	11	81305	85525
63/64	.9844	6-3/8	11	81306	85526
1	1.0000	6-3/8	11	81307	85527

DRILLS - METALWORKING

Taper Length Drills

Straight Shank — High Speed Steel
118° Point — Black Oxide Treated
General Purpose



List No. 314QI

IMPORT

STANDARD PACKAGE

Wire Gage Sizes

#1 thru #60 — 12 each

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.

Taper length drills have approximately the same flute lengths and overall lengths as taper shank drills, for deeper hole drilling. Shanks are the same diameter as the drill body. Recommended for drilling a wide range of materials.

LIST NO. 314QI

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
60	.0400	1-1/8	2-1/4	85528
59	.0410	1-1/8	2-1/4	85529
58	.0420	1-1/8	2-1/4	85530
57	.0430	1-1/8	2-1/4	85531
56	.0465	1-1/8	2-1/4	85532
55	.0520	1-3/4	3	85533
54	.0550	1-3/4	3	85534
53	.0595	1-3/4	3	85535
52	.0635	2	3-3/4	85536
51	.0670	2	3-3/4	85537
50	.0700	2	3-3/4	85538
49	.0730	2	3-3/4	85539
48	.0760	2	3-3/4	85540
47	.0785	2-1/4	4-1/4	85541
46	.0810	2-1/4	4-1/4	85542
45	.0820	2-1/4	4-1/4	85543
44	.0860	2-1/4	4-1/4	85544
43	.0890	2-1/4	4-1/4	85545
42	.0935	2-1/4	4-1/4	85546
41	.0960	2-1/2	4-5/8	85547
40	.0980	2-1/2	4-5/8	85548
39	.0995	2-1/2	4-5/8	85549
38	.1015	2-1/2	4-5/8	85550
37	.1040	2-1/2	4-5/8	85551
36	.1065	2-1/2	4-5/8	85552
35	.1100	2-3/4	5-1/8	85553
34	.1110	2-3/4	5-1/8	85554
33	.1130	2-3/4	5-1/8	85555
32	.1160	2-3/4	5-1/8	85556
31	.1200	2-3/4	5-1/8	85557

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
30	.1285	3	5-3/8	85558
29	.1360	3	5-3/8	85559
28	.1405	3	5-3/8	85560
27	.1440	3	5-3/8	85561
26	.1470	3	5-3/8	85562
25	.1495	3	5-3/8	85563
24	.1520	3	5-3/8	85564
23	.1540	3	5-3/8	85565
22	.1570	3-3/8	5-3/4	85566
21	.1590	3-3/8	5-3/4	85567
20	.1610	3-3/8	5-3/4	85568
19	.1660	3-3/8	5-3/4	85569
18	.1695	3-3/8	5-3/4	85570
17	.1730	3-3/8	5-3/4	85571
16	.1770	3-3/8	5-3/4	85572
15	.1800	3-3/8	5-3/4	85573
14	.1820	3-3/8	5-3/4	85574
13	.1850	3-3/8	5-3/4	85575
12	.1890	3-5/8	6	85576
11	.1910	3-5/8	6	85577
10	.1935	3-5/8	6	85578
9	.1960	3-5/8	6	85579
8	.1990	3-5/8	6	85580
7	.2010	3-5/8	6	85581
6	.2040	3-5/8	6	85582
5	.2055	3-5/8	6	85583
4	.2090	3-5/8	6	85584
3	.2130	3-5/8	6	85585
2	.2210	3-3/4	6-1/8	85586
1	.2280	3-3/4	6-1/8	85587

DRILLS - METALWORKING

Extra Long Straight Shank Drills

Straight Shank — High Speed Steel
118° Point — Bright Finish



List No. 315

MADE IN USA

For general purpose drilling in applications where extra reach is required. Shanks are the same diameter as the drill body.

STANDARD PACKAGE

1 each

LIST NO. 315

5-1/2" FLUTE LENGTH • 8" OVERALL LENGTH

SIZE	DECIMAL EQUIV.	EDP NO.
1/8	.1250	81121
9/64	.1406	81122
5/32	.1562	81123
11/64	.1719	81124
3/16	.1875	81125
13/64	.2031	81126
7/32	.2188	81127
15/64	.2344	81128
1/4	.2500	81129
17/64	.2656	81130
9/32	.2812	81131
19/64	.2969	81132
5/16	.3125	81133
21/64	.3281	81134
11/32	.3438	81135
23/64	.3594	81136
3/8	.3750	81137
25/64	.3906	81138
13/32	.4062	81139
27/64	.4219	81140
7/16	.4375	81141
29/64	.4531	81142
15/32	.4688	81143
31/64	.4844	81144
1/2	.5000	81145

7-1/2" FLUTE LENGTH • 10" OVERALL LENGTH

SIZE	DECIMAL EQUIV.	EDP NO.
1/8	.1250	81146
5/32	.1562	81147
3/16	.1875	81148
7/32	.2188	81149
1/4	.2500	81150
9/32	.2812	81151
5/16	.3125	81152
11/32	.3438	81153
3/8	.3750	81154
13/32	.4062	81155
7/16	.4375	81156
15/32	.4688	81157
1/2	.5000	81158

DRILLS - METALWORKING

Extra Long Straight Shank Drills

Straight Shank — High Speed Steel
118° Point — Bright Finish



List No. 315

MADE IN USA

For general purpose drilling in applications where extra reach is required. Shanks are the same diameter as the drill body.

STANDARD PACKAGE

1 each

LIST NO. 315

(continued)

9" FLUTE LENGTH • 12" OVERALL LENGTH

SIZE	DECIMAL EQUIV.	EDP NO.
1/8	.1250	81159
5/32	.1562	81160
3/16	.1875	81161
7/32	.2188	81162
1/4	.2500	81163
9/32	.2812	81164
5/16	.3125	81165
11/32	.3438	81166
3/8	.3750	81167
13/32	.4062	81168
7/16	.4375	81169
15/32	.4688	81170
1/2	.5000	81171
17/32	.5312	81181
9/16	.5625	81182
19/32	.5938	81183
5/8	.6250	81184
21/32	.6562	81185
11/16	.6875	81186
23/32	.7188	81187
3/4	.7500	81188

14" FLUTE LENGTH • 18" OVERALL LENGTH

SIZE	DECIMAL EQUIV.	EDP NO.
1/4	.2500	81172
9/32	.2812	81173
5/16	.3125	81174
11/32	.3438	81175
3/8	.3750	81176
13/32	.4062	81177
7/16	.4375	81178
15/32	.4688	81179
1/2	.5000	81180

DRILLS - METALWORKING

Extra Long Straight Shank Drills

Straight Shank — High Speed Steel
118° Point — Bright Finish



List No. 315QI

IMPORT

For general purpose drilling in applications where extra reach is required. Shanks are the same diameter as the drill body.

STANDARD PACKAGE

1 each

LIST NO. 315QI

SIZE	EDP NO.					
	8" OAL	10" OAL	12" OAL	15" OAL	18" OAL	24" OAL
	6" FLUTE LENGTH	8" FLUTE LENGTH	9" FLUTE LENGTH	11" FLUTE LENGTH	13" FLUTE LENGTH	18" FLUTE LENGTH
1/8	86540	86565	86590	86647	86689	—
9/64	86541	86566	86591	86648	86690	—
5/32	86542	86567	86592	86649	86691	—
11/64	86543	86568	86593	86650	86692	—
3/16	86544	86569	86594	86651	86693	—
13/64	86545	86570	86595	86652	86694	—
7/32	86546	86571	86596	86653	86695	—
15/64	86547	86572	86597	86654	86696	—
1/4	86548	86573	86598	86655	86697	—
17/64	86549	86574	86599	86656	86698	—
9/32	86550	86575	86600	86657	86699	—
19/64	86551	86576	86601	86658	86700	—
5/16	86552	86577	86602	86659	86701	86746
21/64	86553	86578	86603	86660	86702	—
11/32	86554	86579	86604	86661	86703	—
23/64	86555	86580	86605	86662	86704	—
3/8	86556	86581	86606	86663	86705	86747

SIZE	EDP NO.					
	8" OAL	10" OAL	12" OAL	15" OAL	18" OAL	24" OAL
	6" FLUTE LENGTH	8" FLUTE LENGTH	9" FLUTE LENGTH	11" FLUTE LENGTH	13" FLUTE LENGTH	18" FLUTE LENGTH
25/64	86557	86582	86607	86664	86706	—
13/32	86558	86583	86608	86665	86707	—
27/64	86559	86584	86609	86666	86708	—
7/16	86560	86585	86610	86667	86709	86748
29/64	86561	86586	86611	86668	86710	—
15/32	86562	86587	86612	86669	86711	—
31/64	86563	86588	86613	86670	86712	—
1/2	86564	86589	86614	86671	86713	86749
33/64	—	—	86615	86672	86714	—
17/32	—	—	86616	86673	86715	—
35/64	—	—	86617	86674	86716	—
9/16	—	—	86618	86675	86717	86750
37/64	—	—	86619	86676	86718	—
19/32	—	—	86620	86677	86719	—
39/64	—	—	86621	86678	86720	—
5/8	—	—	86622	86679	86721	86751

(continued)

DRILLS - METALWORKING

Extra Long Straight Shank Drills

Straight Shank — High Speed Steel
118° Point — Bright Finish



List No. 315QI

IMPORT

For general purpose drilling in applications where extra reach is required. Shanks are the same diameter as the drill body.

STANDARD PACKAGE

1 each

LIST NO. 315QI

(continued)

SIZE	EDP NO.					
	8" OAL	10" OAL	12" OAL	15" OAL	18" OAL	24" OAL
	6" FLUTE LENGTH	8" FLUTE LENGTH	9" FLUTE LENGTH	11" FLUTE LENGTH	13" FLUTE LENGTH	18" FLUTE LENGTH
41/64	—	—	86623	—	86722	—
21/32	—	—	86624	86680	86723	—
43/64	—	—	86625	—	86724	—
11/16	—	—	86626	86681	86725	86752
45/64	—	—	86627	—	86726	—
23/32	—	—	86628	86682	86727	—
47/64	—	—	86629	—	86728	—
3/4	—	—	86630	86683	86729	86753
49/64	—	—	86631	—	86730	—
25/32	—	—	86632	86684	86731	—
51/64	—	—	86633	—	86732	—
13/16	—	—	86634	86685	86733	—

SIZE	EDP NO.					
	8" OAL	10" OAL	12" OAL	15" OAL	18" OAL	24" OAL
	6" FLUTE LENGTH	8" FLUTE LENGTH	9" FLUTE LENGTH	11" FLUTE LENGTH	13" FLUTE LENGTH	18" FLUTE LENGTH
53/64	—	—	86635	—	86734	—
27/32	—	—	86636	—	86735	—
55/64	—	—	86637	—	86736	—
7/8	—	—	86638	86686	86737	—
57/64	—	—	86639	—	86738	—
29/32	—	—	86640	—	86739	—
59/64	—	—	86641	—	86740	—
15/16	—	—	86642	86687	86741	—
61/64	—	—	86643	—	86742	—
31/32	—	—	86644	—	86743	—
63/64	—	—	86645	—	86744	—
1	—	—	86646	86688	86745	86754

DRILLS - METALWORKING

Aircraft Extension Drills

Straight Shank — High Speed Steel
135° Split Point — Treated (Black Oxide)
6" & 12" Overall Length

Drilling in mild steel where extra length is required.
 135° Split point is self-centering, and reduces thrust.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.



List No. 139

MADE IN USA

List No. 139QI

IMPORT

STANDARD PACKAGE

Fractional Sizes
 3/64" thru 11/32" — 12 each
 23/64" thru 1/2" — 1 each

Letter Sizes
 A thru V — 6 each
 W thru Z — 1 each

LIST NO. 139 & 139QI

FRACTIONAL SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	EDP NO. - LIST NO. 139		EDP NO. - LIST NO. 139QI	
			6" OAL	12" OAL	6" OAL	12" OAL
3/64	.0469	3/4	85944*	85974*	86930*	87146*
1/16	.0625	7/8	85945	85975	86931	87147
5/64	.0781	1	85946	85976	86932	87148
3/32	.0938	1-1/4	85947	85977	86933	87149
7/64	.1094	1-1/2	85948	85978	86934	87150
1/8	.1250	1-5/8	85949	85979	86935	87151
9/64	.1406	1-3/4	85950	85980	86936	87152
5/32	.1562	2	85951	85981	86937	87153
11/64	.1719	2-1/8	85952	85982	86938	87154
3/16	.1875	2-5/16	85953	85983	86939	87155
13/64	.2031	2-7/16	85954	85984	86940	87156
7/32	.2187	2-1/2	85955	85985	86941	87157
15/64	.2344	2-5/8	85956	85986	86942	87158
1/4	.2500	2-3/4	85957	85987	86943	87159
17/64	.2656	2-7/8	85958	85988	86944	87160
9/32	.2812	2-15/16	85959	85989	86945	87161
19/64	.2969	3-1/16	85960	85990	86946	87162
5/16	.3125	3-3/16	85961	85991	86947	87163
21/64	.3281	3-5/16	85962	85992	86948	87164
11/32	.3437	3-7/16	85963	85993	86949	87165
23/64	.3594	3-1/2	85964	85994	86950	87166
3/8	.3750	3-5/8	85965	85995	86951	87167
25/64	.3906	3-3/4	85966	85996	86952	87168
13/32	.4062	3-7/8	85967	85997	86953	87169
27/64	.4219	3-15/16	85968	85998	86954	87170
7/16	.4375	4-1/16	85969	85999	86955	87171
29/64	.4531	4-3/16	85970	86000	86956	87172
15/32	.4687	4-5/16	85971	86001	86957	87173
31/64	.4844	4-3/8	85972	86002	86958	87174
1/2	.5000	4-1/2	85973	86003	86959	87175

* Sizes #53 and smaller furnished with 135° regular point.

LIST NO. 139QI

LETTER SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	EDP NO. - LIST NO. 139QI	
			6" OAL	12" OAL
A	.2340	2-5/8	87120	87236
B	.2380	2-3/4	87121	87237
C	.2420	2-3/4	87122	87238
D	.2460	2-3/4	87123	87239
E	.2500	2-3/4	86943	87159
F	.2570	2-7/8	87125	87241
G	.2610	2-7/8	87126	87242
H	.2660	2-7/8	87127	87243
I	.2720	2-7/8	87128	87244
J	.2770	2-7/8	87129	87245
K	.2810	2-15/16	87130	87246
L	.2900	2-15/16	87131	87247
M	.2950	3-1/16	87132	87248
N	.3020	3-1/16	87133	87249
O	.3160	3-1/16	87134	87250
P	.3230	3-5/16	87135	87251
Q	.3320	3-7/16	87136	87252
R	.3390	3-7/16	87137	87253
S	.3480	3-1/2	87138	87254
T	.3580	3-1/2	87139	87255
U	.3680	3-5/8	87140	87256
V	.3770	3-5/8	87141	87257
W	.3860	3-3/4	87142	87258
X	.3970	3-3/4	87143	87259
Y	.4040	3-7/8	87144	87260
Z	.4130	3-7/8	87145	87261

DRILLS - METALWORKING

Aircraft Extension Drills

Straight Shank — High Speed Steel
135° Split Point — Treated (Black Oxide)
6" & 12" Overall Length



List No. 139QI

IMPORT

STANDARD PACKAGE

Wire Gage Sizes

#1 thru #60 — 12 each

Drilling in mild steel where extra length is required.
135° Split point is self-centering, and reduces thrust.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.

LIST NO. 139QI

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	EDP NO. - LIST NO. 139QI	
			6" OAL	12" OAL
1	.2280	2-5/8	87060	87176
2	.2210	2-5/8	87061	87177
3	.2130	2-1/2	87062	87178
4	.2090	2-1/2	87063	87179
5	.2055	2-1/2	87064	87180
6	.2040	2-1/2	87065	87181
7	.2010	2-7/16	87066	87182
8	.1990	2-7/16	87067	87183
9	.1960	2-7/16	87068	87184
10	.1935	2-7/16	87069	87185
11	.1910	2-5/16	87070	87186
12	.1890	2-5/16	87071	87187
13	.1850	2-5/16	87072	87188
14	.1820	2-3/16	87073	87189
15	.1800	2-3/16	87074	87190
16	.1770	2-3/16	87075	87191
17	.1730	2-3/16	87076	87192
18	.1695	2-1/8	87077	87193
19	.1660	2-1/8	87078	87194
20	.1610	2-1/8	87079	87195
21	.1590	2-1/8	87080	87196
22	.1570	2	87081	87197
23	.1540	2	87082	87198
24	.1520	2	87083	87199
25	.1495	1-7/8	87084	87200
26	.1470	1-7/8	87085	87201
27	.1440	1-7/8	87086	87202
28	.1405	1-3/4	87087	87203
29	.1360	1-3/4	87088	87204
30	.1285	1-5/8	87089	87205

WIRE GAGE SIZES

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	EDP NO. - LIST NO. 139QI	
			6" OAL	12" OAL
31	.1200	1-5/8	87090	87206
32	.1160	1-5/8	87091	87207
33	.1130	1-1/2	87092	87208
34	.1110	1-1/2	87093	87209
35	.1100	1-1/2	87094	87210
36	.1065	1-7/16	87095	87211
37	.1040	1-7/16	87096	87212
38	.1015	1-7/16	87097	87213
39	.0995	1-3/8	87098	87214
40	.0980	1-3/8	87099	87215
41	.0960	1-3/8	87100	87216
42	.0935	1-1/4	87101	87217
43	.0890	1-1/4	87102	87218
44	.0860	1-1/8	87103	87219
45	.0820	1-1/8	87104	87220
46	.0810	1-1/8	87105	87221
47	.0785	1	87106	87222
48	.0760	1	87107	87223
49	.0730	1	87108	87224
50	.0700	1	87109	87225
51	.0670	1	87110	87226
52	.0635	7/8	87111	87227
53	.0595	7/8	87112*	87228*
54	.0550	7/8	87113*	87229*
55	.0520	7/8	87114*	87230*
56	.0465	3/4	87115*	87231*
57	.0430	3/4	87116*	87232*
58	.0420	11/16	87117*	87233*
59	.0410	11/16	87118*	87234*
60	.0400	11/16	87119*	87235*

* Sizes #53 and smaller furnished with 135° regular point.

DRILLS - METALWORKING

Taper Shank Drills

Morse Taper Shank — High Speed Steel
118° Point — Treated (Black Oxide)
General Purpose

Recommended for production work in wide variety of materials. **Black Oxide Surface Treatment** increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.



List No. 302

MADE IN USA

List No. 302QI

IMPORT

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 302 & 302QI

SIZE	DECIMAL EQUIV.	TAPER SHANK	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
					302	302QI
1/8	.1250	1	1-7/8	5-1/8	80812	85588
9/64	.1406	1	2-1/8	5-3/8	80813	85589
5/32	.1562	1	2-1/8	5-3/8	80814	85590
11/64	.1719	1	2-1/2	5-3/4	80815	85591
3/16	.1875	1	2-1/2	5-3/4	80816	85592
13/64	.2031	1	2-3/4	6	80817	85593
7/32	.2188	1	2-3/4	6	80818	85594
15/64	.2344	1	2-3/4	6-1/8	80819	85595
1/4	.2500	1	2-7/8	6-1/8	80820	85596
17/64	.2656	1	3	6-1/4	80821	85597
9/32	.2812	1	3	6-1/4	80822	85598
19/64	.2969	1	3-1/8	6-3/8	80823	85599
5/16	.3125	1	3-1/8	6-3/8	80824	85600
21/64	.3281	1	3-1/4	6-1/2	80825	85601
11/32	.3438	1	3-1/4	6-1/2	80826	85602
23/64	.3594	1	3-1/2	6-3/4	80827	85603
3/8	.3750	1	3-1/2	6-3/4	80828	85604
25/64	.3906	1	3-5/8	7	80829	85605
13/32	.4062	1	3-5/8	7	80830	85606
27/64	.4219	1	3-7/8	7-1/4	80831	85607
7/16	.4375	1	3-7/8	7-1/4	80832	85608
29/64	.4531	1	4-1/8	7-1/2	80833	85609
15/32	.4688	1	4-1/8	7-1/2	80834	85610
31/64	.4844	2	4-3/8	8-1/4	80835	85611
1/2	.5000	2	4-3/8	8-1/4	80836	85612
33/64	.5156	2	4-5/8	8-1/2	80837	85613
17/32	.5312	2	4-5/8	8-1/2	80838	85614
35/64	.5469	2	4-7/8	8-3/4	80839	85615
9/16	.5625	2	4-7/8	8-3/4	80840	85616
37/64	.5781	2	4-7/8	8-3/4	80841	85617
19/32	.5838	2	4-7/8	8-3/4	80842	85618
39/64	.6094	2	4-7/8	8-3/4	80843	85619
5/8	.6250	2	4-7/8	8-3/4	80844	85620

SIZE	DECIMAL EQUIV.	TAPER SHANK	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
					302	302QI
41/64	.6406	2	5-1/8	9	80845	85621
21/32	.6562	2	5-1/8	9	80846	85622
43/64	.6719	2	5-3/8	9-1/4	80847	85623
11/16	.6875	2	5-3/8	9-1/4	80848	85624
45/64	.7031	2	5-5/8	9-1/2	80849	85625
23/32	.7188	2	5-5/8	9-1/2	80850	85626
47/64	.7344	2	5-7/8	9-3/4	80851	85627
3/4	.7500	2	5-7/8	9-3/4	80852	85628
49/64	.7656	2	6	9-7/8	80853	85629
25/32	.7812	2	6	9-7/8	80854	85630
51/64	.7969	3	6-1/8	10-3/4	80855	85631
13/16	.8125	3	6-1/8	10-3/4	80856	85632
53/64	.8281	3	6-1/8	10-3/4	80857	85633
27/32	.8438	3	6-1/8	10-3/4	80858	85634
55/64	.8594	3	6-1/8	10-3/4	80859	85635
7/8	.8750	3	6-1/8	10-3/4	80860	85636
57/64	.8906	3	6-1/8	10-3/4	80861	85637
29/32	.9062	3	6-1/8	10-3/4	80862	85638
59/64	.9219	3	6-1/8	10-3/4	80863	85639
15/16	.9375	3	6-1/8	10-3/4	80864	85640
61/64	.9531	3	6-3/8	11	80865	85641
31/32	.9688	3	6-3/8	11	80866	85642
63/64	.9844	3	6-3/8	11	80867	85643
1	1.0000	3	6-3/8	11	80868	85644
1-1/64	1.0156	3	6-1/2	11-1/8	80869	85645
1-1/32	1.0312	3	6-1/2	11-1/8	80870	85646
1-3/64	1.0469	3	6-5/8	11-1/4	80871	85647
1-1/16	1.0625	3	6-5/8	11-1/4	80872	85648
1-5/64	1.0781	4	6-7/8	12-1/2	80873	85649
1-3/32	1.0938	4	6-7/8	12-1/2	80874	85650
1-7/64	1.1094	4	7-1/8	12-3/4	80875	85651
1-1/8	1.1250	4	7-1/8	12-3/4	80876	85652

DRILLS - METALWORKING

Taper Shank Drills

Morse Taper Shank — High Speed Steel
118° Point — Treated (Black Oxide)
General Purpose

Recommended for production work in wide variety of materials. **Black Oxide Surface Treatment** increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.



List No. 302

MADE IN USA

List No. 302QI

IMPORT

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 302 & 302QI

SIZE	DECIMAL EQUIV	TAPER SHANK	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
					302	302QI
1-9/64	1.1406	4	7-1/4	12-7/8	80877	85653
1-5/32	1.1562	4	7-1/4	12-7/8	80878	85654
1-11/64	1.1719	4	7-3/8	13	80879	85655
1-3/16	1.1875	4	7-3/8	13	80880	85656
1-13/64	1.2031	4	7-1/2	13-1/8	80881	85657
1-7/32	1.2188	4	7-1/2	13-1/8	80882	85658
1-15/64	1.2344	4	7-7/8	13-1/2	80883	85659
1-1/4	1.2500	4	7-7/8	13-1/2	80884	85660
1-17/64	1.2656	4	8-1/2	14-1/8	80885	85661
1-9/32	1.2812	4	8-1/2	14-1/8	80886	85662
1-19/64	1.2969	4	8-5/8	14-1/4	80887	85663
1-5/16	1.3125	4	8-5/8	14-1/4	80888	85664
1-21/64	1.3281	4	8-3/4	14-3/8	80889	85665
1-11/32	1.3438	4	8-3/4	14-3/8	80890	85666
1-23/64	1.3594	4	8-7/8	14-1/2	80891	85667
1-3/8	1.3750	4	8-7/8	14-1/2	80892	85668
1-25/64	1.3906	4	9	14-5/8	80893	85669
1-13/32	1.4062	4	9	14-5/8	80894	85670
1-27/64	1.4219	4	9-1/8	14-3/4	80895	85671
1-7/16	1.4375	4	9-1/8	14-3/4	80896	85672
1-29/64	1.4531	4	9-1/4	14-7/8	80897	85673
1-15/32	1.4688	4	9-1/4	14-7/8	80898	85674
1-31/64	1.4844	4	9-3/8	15	80899	85675
1-1/2	1.5000	4	9-3/8	15	80900	85676
1-17/32	1.5312	5	9-3/8	16-3/8	80901	85677
1-9/16	1.5625	5	9-5/8	16-5/8	80902	85678
1-19/32	1.5938	5	9-7/8	16-7/8	80903	85679
1-5/8	1.6250	5	10	17	80904	85680
1-21/32	1.6562	5	10-1/8	17-1/8	80905	85681
1-11/16	1.6875	5	10-1/8	17-1/8	80906	85682

SIZE	DECIMAL EQUIV	TAPER SHANK	FLUTE LENGTH	OVERALL LENGTH	EDP NO.	
					302	302QI
1-23/32	1.7188	5	10-1/8	17-1/8	80907	85683
1-3/4	1.7500	5	10-1/8	17-1/8	80908	85684
1-25/32	1.7812	5	10-1/8	17-1/8	80909	85685
1-13/16	1.8125	5	10-1/8	17-1/8	80910	85686
1-27/32	1.8438	5	10-1/8	17-1/8	80911	85687
1-7/8	1.8750	5	10-3/8	17-3/8	80912	85688
1-29/32	1.9062	5	10-3/8	17-3/8	80913	85689
1-15/16	1.9375	5	10-3/8	17-3/8	80914	85690
1-31/32	1.9688	5	10-3/8	17-3/8	80915	85691
2	2.0000	5	10-3/8	17-3/8	80916	85692
2-1/32	2.0312	5	10-3/8	17-3/8	-	88084
2-1/16	2.0625	5	10-1/4	17-3/8	80979	88085
2-3/32	2.0938	5	10-1/4	17-3/8	-	88086
2-1/8	2.1250	5	10-1/4	17-3/8	80980	88087
2-5/32	2.1562	5	10-1/4	17-3/8	-	88088
2-3/16	2.1875	5	10-1/4	17-3/8	80981	88089
2-7/32	2.2188	5	10-1/8	17-3/8	-	88090
2-1/4	2.2500	5	10-1/8	17-3/8	80982	88091
2-5/16	2.3125	5	10-1/8	17-3/8	80983	88092
2-3/8	2.3750	5	10-1/8	17-3/8	80984	88093
2-7/16	2.4375	5	11-1/4	18-3/4	80985	88094
2-1/2	2.5000	5	11-1/4	18-3/4	80986	88095
2-9/16	2.5625	5	11-7/8	19-1/2	-	88096
2-5/8	2.6250	5	11-7/8	19-1/2	-	88097
2-11/16	2.6875	5	12-3/4	20-3/8	-	88098
2-3/4	2.7500	5	12-3/4	20-3/8	-	88099
2-13/16	2.8125	5	13-3/8	21-1/8	-	88100
2-7/8	2.8750	5	13-3/8	21-1/8	-	88101
2-15/16	2.9375	5	14	21-3/4	-	88102
3	3.0000	5	14	21-3/4	-	88103

DRILLS - METALWORKING

Extra Long Taper Shank Drills

118° Point
High Speed Steel
Treated (Black Oxide)



For general purpose drilling in applications where extra reach is required.

List No. 307QI

IMPORT

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.

LIST NO. 307QI

SIZE	TAPER SHANK	EDP NO.			
		12" OAL	15" OAL	18" OAL	24" OAL
		8" FLUTE LENGTH	10" FLUTE LENGTH	12" FLUTE LENGTH	18" FLUTE LENGTH
1/8	1	87330	—	—	—
3/16	1	87331	—	—	—
7/32	1	87332	—	—	—
1/4	1	87333	87373	87438	—
17/64	1	87334	87374	87439	—
9/32	1	87335	87375	87440	—
19/64	1	87336	87376	87441	—
5/16	1	87337	87377	87442	—
21/64	1	87338	87378	88104	—
11/32	1	87339	87379	87443	—
23/64	1	87340	87380	87444	—
3/8	1	87341	87381	87445	87522
25/64	1	87342	87382	87446	87523
13/32	1	87343	87383	87447	87524
27/64	1	87344	87384	87448	87525
7/16	1	87345	87385	87449	87526
29/64	1	87346	87386	87450	—
15/32	1	87347	87387	87451	87527
31/64	2	87348	87388	87452	87528
1/2	2	87349	87389	87453	87529
33/64	2	87350	87390	87454	87530
17/32	2	87351	87391	87455	87531
35/64	2	87352	87392	87456	87532

SIZE	TAPER SHANK	EDP NO.			
		12" OAL	15" OAL	18" OAL	24" OAL
		8" FLUTE LENGTH	10" FLUTE LENGTH	12" FLUTE LENGTH	18" FLUTE LENGTH
9/16	2	87353	87393	87457	87533
37/64	2	87354	87394	87458	87534
19/32	2	87355	87395	87459	87535
39/64	2	87356	87396	87460	87536
5/8	2	87357	87397	87461	87537
41/64	2	87358	87398	87462	87538
21/32	2	87359	87399	87463	87539
43/64	2	87360	87400	87464	87540
11/16	2	87361	87401	87465	87541
45/64	2	87362	87402	87466	87542
23/32	2	87363	87403	87467	87543
47/64	2	87364	87404	87468	87544
3/4	2	87365	87405	87469	87545
49/64	2	87366	87406	87470	87546
25/32	2	87367	87407	87471	87547
51/64	3	—	87408	87472	87548
13/16	3	87368	87409	87473	87549
53/64	3	87369	87410	87474	87550
27/32	3	87370	87411	87475	87551
55/64	3	—	87412	87476	87552
7/8	3	87371	87413	87477	87553
57/64	3	—	87414	87478	87554
29/32	3	—	87415	87479	87555

(continued)

DRILLS - METALWORKING

Extra Long Taper Shank Drills

118° Point
High Speed Steel
Treated (Black Oxide)



For general purpose drilling in applications where extra reach is required.

Black Oxide Surface Treatment increases wear resistance, reduces galling and chip welding, improves chip flow and increases drill lubricant retention.

List No. 307QI

IMPORT

LIST NO. 307QI

(continued)

SIZE	TAPER SHANK	EDP NO.			
		12" OAL	15" OAL	18" OAL	24" OAL
		8" FLUTE LENGTH	10" FLUTE LENGTH	12" FLUTE LENGTH	18" FLUTE LENGTH
59/64	3	—	87416	87480	87556
15/16	3	87372	87417	87481	87557
61/64	3	—	87418	87482	87558
31/32	3	—	87419	87483	87559
63/64	3	—	87420	87484	87560
1	3	—	87421	87485	87561
1-1/64	3	—	87422	87486	87562
1-1/32	3	—	87423	87487	87563
1-3/64	3	—	87424	87488	87564
1-1/16	3	—	87425	87489	87565
1-5/64	4	—	87426	87490	87566
1-3/32	4	—	87427	87491	87567
1-7/64	4	—	87428	87492	87568
1-1/8	4	—	87429	87493	87569
1-9/64	4	—	87430	87494	87570
1-5/32	4	—	87431	87495	87571
1-11/64	4	—	87432	87496	87572
1-3/16	4	—	87433	87497	87573
1-13/64	4	—	87434	87498	87574
1-7/32	4	—	87435	87499	87575
1-15/64	4	—	87436	87500	87576

SIZE	TAPER SHANK	EDP NO.			
		12" OAL	15" OAL	18" OAL	24" OAL
		8" FLUTE LENGTH	10" FLUTE LENGTH	12" FLUTE LENGTH	18" FLUTE LENGTH
1-1/4	4	—	87437	87501	87577
1-17/64	4	—	—	87502	87578
1-9/32	4	—	—	87503	87579
1-19/64	4	—	—	87504	87580
1-5/16	4	—	—	87505	87581
1-21/64	4	—	—	87506	87582
1-11/32	4	—	—	87507	87583
1-23/64	4	—	—	87508	87584
1-3/8	4	—	—	87509	87585
1-25/64	4	—	—	87510	87586
1-13/32	4	—	—	87511	87587
1-27/64	4	—	—	87512	87588
1-7/16	4	—	—	87513	87589
1-29/64	4	—	—	87514	87590
1-15/32	4	—	—	87515	87591
1-31/64	4	—	—	87516	87592
1-1/2	4	—	—	87517	87593
1-9/16	5	—	—	87518	87594
1-5/8	5	—	—	87519	87597
1-11/16	5	—	—	87520	87595
1-3/4	5	—	—	87521	87596

DRILLS - METALWORKING

Helical Flute Multi-Size Step Drill Bits

High Speed Steel — TiN Coated

Spiral Flute

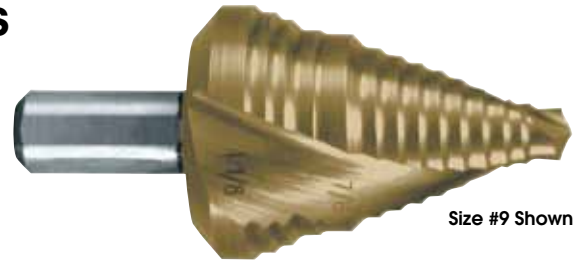
118° Split Point

The CBN ground cutting flutes guarantee quiet running and high cutting performance. The cone makes it easier to withdraw the tool from the material.

Titanium Nitride (TiN) Coating increases tool surface hardness, wear resistance, heat resistance, chip flow and resists chip welding.

LIST NO. 401GH

SIZE NO.	DRILLING RANGE	OVERALL LENGTH	NO. OF STEPS	SHANK DIA.	EDP NO.
2	1/8 - 1/2	2-7/8	13	1/4	81550
3	1/4 - 3/4	2-3/4	9	3/8	81551
4	3/16 - 7/8	3-1/4	12	3/8	81552
5	1/4 - 1	3	9	3/8	81553
9*	7/8 - 1-1/8	2-1/2	2*	3/8	81554



Size #9 Shown

List No. 401GH
TiN Coated

MADE IN GERMANY

STANDARD PACKAGE

All sizes — 1 each

* Size #9 specially designed for electricians to quickly drill 7/8" and 1-1/8" hole sizes instead of having to use knockout punches. Intermediate steps are not identified with size. Size #9 shown above.

Straight Flute Multi-Size Step Drill Bits & Sets

High Speed Steel

Straight Flute — Hex Shank

118° Point

Titanium Nitride (TiN) Coating increases tool surface hardness, wear resistance, heat resistance, chip flow and resists chip welding.

LIST NO. 402QI

DRILLING RANGE	STEP	STEP THICKNESS	NO. OF STEPS	HEX SHANK	EDP NO.	
					BRIGHT FINISH	TIN COATED
1/8 - 1/2	1/32	1/8	13	1/4	87940	87945
3/16 - 1/2	1/16	3/8	6	1/4	87941	87946
1/4 - 3/4	1/16	1/8	9	3/8	87942	87947
3/16 - 7/8	1/16	1/8	12	3/8	87943	87948
1/4 - 1-3/8	1/8	1/8	10	1/2	87944	87949
3-Pc. Set in Wooden Case 1/8 - 1/2, 3/16 - 1/2, 1/4 - 3/4					87938	87939



List No. 402QI
Bright Finish & TiN Coated

IMPORT

STANDARD PACKAGE

All sizes — 1 each

DRILLS - METALWORKING

BOGDAN™ Mag-Drills

Because they remove metal only at the periphery of the hole being cut, **BOGDAN Mag-Drills** require less power and thrust than conventional twist drills, effectively increasing the capacity of your existing machines. Multiple cutting edges produce higher feed rates, lower cutting resistance and better quality holes for increased productivity and longer tool life.

- 3/4" diameter shank with 2 flats at 90°
- Made from the finest Sheffield steel
- **M2 HIGH SPEED STEEL** for most applications
- **M35 COBALT STEEL** for tougher applications, better finish, higher speeds and feeds, and longer tool life
- **EJECTOR PIN SUPPLIED WITH CUTTER**

MADE IN ENGLAND

3" Cut Length 2" Cut Length 1" Cut Length



HIGH SPEED STEEL • LIST NO. 418

DIA.	1" CUT LENGTH		2" CUT LENGTH	
	EDP NO.	EDP NO.	EDP NO.	EDP NO.
7/16	82029	82056		
1/2	82030	82057		
9/16	82031	82058		
5/8	82032	82059		
11/16	82033	82060		
3/4	82034	82061		
13/16	82035	82062		
7/8	82036	82063		
15/16	82037	82064		
1	82038	82065		
1-1/16	82039	82066		
1-1/8	82040	82067		
1-3/16	82041	82068		
1-1/4	82042	82069		
1-5/16	82043	82070		
1-3/8	82044	82071		
1-7/16	82045	82072		
1-1/2	82046	82073		
1-9/16	82047	82074		
1-5/8	82048	82075		
1-11/16	82049	82076		
1-3/4	82050	82077		
1-13/16	82051	82078		
1-7/8	82052	82079		
1-15/16	82053	82080		
2	82054	82081		
2-1/16	82055	82082		
2-1/8	—	—		
2-1/4	—	—		

COBALT (M35) • LIST NO. 417

DIA.	1" CUT LENGTH		2" CUT LENGTH		3" CUT LENGTH	
	EDP NO.	EDP NO.	EDP NO.	EDP NO.	EDP NO.	EDP NO.
7/16	81000	81027				
1/2	81001	81028				
9/16	81002	81029				
5/8	81003	81030				
11/16	81004	81031				
3/4	81005	81032			82005	
13/16	81006	81033			82006	
7/8	81007	81034			82007	
15/16	81008	81035			82008	
1	81009	81036			82009	
1-1/16	81010	81037			82010	
1-1/8	81011	81038			82011	
1-3/16	81012	81039			82012	
1-1/4	81013	81040			82013	
1-5/16	81014	81041			82014	
1-3/8	81015	81042			82015	
1-7/16	81016	81043			82016	
1-1/2	81017	81044			82017	
1-9/16	81018	81045			82018	
1-5/8	81019	81046			82019	
1-11/16	81020	81047			82020	
1-3/4	81021	81048			82021	
1-13/16	81022	81049			82022	
1-7/8	81023	81050			82023	
1-15/16	81024	81051			82024	
2	81025	81052			82025	
2-1/16	81026	81053			82026	
2-1/8	—	—			82027	
2-1/4	—	—			82028	

ACCESSORIES • LIST NO. 419

DESCRIPTION	EDP NO.	DESCRIPTION	EDP NO.
Short Ejector Pins (1")	81054	Ejector Pin for 7/16" x 1"	81058
Long Ejector Pins (2")	81055	Ejector Pin for 7/16" x 2"	81059
Extra Long Ejector Pins (3")	82112	R8 Adapter	82113
2MT Adapter	81056		
3MT Adapter	81057		

DRILLS - METALWORKING

Morse Taper Drill Sleeves

For adapting Morse Taper shank tools to machine spindles having larger Morse Taper holes.

Regularly furnished soft with accurately finished Morse taper hole and shank.



List No. 210 Carbon Steel

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

SIZE	MORSE TAPER		OAL	EDP NO.
	HOLE	SHANK		
1 to 2	1	2	3-9/16	81555
1 to 3	1	3	3-15/16	81556
1 to 4	1	4	4-7/8	81557
1 to 5	1	5	6-1/8	81558
2 to 3	2	3	4-7/16	81559
2 to 4	2	4	4-7/8	81560
2 to 5	2	5	6-1/8	81561

SIZE	MORSE TAPER		OAL	EDP NO.
	HOLE	SHANK		
3 to 4	3	4	5-3/8	81562
3 to 5	3	5	6-1/8	81563
4 to 5	4	5	6-5/8	81564
4 to 6	4	6	8-5/8	81565
5 to 6	5	6	8-5/8	81566

Drill Drifts

For removal of sleeves, sockets, or taper shank cutting tools from spindles or tool holders.

Drop-forged and hardened.

Size #1 for removal of #1 Morse Taper Tools

Size #2 for removal of #2 Morse Taper Tools

Size #3 for removal of #3 Morse Taper Tools

Size #4 for Tools #4 Morse Taper and larger



List No. 211

MADE IN USA

DRILL DRIFTS

SIZE	EDP NO.
1	81442
2	81443
3	81444
4	81445

Drill Counter Display

- All steel welded outer shell with a clear, hinged polycarbonate front for high visibility and shatterproof durability.
- Lockable with own set of two keys.
- Steel drill gauge on top assures correct sizing of drills.
- All compartments display drills vertically to use less counter space and are rounded to make small drills readily accessible.
- Compact, takes less counterspace.
- 12-3/4"W x 14"D x 14-1/4"H. Weight: 14 lbs.



MADE IN USA

List No. 291 • EDP No. 81467

Drills not included.

For fractional drills 1/16" to 1/2" by 64ths.

DRILLS - METALWORKING

High Speed Steel & Cobalt Drills Speed and Feed Recommendations

WORKPIECE MATERIAL	BRINELL HARDNESS BHN	SURFACE SPEED SFM	FEED PER REVOLUTION BY DRILL DIAMETER				
			1/8"	1/4"	1/2"	3/4"	1"
Low Carbon Steel 1018, 12L12, 1108, 1213	≤120	110	0.0030	0.0040	0.0080	0.0100	0.0110
Low & Medium Carbon Steel 1018, 1551, 11L44	120 - 250	65	0.0040	0.0060	0.0110	0.0130	0.0140
Medium Carbon and Alloyed Steel 1040, 1140, 4340, 8640	≤250	60	0.0030	0.0040	0.0080	0.0100	0.0110
Tool and Die Steels P20, A2, D2, H12	≤250	50	0.0030	0.0040	0.0080	0.0100	0.0110
Tool and Die Steels P20, A2, D2, H12	250 - 350	35	0.0020	0.0030	0.0060	0.0070	0.0080
Free Machining Stainless Steels 303, 410, 416, 440F	≤250	60	0.0040	0.0060	0.0110	0.0130	0.0140
Moderate Machining Stainless Steels 304, 316	≤300	45	0.0020	0.0030	0.0060	0.0070	0.0080
Difficult Machining Stainless Steels 17-4PH, 316L, AM350	≤300	20	0.0020	0.0030	0.0060	0.0070	0.0080
Cast Iron Soft Gray	≤160	105	0.0040	0.0060	0.0110	0.0130	0.0140
Cast Iron Gray	160 - 260	90	0.0040	0.0060	0.0110	0.0130	0.0140
Cast Iron Ductile	250	80	0.0030	0.0040	0.0080	0.0100	0.0110
Cast Iron Malleable	250 - 330	55	0.0020	0.0030	0.0060	0.0070	0.0080
Titanium Alloys Commercially Pure 99.0	110 - 170	90	0.0030	0.0040	0.0080	0.0100	0.0110
Titanium Alloys Ti-6Al-4V, ASTM B367 Grades C-3, C-4	≤250	50	0.0030	0.0040	0.0080	0.0100	0.0110
High Temperature Alloys Inconel, Hastelloy, Waspaloy	≤150	50	0.0030	0.0040	0.0080	0.0100	0.0110
High Temperature Alloys Inconel, Hastelloy, Waspaloy	150 - 250	20	0.0010	0.0020	0.0045	0.0060	0.0070
Aluminum Alloys 2025, 6061, A140, 514.0	≤150	325	0.0040	0.0060	0.0110	0.0130	0.0140
Copper Alloys Brass and Bronze	≤200	80	0.0040	0.0060	0.0110	0.0130	0.0140
Composites & Plastics	≤128	175	0.0020	0.0030	0.0060	0.0070	0.0080
Magnesium Alloys AZ80A, HM12A, AM60A, ZE41A	50 - 90	325	0.0040	0.0060	0.0110	0.0130	0.0140

NOTE: The speeds and feeds shown are suggested starting points only and may be increased or decreased depending on actual material and machining conditions. Start conservatively and increase speed and feed until drilling cycle is optimized.

Difficult-to-Machine Materials may require or benefit from the application of specific recommended cutting tools for longer tool life. Applications Technical Support available on request.

Cutting Fluids selection and application can often contribute to longer tool life. Please consult your cutting fluids supplier for advice on your specific machining application.

DRILLS - MASONRY

General Purpose Masonry Drills Regular Helix

For use in all rotary style drill motors.

Regular Helix features wide flutes for fast dust removal especially in softer materials.

LIST NO. 543 - REGULAR HELIX

DIAMETER	OVERALL LENGTH	SHANK DIAMETER	EDP NO.
1/8	1-7/8	1/8	84205
1/8	3	1/8	84206
5/32	3	5/32	84207
11/64	3	11/64	84208
3/16	3	3/16	84209
13/64	3	3/16	84210
7/32	4	7/32	84211
1/4	3	1/4	84212
1/4	4	1/4	84213
9/32	4	1/4	84214
5/16	4	1/4	84215
3/8	4	1/4	84216
7/16	6	1/4	84217



List No. 543
Carbide Tipped

MADE IN USA

STANDARD PACKAGE
All sizes — 1 each

DIAMETER	OVERALL LENGTH	SHANK DIAMETER	EDP NO.
1/2	6	1/4	84218
9/16	6	3/8	84219
5/8	6	1/2	84220
5/8	6	3/8	84221
11/16	6	1/2	84222
3/4	6	1/2	84223
13/16	6	1/2	84224
7/8	6	1/2	84225
1	6	1/2	84226
1-1/8	6	1/2	84227
1-1/4	6	1/2	84228
1-3/8	6	1/2	84229
1-1/2	6	1/2	84230

General Purpose Masonry Drills High Helix

For use in all rotary style drill motors.

High Helix provides exceptional strength to minimize chipping of the carbide tip. Recommended for drilling in hard concrete aggregates and hard masonry products.

LIST NO. 546 - HIGH HELIX

DIAMETER	OVERALL LENGTH	SHANK DIAMETER	EDP NO.
1/8	3	1/8	84354
3/16	3	3/16	84355
1/4	4	1/4	84356
1/4	6	1/4	84357
5/16	4	1/4	84358
5/16	6	1/4	84359
3/8	4	1/4	84360
3/8	6	1/4	84361
3/8	12	3/8	84371
3/8	18	3/8	84373
7/16	4	1/4	84353
7/16	6	1/4	84362



List No. 546
Carbide Tipped

MADE IN USA

STANDARD PACKAGE
All sizes — 1 each

DIAMETER	OVERALL LENGTH	SHANK DIAMETER	EDP NO.
1/2	4	1/4	84363
1/2	6	1/4	84364
1/2	6	3/8	84365
1/2	12	3/8	84372
1/2	18	3/8	84374
9/16	6	3/8	84366
5/8	6	1/2	84367
3/4	6	1/2	84368
7/8	6	1/2	84369
1	6	1/2	84370

5-Pc. Masonry Drill Set High Helix

LIST NO. 546 - HIGH HELIX

DESCRIPTION	EDP NO.
3/16, 1/4, 5/16, 3/8, 1/2	84352

Carbide Tipped
In Plastic Case

MADE IN USA



DRILLS - MASONRY

Long Length General Purpose Masonry Drills Regular Helix



For use in all rotary style drill motors.

Regular Helix features wide flutes for fast dust removal especially in softer materials.

List No. 543
Carbide Tipped

MADE IN USA

STANDARD PACKAGE
All sizes — 1 each

Also Available in
24", 36", and 48"
Overall Length.
Please Inquire.

LIST NO. 543

6" OAL

DIAMETER	OVERALL LENGTH	SHANK DIAMETER	EDP NO.
1/8	6	1/8	84235
3/16	6	3/16	84236
7/32	6	7/32	84237
1/4	6	1/4	84238
9/32	6	1/4	84239
5/16	6	1/4	84240
5/16	6	5/16	84241
3/8	6	1/4	84242
3/8	6	3/8	84243
7/16	6	3/8	84244
1/2	6	3/8	84245
1/2	6	1/2	84246

12" OAL

1/8	12	1/8	84250
3/16	12	3/16	84251
7/32	12	7/32	84252
1/4	12	1/4	84253
9/32	12	1/4	84254
5/16	12	1/4	84255
5/16	12	5/16	84256
3/8	12	5/16	84257
3/8	12	3/8	84258
7/16	12	3/8	84259
1/2	12	3/8	84260
9/16	12	3/8	84261
5/8	12	1/2	84262
11/16	12	1/2	84263
3/4	12	1/2	84264
13/16	12	1/2	84265
7/8	12	1/2	84266
1	12	1/2	84267
1-1/8	12	1/2	84268
1-1/4	12	1/2	84269
1-3/8	12	1/2	84270
1-1/2	12	1/2	84271

18" OAL

DIAMETER	OVERALL LENGTH	SHANK DIAMETER	EDP NO.
1/8	18	1/8	84275
3/16	18	3/16	84276
7/32	18	7/32	84277
1/4	18	1/4	84278
9/32	18	1/4	84279
5/16	18	1/4	84280
5/16	18	5/16	84281
3/8	18	5/16	84282
3/8	18	3/8	84283
7/16	18	3/8	84284
1/2	18	3/8	84285
9/16	18	3/8	84286
5/8	18	1/2	84287
11/16	18	1/2	84288
3/4	18	1/2	84289
13/16	18	1/2	84290
7/8	18	1/2	84291
1	18	1/2	84292
1-1/8	18	1/2	84293
1-1/4	18	1/2	84294
1-3/8	18	1/2	84295
1-1/2	18	1/2	84296

DRILLS - MASONRY

SDS+ Shank Percussion Hammer Drills Carbide Tipped



List No. 512

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

Also Available in Round Shank,
Spline Drive, SDS Max™,
A Taper and B Taper.
Please Inquire

SDS slot drive bits for rotary hammers that specify an SDS+ shank. Positive drive slots deliver maximum drilling torque and tremendous hammering energy for faster drilling.

LIST NO. 512

DIAMETER	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
3/16	2-1/2	4-3/4	83800
3/16	4-1/2	6	83801
3/16	6-1/2	8-3/4	83802
3/16	8	10-1/4	83803
3/16	10	12-1/4	83804
3/16	12	14-1/4	83805
7/32	2-1/2	4-3/4	83806
7/32	4-1/2	6-3/4	83807
7/32	6-1/2	8-3/4	83808
7/32	8	10-1/4	83809
7/32	10	12-1/4	83810
7/32	12	14-1/4	83811
1/4	2-1/2	4	83812
1/4	4-1/2	6	83813
1/4	6-1/2	8-3/4	83814
1/4	8	10-1/4	83815
1/4	10	12-1/4	83816
1/4	12	14-1/4	83817
5/16	4-1/2	6	83818
5/16	7-1/2	9	83819
5/16	10-1/2	12	83820
3/8	4-1/2	6	83821
3/8	7-1/2	9	83822
3/8	10-1/2	12	83823
3/8	16-1/2	18	83824
7/16	4-1/2	6	83825
7/16	10-1/2	12	83826
7/16	16-1/2	18	83827
1/2	4-7/8	6	83828
1/2	7-7/8	9	83829
1/2	10-7/8	12	83830
1/2	16-7/8	18	83831

DIAMETER	FLUTE LENGTH	OVERALL LENGTH	EDP NO.
9/16	4-7/8	6	83832
9/16	7-7/8	9	83833
9/16	10-7/8	12	83834
9/16	16-7/8	18	83835
5/8	4-7/8	6	83836
5/8	7-7/8	9	83837
5/8	10-7/8	12	83838
5/8	16-7/8	18	83839
11/16	7-1/4	9	83840
3/4	7-1/4	9	83841
3/4	10-1/4	12	83842
3/4	16-1/4	18	83843
13/16	7-1/4	9	83844
27/32	7-1/4	9	83845
7/8	7-1/4	9	83846
7/8	10-1/4	12	83847
7/8	16-1/4	18	83848
1	10-1/4	12	83849
1	16-1/4	18	83850
.202	2-3/4	5	83851
.202	4-1/4	6-1/2	83852
.202	6-1/4	8-1/2	83853
.202	7-3/4	10	83854
.214	9-5/8	12-1/8	83855
.214	12-1/4	14-1/2	83856

DRILLS - MASONRY

Rebar Cutters Carbide Tipped



For use in drilling through concrete-embedded reinforcing bars or wire mesh.

Important Rebar Cutter Technical Information:

- Use a masonry drill or hammer bit to first drill concrete until the rebar or wire mesh is reached. The drill must then be stopped at once when contact is made. (Any carbide tipped drill will fail if not stopped!)
- Using a 1/2" chuck drill motor, place the rebar cutter into the hole and drill through the embedded rebar or wire mesh while maintaining an even and constant pressure.
- Once the rebar or wire mesh is drilled, clean chips from hole and continue drilling with the standard masonry drill or hammer bit from the first step.

CAUTION

The rebar cutter can be used in most 1/2" chuck drill motors with a rated no-load speed of 400-1200 RPM. When using a hammer drill the selector must remain in the rotary-only position. Percussion (hammering) will damage the rebar cutter. **The cutter is designed for rotary drilling only!**

List No. 522

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 522

DIAMETER	OVERALL LENGTH	SHANK DIAMETER	EDP NO.
1/2	12	1/2	84060
9/16	12	1/2	84061
5/8	12	1/2	84062
11/16	12	1/2	84063
3/4	12	1/2	84064
7/8	12	1/2	84065
1	12	1/2	84066
1-1/8	12	1/2	84067
1-1/4	12	1/2	84068
1-3/8	12	1/2	84069
1-1/2	12	1/2	84070
1-3/4	12	1/2	84071
2	12	1/2	84072
2-1/2	12	1/2	84073
3	12	1/2	84074



COUNTERSINKS

Combined Drills and Countersinks

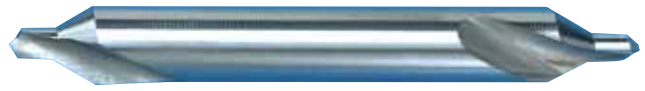
High Speed Steel — Bright Finish
60° Included Angle

Often called "center drills." Designed for drilling center holes in the ends of work pieces to be held between standard 60° centers.

LIST NO. 495

STANDARD LENGTH

SIZE	DRILL DIA.	BODY DIA.	OVERALL LENGTH	EDP NO.
3/0	.020	1/8	1-1/4	81510
2/0	.025	1/8	1-1/4	81511
0	1/32	1/8	1-1/4	81512
1	3/64	1/8	1-1/4	81513
2	5/64	3/16	1-7/8	81514
3	7/64	1/4	2	81515
4	1/8	5/16	2-1/8	81516
5	3/16	7/16	2-3/4	81517
6	7/32	1/2	3	81518
7	1/4	5/8	3-1/4	81519
8	5/16	3/4	3-1/2	81520



List No. 495 Standard Length

MADE IN USA



List No. 496 Long Length

MADE IN USA

STANDARD PACKAGE

3/0 thru 4 — 6 each

5 thru 8 — 1 each

LIST NO. 496

LONG LENGTH

SIZE	DRILL DIA.	BODY DIA.	OVERALL LENGTH	EDP NO.
1	3/64	1/8	3	81568
1	3/64	1/8	4	81569
2	5/64	3/16	4	81573
2	5/64	3/16	5	81574
2	5/64	3/16	6	81575
3	7/64	1/4	4	81577
3	7/64	1/4	5	81578
3	7/64	1/4	6	81579
4	1/8	5/16	4	81580
4	1/8	5/16	5	81581
4	1/8	5/16	6	81582
5	3/16	7/16	4	81586
5	3/16	7/16	5	81587
5	3/16	7/16	6	81588
6	7/32	1/2	5	81589
6	7/32	1/2	6	81590
7	1/4	5/8	6	81591
8	5/16	3/4	6	81592

List No. 495

MADE IN USA



Combined Drill and Countersinks Set

High Speed Steel — Bright Finish
60° Included Angle
Standard Length

Includes Nos. 1, 2, 3, 4 and 5.

LIST NO. 495

SIZE RANGE

1-5

EDP NO.

81521

COUNTERSINKS

Single Flute Countersinks

High Speed Steel
Treated (Black Oxide)

For chamfering, deburring, and countersinking. Also to enlarge existing holes in thin sheet metal.

Designed for light portable work as well as machine use. Single flute construction provides smoother surface finish. Can be used when multi-flute countersinks chatter.

STANDARD PACKAGE All sizes — 1 each

MADE IN USA



List No. 752

SIZE	SHANK DIA.	OAL	EDP NO.		
			60°	82°	90°
1/4	1/4	2	85758	85767	85776
3/8	1/4	2	85759	85768	85777
1/2	1/4	2	85760	85769	85778
5/8	1/2	2-1/4	85761	85770	85779
3/4	1/2	2-3/4	85762	85771	85780
1	1/2	2-3/4	85763	85772	85781
1-1/4	1/2	3	85764	85773	85782
1-1/2	3/4	3-1/2	85765	85774	85783
2	3/4	3-1/2	85766	85775	85784

Machine Countersinks

High Speed Steel - 4-Flute
Treated (Black Oxide)

Designed primarily for countersinking holes. The longer shank length is ideal for use in turret lathes for screw machine work.

STANDARD PACKAGE All sizes — 1 each

MADE IN USA



List No. 751

SIZE	SHANK DIA.	SHANK LENGTH	OAL	EDP NO.		
				60°	82°	90°
1/2	1/2	2-1/4	3-7/8	85785	85790	85795
5/8	1/2	2-1/4	4	85786	85791	-
3/4	1/2	2-1/4	4-1/4	85787	85792	85797
7/8	1/2	2-1/4	4-1/4	85788	85793	-
1	1/2	2-1/4	4-3/8	85789	85794	85799

Countersink & Deburring Tools 60°, 82° & 90°

High Speed Steel

For countersinking and deburring in a wide range of ferrous and non-ferrous materials. Radially relieved single cutting edge for fast stock removal without chatter in portable and machine applications.



IMPORT

LIST NO. 753QI

SIZE	RANGE OF HOLE DIAMETER WHICH CAN BE CUT		SHANK SIZE	OAL	EDP NO.		
	SMALLEST DIAMETER	LARGEST DIAMETER			60°	82°	90°
0 Double End	1/16	15/64	1/4	1-3/4	85800	85809	85818
1 Single End	5/32	13/32	1/4	1-3/4	85801	85810	85819
2 Single End	3/16	17/32	1/4	2	85802	85811	85820
3 Single End	5/16	25/32	1/2	2-3/4	85803	85812	85821
4 Single End	9/16	1-1/16	1/2	3	85804	85813	85822
5 Single End	5/8	1-15/32	1/2	3-1/2	85805	85814	85823
6 Single End	3/4	1-3/4	5/8	4-1/4	85806	85815	85824
7 Single End	1	2	5/8	4-3/4	85807	85816	85825
8 Single End	1-1/4	2-1/2	3/4	5-15/16	85808	85817	85826

REAMERS

Construction Taper Reamers 3-Flat Shank

High Speed Steel

Left Hand Helical Flute – Right Hand Cut

Tapered at point to allow entering of holes which are out of alignment. Straight shank with a stop collar for safety. Round shank with 3 flats to prevent slipping in the drill chuck.



List No. 650

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 650

3 FLAT SHANK

SIZE	DECIMAL EQUIV.	SHANK DIA.	POINT DIA.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	EDP NO.
3/8	.3750	3/8	.1645	3-5/8	5-1/4	5	81800
7/16	.4375	7/16	.1645	3-5/8	5-1/4	5	81801
1/2	.5000	1/2	.2340	4-3/8	6	5	81802
9/16	.5625	1/2	.2920	5	6-5/8	5	81803
5/8	.6250	1/2	.3520	5	6-5/8	5	81804

SIZE	DECIMAL EQUIV.	SHANK DIA.	POINT DIA.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	EDP NO.
11/16	.6875	1/2	.4140	5-3/8	7	5	81805
3/4	.7500	1/2	.4770	5-3/8	7	5	81806
7/8	.8750	1/2	.6020	5-3/8	7-1/4	5	81807
1	1.0000	1/2	.7270	5-3/8	7-1/4	5	81808

Construction Taper Reamers Round Shank

High Speed Steel

Left Hand Helical Flute – Right Hand Cut

Tapered at point to allow entering of holes which are out of alignment. Straight shank with a stop collar for safety.



List No. 650R

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 650R

ROUND SHANK

SIZE	DECIMAL EQUIV.	SHANK DIA.	POINT DIA.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	EDP NO.
3/8	.3750	3/8	.1645	3-5/8	5-1/4	5	81700
7/16	.4375	7/16	.1645	3-5/8	5-1/4	5	81701
1/2	.5000	1/2	.2340	4-3/8	6	5	81702
9/16	.5625	1/2	.2920	5	6-5/8	5	81703
5/8	.6250	1/2	.3520	5	6-5/8	5	81704

SIZE	DECIMAL EQUIV.	SHANK DIA.	POINT DIA.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	EDP NO.
11/16	.6875	1/2	.4140	5-3/8	7	5	81705
3/4	.7500	1/2	.4770	5-3/8	7	5	81706
7/8	.8750	1/2	.6020	5-5/8	7-1/4	5	81707
1	1.0000	1/2	.7270	5-5/8	7-1/4	5	81708

REAMERS

Hex Shank Construction Reamers

High Speed Steel

Left Hand Spiral Flute — Right Hand Cut

BLACK OXIDE TREATED

- Enlarge and align existing holes in bridgework, ship construction and structural steel fabrication where extreme accuracy of diameter is not important
- **Hex Shank** for use in impact sockets with portable electric and pneumatic power tools. Hex shank size is the same size as the required nut size.
- **Left Hand Spiral Flutes** eject chips forward and away from the tool operator and also minimize tendency of the reamer to pull itself into the hole and bind.
- **Tapered Point** for easy entry into misaligned holes

STANDARD SHANK

List No. 651 Bridge Length

List No. 651 Car Length

MADE IN USA

SAFETY TYPE* SHANK

List No. 651S Bridge Length

List No. 651S Car Length

MADE IN USA

* Features a magnet in the hex shank to hold the reamer in the tool.

CAR LENGTH

SIZE	FLUTE LENGTH	OVERALL LENGTH	HEX SHANK SIZE	EDP NO.	
				STANDARD SHANK LIST NO. 651	SAFETY TYPE SHANK LIST NO. 651S
11/16	4-1/2	6-3/8	1-1/16	84571	84583
13/16	5	7	1-1/4	84572	84584
15/16	5	7	1-7/16	84573	84585
1-1/16	5	7	1-5/8	84574	84586
1-3/16	5	7	1-13/16	84575	84587
1-5/16	5	7-7/8	2	84576	84588



CAR LENGTH

Shorter length for tight areas.

BRIDGE LENGTH

SIZE	FLUTE LENGTH	OVERALL LENGTH	HEX SHANK SIZE	EDP NO.	
				STANDARD SHANK LIST NO. 651	SAFETY TYPE SHANK LIST NO. 651S
11/16	7-1/8	9-1/4	1-1/16	84565	84577
13/16	7-3/8	9-3/8	1-1/4	84566	84578
15/16	7-3/8	9-3/8	1-7/16	84567	84579
1-1/16	7-3/8	9-3/8	1-5/8	84568	84580
1-3/16	7-3/8	9-3/8	1-13/16	84569	84581
1-5/16	7-3/8	10	2	84570	84582



BRIDGE LENGTH

REAMERS

Straight Shank Chuckling Reamers High Speed Steel – Straight Flute



45° Chamfer for reaming of most materials

Diameter Tolerances

up to 1/2" — +.0002,-0
over 1/2" to 5/8" — +.0003/-0
over 5/8" to 1-1/2" — +.0001/+0.0004

List No. 655

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 655

STRAIGHT SHANK CHUCKLING REAMERS

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	EDP NO.
1/16	.0625	1/2	2-1/2	4	81600
5/64	.0781	3/4	3	4	81601
3/32	.0937	3/4	3	4	81602
7/64	.1094	7/8	3-1/2	4	81603
1/8	.1250	7/8	3-1/2	6	81604
9/64	.1406	1	4	6	81605
5/32	.1562	1	4	6	81606
11/64	.1719	1-1/8	4-1/2	6	81607
3/16	.1875	1-1/8	4-1/2	6	81608
13/64	.2031	1-1/4	5	6	81609
7/32	.2187	1-1/4	5	6	81610
15/64	.2344	1-1/2	6	6	81611
1/4	.2500	1-1/2	6	6	81612
17/64	.2656	1-1/2	6	6	81613
9/32	.2812	1-1/2	6	6	81614
19/64	.2969	1-1/2	6	6	81615
5/16	.3125	1-1/2	6	6	81616
21/64	.3281	1-1/2	6	6	81617
11/32	.3437	1-1/2	6	6	81618
23/64	.3594	1-3/4	7	6	81619
3/8	.3750	1-3/4	7	6	81620
25/64	.3906	1-3/4	7	6	81621
13/32	.4062	1-3/4	7	6	81622
27/64	.4219	1-3/4	7	6	81623
7/16	.4375	1-3/4	7	6	81624
29/64	.4531	1-3/4	7	6	81625
15/32	.4687	1-3/4	7	6	81626

SIZE	DECIMAL EQUIV.	FLUTE LENGTH	OVERALL LENGTH	NO. OF FLUTES	EDP NO.
31/64	.4844	2	8	6	81627
1/2	.5000	2	8	6	81628
17/32	.5312	2	8	6	81629
9/16	.5625	2	8	6	81630
19/32	.5937	2	8	6	81631
5/8	.6250	2-1/4	9	6	81632
21/32	.6562	2-1/4	9	6	81633
11/16	.6875	2-1/4	9	6	81634
23/32	.7187	2-1/4	9	6	81635
3/4	.7500	2-1/2	9-1/2	8	81636
25/32	.7812	2-1/2	9-1/2	8	81637
13/16	.8125	2-1/2	9-1/2	8	81638
27/32	.8437	2-1/2	9-1/2	8	81639
7/8	.8750	2-5/8	10	8	81640
29/32	.9062	2-5/8	10	8	81641
15/16	.9375	2-5/8	10	8	81642
31/32	.9687	2-5/8	10	8	81643
1	1.0000	2-3/4	10-1/2	8	81644
1-1/16	1.0625	2-3/4	10-1/2	8	81645
1-1/8	1.1250	2-7/8	11	8	81646
1-3/16	1.1875	2-7/8	11	8	81647
1-1/4	1.2500	3	11-1/2	8	81648
1-3/8	1.3750	3-1/4	12	10	81649
1-1/2	1.5000	3-1/2	12-1/2	10	81650

Straight Flute Hand Taps

Ground Thread — High Speed Steel



Straight Flute hand taps are used for hand tapping and machine tapping in through holes or blind holes in a wide variety of materials.

Available in sets, taper (8-10 thread chamfer), plug (3-5 thread chamfer) or bottoming (1-2 thread chamfer)

List No. 110 Machine Screw Sizes

STANDARD PACKAGE

All sizes — 12 each
Sets — 1 each
taper, plug & bottoming

MADE IN USA

LIST NO. 110

MACHINE SCREW SIZES

SIZE	THREAD PER INCH		NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OVERALL LENGTH	EDP NO.			SET EDP NO.
	NC UNC	NF UNF					TAPER	PLUG	BOTTOMING	
4	40		3	H2	9/16	1-7/8	82450	82462	82474	82486
		48	3	H2	9/16	1-7/8	82451	82463	82475	82487
5	40		3	H2	5/8	1-15/16	82452	82464	82476	82488
		44	3	H2	5/8	1-15/16	82453	82465	82477	82489
6	32		3	H3	11/16	2	82454	82466	82478	82490
		40	3	H2	11/16	2	82455	82467	82479	82491
8	32		4	H3	3/4	2-1/8	82456	82468	82480	82492
		36	4	H2	3/4	2-1/8	82457	82469	82481	82493
10	24		4	H3	7/8	2-3/8	82458	82470	82482	82494
		32	4	H3	7/8	2-3/8	82459	82471	82483	82495
12	24		4	H3	15/16	2-3/8	82460	82472	82484	82496
		28	4	H3	15/16	2-3/8	82461	82473	82485	82497

Straight Flute Hand Taps

Ground Thread — High Speed Steel

List No. 110QI Machine Screw Sizes

STANDARD PACKAGE

All sizes — 12 each
Sets — 1 each
taper, plug & bottoming

IMPORT

LIST NO. 110QI

MACHINE SCREW SIZES

SIZE	THREAD PER INCH		NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OVERALL LENGTH	EDP NO.			SET EDP NO.
	NC UNC	NF UNF					TAPER	PLUG	BOTTOMING	
4	40		3	H2	9/16	1-7/8	86180	86192	86204	86216
		48	3	H2	9/16	1-7/8	86181	86193	86205	86217
5	40		3	H2	5/8	1-15/16	86182	86194	86206	86218
		44	3	H2	5/8	1-15/16	86183	86195	86207	86219
6	32		3	H3	11/16	2	86184	86196	86208	86220
		40	3	H2	11/16	2	86185	86197	86209	86221
8	32		4	H3	3/4	2-1/8	86186	86198	86210	86222
		36	4	H2	3/4	2-1/8	86187	86199	86211	86223
10	24		4	H3	7/8	2-3/8	86188	86200	86212	86224
		32	4	H3	7/8	2-3/8	86189	86201	86213	86225
12	24		4	H3	15/16	2-3/8	86190	86202	86214	86226
		28	4	H3	15/16	2-3/8	86191	86203	86215	86227

Straight Flute Hand Taps

Ground Thread — High Speed Steel



Straight Flute hand taps are used for hand tapping and machine tapping in through holes or blind holes in a wide variety of materials.

Available in sets, taper (8-10 thread chamfer), plug (3-5 thread chamfer) or bottoming (1-2 thread chamfer)

List No. 110 Fractional Sizes

MADE IN USA

STANDARD PACKAGE

1/4" thru 1/2" — 12 each

9/16" thru 3/4" — 3 each

7/8" thru 1-1/2" — 1 each

Sets — 1 each

taper, plug & bottoming

LIST NO. 110

FRACTIONAL SIZES

SIZE	THREAD PER INCH		NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OVERALL LENGTH	EDP NO.			SET EDP NO.
	UNC	UNF					TAPER	PLUG	BOTTOMING	
1/4	20	-	4	H3	1	2-1/2	82360	82381	82402	82423
	20	-	4	H5	1	2-1/2	-	82938	-	-
	-	28	4	H3	1	2-1/2	82361	82382	82403	82424
	-	28	4	H4	1	2-1/2	-	82939	82962	-
5/16	18	-	4	H3	1-1/8	2-23/32	82362	82383	82404	82425
	18	-	4	H5	1-1/8	2-23/32	-	82940	82963	-
	-	24	4	H3	1-1/8	2-23/32	82363	82384	82405	82426
3/8	16	-	4	H3	1-1/4	2-15/16	82364	82385	82406	82427
	16	-	4	H5	1-1/4	2-15/16	-	82941	82964	-
	-	24	4	H3	1-1/4	2-15/16	82365	82386	82407	82428
7/16	14	-	4	H3	1-7/16	3-5/32	82366	82387	82408	82429
	14	-	4	H5	1-7/16	3-5/32	-	82942	82965	-
	-	20	4	H3	1-7/16	3-5/32	82367	82388	82409	82430
	-	20	4	H5	1-7/16	3-5/32	-	82943	82966	-
1/2	13	-	4	H3	1-21/32	3-3/8	82368	82389	82410	82431
	13	-	4	H5	1-21/32	3-3/8	-	82944	82967	-
	-	20	4	H3	1-21/32	3-3/8	82369	82390	82411	82432
	-	20	4	H5	1-21/32	3-3/8	-	82945	-	-
9/16	12	-	4	H3	1-21/32	3-19/32	82370	82391	82412	82433
	12	-	4	H5	1-21/32	3-19/32	-	82946	-	-
	-	18	4	H3	1-21/32	3-19/32	82371	82392	82413	82434
	-	18	4	H5	1-21/32	3-19/32	-	82947	-	-
5/8	11	-	4	H3	1-13/16	3-13/16	82372	82393	82414	82435
	11	-	4	H5	1-13/16	3-13/16	-	82948	82968	-
	-	18	4	H3	1-13/16	3-13/16	82373	82394	82415	82436
	-	18	4	H5	1-13/16	3-13/16	-	82949	82969	-
11/16	11	-	4	H3	1-13/16	4-1/32	82928	82950	82970	82982
	-	16	4	H3	1-13/16	4-1/32	82929	82951	82971	82983
3/4	10	-	4	H3	2	4-1/4	82374	82395	82416	82437
	10	-	4	H5	2	4-1/4	-	82952	82972	-
	-	16	4	H3	2	4-1/4	82375	82396	82417	82438
	-	16	4	H5	2	4-1/4	-	82953	82973	-
7/8	9	-	4	H4	2-7/32	4-11/16	82376	82397	82418	82439
	-	14	4	H4	2-7/32	4-11/16	82377	82398	82419	82440
1	8	-	4	H4	2-1/2	5-1/8	82378	82399	82420	82441
	-	12	4	H4	2-1/2	5-1/8	82379	82400	82421	82442
	-	14	4	H4	2-1/2	5-1/8	82380	82401	82422	82443
1-1/8	7	-	4	H4	2-9/16	5-7/16	82930	82954	82974	82984
	-	12	4	H4	2-9/16	5-7/16	82931	82955	82975	82985
1-1/4	7	-	4	H4	2-9/16	5-3/4	82932	82956	82976	82986
	-	12	6	H4	2-9/16	5-3/4	82933	82957	82977	82987
1-3/8	6	-	4	H4	3	6-1/16	82934	82958	82978	82988
	-	12	6	H4	3	6-1/16	82935	82959	82979	82989
1-1/2	6	-	4	H4	3	6-3/8	82936	82960	82980	82990
	-	12	6	H4	3	6-3/8	82937	82961	82981	82991

TAPS

Straight Flute Hand Taps

Ground Thread — High Speed Steel



Straight Flute hand taps are used for hand tapping and machine tapping in through holes or blind holes in a wide variety of materials.

Available in sets, taper (8-10 thread chamfer), plug (3-5 thread chamfer) or bottoming (1-2 thread chamfer)

List No. 110QI Fractional Sizes

IMPORT

STANDARD PACKAGE

1/4" thru 1/2" — 12 each

9/16" thru 3/4" — 3 each

7/8" thru 1" — 1 each

Sets — 1 each

taper, plug & bottoming

LIST NO. 110QI

FRACTIONAL SIZES

SIZE	THREAD PER INCH		NO. OF FLUTES	PITCH DIA. LIMIT	THREAD LENGTH	OVERALL LENGTH	EDP NO.			SET EDP NO.	
	NC UNC	NF UNF					TAPER	PLUG	BOTTOMING		
1/4	20		4	H3	1	2-1/2	86228	86249	86270	86291	
			28	4	H3	1	2-1/2	86229	86250	86271	86292
5/16	18		4	H3	1-1/8	2-23/32	86230	86251	86272	86293	
			24	4	H3	1-1/8	2-23/32	86231	86252	86273	86294
3/8	16		4	H3	1-1/4	2-15/16	86232	86253	86274	86295	
			24	4	H3	1-1/4	2-15/16	86233	86254	86275	86296
7/16	14		4	H3	1-7/16	3-5/32	86234	86255	86276	86297	
			20	4	H3	1-7/16	3-5/32	86235	86256	86277	86298
1/2	13		4	H3	1-21/32	3-3/8	86236	86257	86278	86299	
			20	4	H3	1-21/32	3-3/8	86237	86258	86279	86300
9/16	12		4	H3	1-21/32	3-19/32	86238	86259	86280	86301	
			18	4	H3	1-21/32	3-19/32	86239	86260	86281	86302
5/8	11		4	H3	1-13/16	3-13/16	86240	86261	86282	86303	
			18	4	H3	1-13/16	3-13/16	86241	86262	86283	86304
3/4	10		4	H3	2	4-1/4	86242	86263	86284	86305	
			16	4	H3	2	4-1/4	86243	86264	86285	86306
7/8	9		4	H4	2-7/32	4-11/16	86244	86265	86286	86307	
			14	4	H4	2-7/32	4-11/16	86245	86266	86287	86308
1	8		4	H4	2-1/2	5-1/8	86246	86267	86288	86309	
			12	4	H4	2-1/2	5-1/8	86247	86268	86289	86310
			14	4	H4	2-1/2	5-1/8	86248	86269	86290	86311

TAPS

MARXBORE™ Straight Flute Hand Taps

Ground Thread — High Speed Steel

Straight Flute hand taps are used for hand tapping and machine tapping in through holes or blind holes in a wide variety of materials.

Available in sets, taper (8-10 thread chamfer), plug (3-5 thread chamfer) or bottoming (1-2 thread chamfer)



List No. 114 Gold & Black Finish

MADE IN USA

STANDARD PACKAGE

1/4" thru 1/2" — 12 each

9/16" thru 3/4" — 3 each

7/8" thru 1" — 1 each

Sets - 1 each

taper, plug & bottoming

Machine Screw Sizes

All sizes — 12 each

LIST NO. 114

MACHINE SCREW SIZES

SIZE	THREAD PER INCH		PITCH DIA. LIMIT	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	EDP NO.			SET EDP NO.
	NC UNC	NF UNF					TAPER	PLUG	BOTTOMING	
0		80	H1	2	5/16	1-5/8	86770	82521	86789	86808
1	64	72	H1	2	3/8	1-11/16	86771	82522	86790	86809
			H1	2	3/8	1-11/16	86772	82523	86791	86810
2	56	64	H2	3	7/16	1-3/4	86773	82524	86792	86811
			H2	3	7/16	1-3/4	86774	82525	86793	86812
3	48	56	H2	3	1/2	1-13/16	86775	82526	86794	86813
			H2	3	1/2	1-13/16	86776	82527	86795	86814
4	40	48	H2	3	9/16	1-7/8	86777	82528	86796	86815
			H2	3	9/16	1-7/8	86778	82529	86797	86816
5	40	44	H2	3	5/8	1-15/16	86779	82530	86798	86817
			H2	3	5/8	1-15/16	86780	82531	86799	86818
6	32	40	H2	3	11/16	2	86781	82532	86800	86819
			H2	3	11/16	2	86782	82533	86801	86820
8	32	36	H2	4	3/4	2-1/8	86783	82534	86802	86821
			H2	4	3/4	2-1/8	86784	82535	86803	86822
10	24	32	H3	4	7/8	2-3/8	86785	82536	86804	86823
			H3	4	7/8	2-3/8	86786	82537	86805	86824
12	24	28	H3	4	15/16	2-3/8	86787	82538	86806	86825
			H3	4	15/16	2-3/8	86788	82539	86807	86826

LIST NO. 114

FRACTIONAL SIZES

SIZE	THREAD PER INCH		PITCH DIA. LIMIT	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	EDP NO.			SET EDP NO.
	NC UNC	NF UNF					TAPER	PLUG	BOTTOMING	
1/4	20	28	H3	4	1	2-1/2	86827	82500	86848	86869
			H3	4	1	2-1/2	86828	82501	86849	86870
5/16	18	24	H3	4	1-1/8	2-23/32	86829	82502	86850	86871
			H3	4	1-1/8	2-23/32	86830	82503	86851	86872
3/8	16	24	H3	4	1-1/4	2-15/16	86831	82504	86852	86873
			H3	4	1-1/4	2-15/16	86832	82505	86853	86874
7/16	14	20	H3	4	1-7/16	3-5/32	86833	82506	86854	86875
			H3	4	1-7/16	3-5/32	86834	82507	86855	86876
1/2	13	20	H3	4	1-21/32	3-3/8	86835	82508	86856	86877
			H3	4	1-21/32	3-3/8	86836	82509	86857	86878
9/16	12	18	H3	4	1-21/32	3-19/32	86837	82510	86858	86879
			H3	4	1-21/32	3-19/32	86838	82511	86859	86880
5/8	11	18	H3	4	1-13/16	3-13/16	86839	82512	86860	86881
			H3	4	1-13/16	3-13/16	86840	82513	86861	86882
3/4	10	16	H3	4	2	4-1/4	86841	82514	86862	86883
			H3	4	2	4-1/4	86842	82515	86863	86884
7/8	9	14	H4	4	2-7/32	4-11/16	86843	82516	86864	86885
			H4	4	2-7/32	4-11/16	86844	82517	86865	86886
1	8	12	H4	4	2-1/2	5-1/8	86845	82518	86866	86887
			H4	4	2-1/2	5-1/8	86846	82519	86867	86888
			H4	4	2-1/2	5-1/8	86847	82520	86868	86889

TAPS

Metric Straight Flute Hand Taps

Ground Thread — High Speed Steel

Straight Flute hand taps are used for hand tapping and machine tapping in through holes or blind holes in a wide variety of materials.

Available in sets, taper (8-10 thread chamfer), plug (3-5 thread chamfer) or bottoming (1-2 thread chamfer)



List No. 111 Metric Sizes

MADE IN USA

STANDARD PACKAGE

M1.6 thru M12 — 12 each
M14 thru M16 — 3 each
M18 thru M36 — 1 each
Sets (Taper, Plug, Bottom)

Pitch diameters are those recommended for 6H Class of thread.

LIST NO. 111

METRIC SIZES

SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	EDP NO.			SET EDP NO.
					TAPER	PLUG	BOTTOMING	
M1.6 x 0.35	D3	2	5/16	1-5/8	84715	84752	84789	84826
M2 x 0.4	D3	3	7/16	1-3/4	84716	84753	84790	84827
M2.2 x 0.45	D3	3	7/16	1-3/4	84717	84754	84791	84828
M2.5 x 0.45	D3	3	1/2	1-13/16	84718	84755	84792	84829
M3 x 0.5	D3	3	5/8	1-15/16	84719	84756	84793	84830
M3.5 x 0.6	D4	3	11/16	2	84720	84757	84794	84831
M4 x 0.7	D4	4	3/4	2-1/8	84721	84758	84795	84832
M4.5 x 0.75	D4	4	7/8	2-3/8	84722	84759	84796	84833
M5 x 0.8	D4	4	7/8	2-3/8	84723	84760	84797	84834
M6 x 1	D5	4	1	2-1/2	84724	84761	84798	84835
M7 x 1	D5	4	1-1/8	2-23/32	84725	84762	84799	84836
M8 x 1	D5	4	1-1/8	2-23/32	84726	84763	84800	84837
M8 x 1.25	D5	4	1-1/8	2-23/32	84727	84764	84801	84838
M10 x 1.25	D5	4	1-1/4	2-15/16	84728	84765	84802	84839
M10 x 1.5	D6	4	1-1/4	2-15/16	84729	84766	84803	84840
M12 x 1.25	D5	4	1-21/32	3-3/8	84730	84767	84804	84841
M12 x 1.75	D6	4	1-21/32	3-3/8	84731	84768	84805	84842
M14 x 1.5	D6	4	1-21/32	3-19/32	84732	84769	84806	84843
M14 x 2	D7	4	1-21/32	3-19/32	84733	84770	84807	84844
M16 x 1.5	D6	4	1-13/16	3-13/16	84734	84771	84808	84845
M16 x 2	D7	4	1-13/16	3-13/16	84735	84772	84809	84846
M18 x 1.5	D6	4	1-13/16	4-1/32	84736	84773	84810	84847
M18 x 2.5	D7	4	1-13/16	4-1/32	84737	84774	84811	84848
M20 x 1.5	D6	4	2	4-15/32	84738	84775	84812	84849
M20 x 2.5	D7	4	2	4-15/32	84739	84776	84813	84850
M22 x 1.5	D6	4	2-7/32	4-11/16	84740	84777	84814	84851
M22 x 2.5	D7	4	2-7/32	4-11/16	84741	84778	84815	84852
M24 x 2	D7	4	2-7/32	4-29/32	84742	84779	84816	84853
M24 x 3	D8	4	2-7/32	4-29/32	84743	84780	84817	84854
M27 x 2	D7	4	2-1/2	5-1/8	84744	84781	84818	84855
M27 x 3	D8	4	2-1/2	5-1/8	84745	84782	84819	84856
M30 x 2	D7	4	2-9/16	5-7/16	84746	84783	84820	84857
M30 x 3.5	D9	4	2-9/16	5-7/16	84747	84784	84821	84858
M33 x 2	D7	6	2-9/16	5-3/4	84748	84785	84822	84859
M33 x 3.5	D9	4	2-9/16	5-3/4	84749	84786	84823	84860
M36 x 3	D8	4	3	6-1/16	84750	84787	84824	84861
M36 x 4	D9	4	3	6-1/16	84751	84788	84825	84862

Spiral Point Taps Plug Taps

Ground Thread — High Speed Steel

Spiral Point taps are designed for machine tapping in through holes in a wide variety of materials. The point ejects the chips ahead of the tap, eliminating chip disposal problems and thread damage. Shallower flutes also result in greater tap core strength.



List No. 116

MADE IN USA

List No. 116QI

IMPORT

STANDARD PACKAGE
Machine Screw Sizes
All sizes – 12 each

Fractional Sizes
1/4" thru 1/2" – 12 each
5/8" thru 3/4" – 3 each

LIST NO. 116 – MACHINE SCREW SIZES – USA

SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	EDP NO.	SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	EDP NO.
0-80	H2	2	82815	5-40	H2	2	82825
1-64	H2	2	82816	5-44	H2	2	82826
1-72	H2	2	82817	6-32	H3	2	82827
2-56	H2	2	82818	6-40	H2	2	82828
2-64	H2	2	82819	8-32	H3	2	82829
3-48	H2	2	82820	8-36	H2	2	82830
3-56	H2	2	82821	10-24	H3	2	82831
4-40	H2	2	82822	10-32	H3	2	82832
4-48	H2	2	82823	12-24	H3	2	82833
4-36	H2	2	82824	12-28	H3	2	82834

LIST NO. 116QI – MACHINE SCREW SIZES – IMPORT

SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	EDP NO.	SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	EDP NO.
0-80	H2	2	86312	5-40	H2	2	86382
1-64	H2	2	86313	5-44	H2	2	86383
1-72	H2	2	86314	6-32	H3	2	86384
2-56	H2	2	86315	6-40	H2	2	86385
2-64	H2	2	86316	8-32	H3	2	86386
3-48	H2	2	86317	8-36	H2	2	86387
3-56	H2	2	86318	10-24	H3	2	86388
4-40	H2	2	86319	10-32	H3	2	86389
4-48	H2	2	86320	12-24	H3	2	86390
4-36	H2	2	86321	12-28	H3	2	86391

LIST NO. 116 – FRACTIONAL SIZES – USA

SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	EDP NO.	SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	EDP NO.
1/4-20	H3	2	82850	7/16-14	H3	3	82858
1/4-20	H3	3	82851	7/16-20	H3	3	82859
1/4-28	H3	2	82852	1/2-13	H3	3	82860
5/16-18	H3	2	82853	1/2-20	H3	3	82861
5/16-18	H3	3	82854	5/8-11	H3	3	82862
5/16-24	H3	2	82855	5/8-18	H3	3	82864
3/8-16	H3	3	82856	3/4-10	H3	3	82863
3/8-24	H3	3	82857	3/4-16	H3	3	82865

LIST NO. 116QI – FRACTIONAL SIZES – IMPORT

SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	EDP NO.	SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	EDP NO.
1/4-20	H3	2	86322	7/16-14	H3	3	86392
1/4-20	H3	3	86323	7/16-20	H3	3	86393
1/4-28	H3	2	86324	1/2-13	H3	3	86394
5/16-18	H3	2	86325	1/2-20	H3	3	86395
5/16-18	H3	3	86326	5/8-11	H3	3	86396
5/16-24	H3	2	86327	5/8-18	H3	3	86397
3/8-16	H3	3	86328	3/4-10	H3	3	86398
3/8-24	H3	3	86329	3/4-16	H3	3	86399

See Page 69 for thread lengths & overall lengths.

MARXBORE™ Spiral Point Plug Taps

Ground Thread — High Speed Steel

Spiral Point taps are designed for machine tapping in through holes in a wide variety of materials. The point ejects the chips ahead of the tap, eliminating chip disposal problems and thread damage. Shallower flutes also result in greater tap core strength allowing for higher cutting speeds.



List No. 115 Gold & Black Finish

MADE IN USA

STANDARD PACKAGE

1/4" thru 1/2" — 12 each

9/16" thru 3/4" — 3 each

7/8" — 1 each

Machine Screw Sizes

All sizes — 12 each

LIST NO. 115

MACHINE SCREW SIZES

SIZE	THREAD PER INCH		PITCH DIA. LIMIT	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	EDP NO.
	NC UNC	NF UNF					
0		80	H1	2	5/16	1-5/8	86890
1	64		H1	2	3/8	1-11/16	86891
		72	H1	2	3/8	1-11/16	86892
2	56		H2	2	7/16	1-3/4	86893
		64	H2	2	7/16	1-3/4	86894
3	48		H2	2	1/2	1-13/16	86895
		56	H2	2	1/2	1-13/16	86896
4	40		H2	2	9/16	1-7/8	86897
		48	H2	2	9/16	1-7/8	86898
5	40		H2	2	5/8	1-15/16	86899
		44	H2	2	5/8	1-15/16	86900
6	32		H2	2	11/16	2	86901
		40	H2	2	11/16	2	86902
8	32		H2	2	3/4	2-1/8	86903
		36	H2	2	3/4	2-1/8	86904
10	24		H3	2	7/8	2-3/8	86905
		32	H3	2	7/8	2-3/8	86906
12	24		H3	2	15/16	2-3/8	86907
		28	H3	2	15/16	2-3/8	86908

LIST NO. 115

FRACTIONAL SIZES

SIZE	THREAD PER INCH		PITCH DIA. LIMIT	NO. OF FLUTES	THREAD LENGTH	OVERALL LENGTH	EDP NO.
	NC UNC	NF UNF					
1/4	20		H3	2	1	2-1/2	86909
		28	H3	2	1	2-1/2	86910
5/16	18		H3	2	1-1/8	2-23/32	86911
		24	H3	2	1-1/8	2-23/32	86912
3/8	16		H3	3	1-1/4	2-15/16	86913
		24	H3	3	1-1/4	2-15/16	86914
7/16	14		H3	3	1-7/16	3-5/32	86915
		20	H3	3	1-7/16	3-5/32	86916
1/2	13		H3	3	1-21/32	3-3/8	86917
		20	H3	3	1-21/32	3-3/8	86918
9/16	12		H3	3	1-21/32	3-19/32	86919
		18	H3	3	1-21/32	3-19/32	86920
5/8	11		H3	3	1-13/16	3-13/16	86921
		18	H3	3	1-13/16	3-13/16	86922
3/4	10		H3	3	2	4-1/4	86923
		16	H3	3	2	4-1/4	86924
7/8	9		H4	3	2-7/32	4-11/16	86925
		14	H4	3	2-7/32	4-11/16	86926

Metric Spiral Point Plug Taps

Ground Thread — High Speed Steel

Spiral Point taps are designed for machine tapping in through holes in a wide variety of materials. The point ejects the chips ahead of the tap, eliminating chip disposal problems and thread damage. Shallower flutes also result in greater tap core strength allowing for higher cutting speeds.

SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	THREAD LENGTH	OAL	EDP NO.
M1.6 x 0.35	D3	2	5/16	1-5/8	84863
M2 x 0.4	D3	2	7/16	1-3/4	84864
M2.2 x 0.45	D3	2	7/16	1-3/4	84865
M2.5 x 0.45	D3	2	1/2	1-13/16	84866
M3 x 0.5	D3	2	5/8	1-15/16	84867
M3.5 x 0.6	D4	2	11/16	2	84868
M4 x 0.7	D4	2	3/4	2-1/8	84869
M4.5 x 0.75	D4	2	7/8	2-3/8	84870
M5 x 0.8	D4	2	7/8	2-3/8	84871
M6 x 1	D5	2	1	2-1/2	84872
M7 x 1	D5	2	1-1/8	2-23/32	84873
M8 x 1	D5	2	1-1/8	2-23/32	84874
M8 x 1.25	D5	2	1-1/8	2-23/32	84875



List No. 112

MADE IN USA

STANDARD PACKAGE

M1.6 thru M12 — 12 each
M14 thru M16 — 3 each
M18 thru M20 — 1 each

Pitch diameters are those recommended for 6H Class of thread.

SIZE	PITCH DIA. LIMIT	NO. OF FLUTES	THREAD LENGTH	OAL	EDP NO.
M10 x 1.25	D5	3	1-1/4	2-15/16	84876
M10 x 1.5	D6	3	1-1/4	2-15/16	84877
M12 x 1.25	D5	3	1-21/32	3-3/8	84878
M12 x 1.75	D6	3	1-21/32	3-3/8	84879
M14 x 1.5	D6	3	1-21/32	3-19/32	84880
M14 x 2	D7	3	1-21/32	3-19/32	84881
M16 x 1.5	D6	3	1-13/16	3-13/16	84882
M16 x 2	D7	3	1-13/16	3-13/16	84883
M18 x 2.5	D7	3	1-13/16	4-1/32	84884
M20 x 2.5	D7	3	2	4-15/32	84885

Pulley Taps

Ground Thread — High Speed Steel

Pulley taps, commonly used wherever extra reach is required, were originally designed for tapping holes in pulleys with hubs. The shank diameter is the same diameter as the major diameter of the thread and the threaded section has the same dimensions as a standard hand tap.

SIZE	TPI UNC	THREAD LENGTH	NO. OF FLUTES	6" LENGTH EDP NO.	8" LENGTH EDP NO.	10" LENGTH EDP NO.
1/4	20	1	4	84918	84924	-
5/16	18	1-1/8	4	84919	84925	-
3/8	16	1-1/4	4	84920	84926	84930
7/16	14	1-7/16	4	84921	84927	-



List No. 209

MADE IN USA

Plug Style - H3 Pitch Dia. Limit

STANDARD PACKAGE

All sizes — 1 each

SIZE	TPI UNC	THREAD LENGTH	NO. OF FLUTES	6" LENGTH EDP NO.	8" LENGTH EDP NO.	10" LENGTH EDP NO.
1/2	13	1-21/32	4	84922	84928	-
5/8	11	1-13/16	4	84923	84929	84931
3/4	10	2	4	-	-	84932

THREADING ACCESSORIES

Die Stocks

For solid round dies and adjustable split round dies.

LIST NO. 179

DIE STOCKS

SIZE NO.	CAPACITY		EDP NO.
	DIE O.D.	DIE THICKNESS	
2	13/16	1/4	82905
3	1	3/8	82906
5	1-1/2	1/2	82907



List No. 179

MADE IN USA

Straight Handle Tap Wrenches

Straight handle tap wrenches provide increased leverage. Especially recommended for use with larger size taps and reamers.

LIST NO. 148

TAP WRENCHES

SIZE NO.	CAPACITY CUTTING SIZE			EDP NO.
	FRACTIONAL TAPS	PIPE TAPS	REAMERS	
11	1/16 - 1/4		1/8 - 17/64	82900
12	1/16 - 3/8		1/8 - 25/64	82901
13	5/32 - 1/2	1/8	11/64 - 7/16	82902

SIZE NO.	CAPACITY		EDP NO.
	DIE O.D.	DIE THICKNESS	
6	2	5/8	82908
7	2-1/2	3/4	82909
8	3	1	82910



List No. 148

MADE IN USA

"T" Handle Tap Wrenches

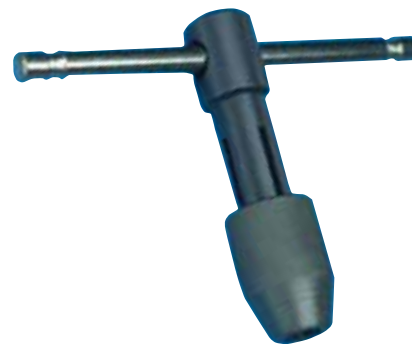
Holds tap sizes indicated and also can be used for driving screw extractors. Split jaw construction gives a positive holding grip, enhancing its use for hand operations encompassing light drilling and reaming as well.

Sliding handle may be extended for more leverage. Has positive grip knurled nut.

LIST NO. 149

"T" HANDLE TAP WRENCH

SIZE NO.	CAPACITY CUTTING SIZE		EDP NO.
	INCHES	METRIC	
2	0 - 1/4	M1.5-M6.3	82911
4	1/4 - 1/2	M6.3-M12.5	82912



List No. 149

IMPORT

MARXBORE™ Taper Pipe Taps

Ground Thread — High Speed Steel
NPT/ANPT

Chamfer: 2 - 3-1/2" threads

Regular Thread NPT taper pipe taps are commonly used for tapping pipe fittings and couplings in a wide variety of materials. Assembly requires the use of a thread sealant to ensure a tight seal.

LIST NO. 206

SIZE	THREAD LENGTH	OVERALL LENGTH	NO. OF FLUTES	EDP NO.
1/8 - 27 (Large Shank)	3/4	2-1/8	4	86330
1/4 - 18	1-1/16	2-7/16	4	86331
3/8 - 18	1-1/16	2-9/16	4	86332
1/2 - 14	1-3/8	3-1/8	4	86333
3/4 - 14	1-3/8	3-1/4	5	86334



List No. 206
Gold & Black Finish

MADE IN USA

STANDARD PACKAGE
1/8" thru 1/4" - 6 each
3/8" thru 2" - 1 each

Taper Pipe Taps

Ground Thread — High Speed Steel
NPT/ANPT—NPTF

Chamfer - 2 - 3-1/2 threads

Regular Thread NPT taper pipe taps are commonly used for tapping pipe fittings and couplings in a wide variety of materials. Assembly requires the use of a thread sealant to ensure a tight seal.

NPTF Dryseal taper pipe taps produce threads where a tight seal is achieved during assembly by metal-to-metal contact. Used for applications requiring a tight seal without the use of thread sealants.

SIZE	THREAD LENGTH	OAL	NO. OF FLUTES	EDP NO.	
				NPT/ANPT	NPTF
1/16 - 27	11/16	2-1/8	4	84886	84897
1/8 - 27* (Sm. Sk.)	3/4	2-1/8	4	84887	84898
1/8 - 27* (Lg. Sk.)	3/4	2-1/8	4	84888	84899
1/4 - 18	1-1/16	2-7/16	4	84889	84900
3/8 - 18	1-1/16	2-9/16	4	84890	84901
1/2 - 14	1-3/8	3-1/8	4	84891	84902

*Large shank furnished unless otherwise specified.



List No. 207

MADE IN USA

STANDARD PACKAGE
1/16" thru 1/4" — 6 each
3/8" thru 2" — 1 each

SIZE	THREAD LENGTH	OAL	NO. OF FLUTES	EDP NO.	
				NPT/ANPT	NPTF
3/4 - 14	1-3/8	3-1/4	5	84892	84903
1 - 11-1/2	1-3/4	3-3/4	5	84893	84904
1-1/4 - 11-1/2	1-3/4	4	5	84894	84905
1-1/2 - 11-1/2	1-3/4	4-1/4	7	84895	84906
2 - 11-1/2	1-3/4	4-1/2	7	84896	84907

For 1/8" Taps:

Small Shank = .3125" dia.

Large Shank = .4375" dia.

Cut Thread Carbon Steel Taper Pipe Taps

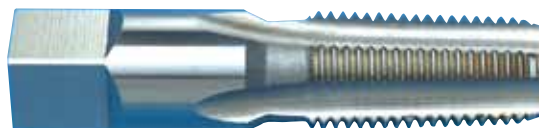
Carbon Steel — NPT

Chamfer: 2 - 3-1/2" threads

Cut Thread taps are general purpose taps that are ideal for maintenance, repair and rethreading applications. Because they are not precision ground, they are used in applications that do not require high accuracy, close tolerance threads.

LIST NO. 106

SIZE	THREAD LENGTH	OVERALL LENGTH	NO. OF FLUTES	EDP NO.
1/8 - 27 (Large Shank)	3/4	2-1/8	4	82550
1/4 - 18	1-1/16	2-7/16	4	82551
3/8 - 18	1-1/16	2-9/16	4	82552
1/2 - 14	1-3/8	3-1/8	4	82553
3/4 - 14	1-3/8	3-1/4	5	82554



List No. 106

MADE IN USA

STANDARD PACKAGE

1/8" thru 1/4" - 6 each
3/8" thru 2" - 1 each

Cut Thread High Speed Steel Taper Pipe Taps

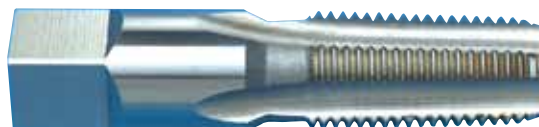
High Speed Steel — NPT

Chamfer: 2 - 3-1/2" threads

Cut Thread taps are general purpose taps that are ideal for maintenance, repair and rethreading applications. Because they are not precision ground, they are used in applications that do not require high accuracy, close tolerance threads.

LIST NO. 208

SIZE	THREAD LENGTH	OAL	NO. OF FLUTES	EDP NO.
1/8 - 27* (Sm.Sk.)	3/4	2-1/8	4	84908
1/8 - 27* (Lg.Sk.)	3/4	2-1/8	4	84909
1/4 - 18	1-1/16	2-7/16	4	84910
3/8 - 18	1-1/16	2-9/16	4	84911
1/2 - 14	1-3/8	3-1/8	4	84912



List No. 208

MADE IN USA

STANDARD PACKAGE

1/8" thru 1/4" - 6 each
3/8" thru 2" - 1 each

*Large shank furnished unless otherwise specified.

For 1/8" Taps:

Small Shank = .3125" dia.

Large Shank = .4375" dia.

Hexagon Rethreading Dies Carbon Steel

Hexagon Rethreading dies are used in repair and maintenance applications to repair existing bruised or rusty threads. They are not recommended for cutting new threads.

List No. 126

MADE IN USA

List No. 126QI

IMPORT

STANDARD PACKAGE

All sizes - 1 each



LIST NO. 126 & 126QI - FRACTIONAL SIZES

SIZE	THREADS PER INCH			EDP NO.	
	NC UNC	NF UNF	NS	126	126QI
1/4	20			82571	87673
		28		82572	87674
5/16	18			82573	87675
		24		82574	87676
3/8	16			82575	87677
		24		82576	87678
7/16	14			82577	87679
		20		82578	87680
1/2	13			82579	87681
		20		82580	87682
9/16	12			82581	87683
		18		82582	87684
5/8	11			82583	87685
		18		82584	87686
11/16		11		-	87687
		16		-	87688

SIZE	THREADS PER INCH			EDP NO.	
	NC UNC	NF UNF	NS	126	126QI
3/4	10			82585	87689
		16		82586	87690
7/8	9			82800	87691
		14		82801	87692
1	8			82802	87693
		12		82803	87694
			14	82804	87695
1-1/8	7			82805	87696
		12		82806	87697
1-1/4	7			82807	87698
		12		82808	87699
1-3/8	6			82809	87700
		12		82810	87701
1-1/2	6			82811	87702
		12		82812	87703

Hexagon Rethreading Dies Carbon Steel

Hexagon Rethreading dies are used in repair and maintenance applications to repair existing bruised or rusty threads. They are not recommended for cutting new threads.

List No. 126

MADE IN USA

List No. 126QI

IMPORT

STANDARD PACKAGE

All sizes – 1 each



LIST NO. 126QI - MACHINE SCREW SIZES

SIZE	THREADS PER INCH			EDP NO.
	NC UNC	NF UNF	NS	
4			36	87660
	40			87661
		48		87662
5	40			87663
		44		87664
6	32			87665
		40		87666

SIZE	THREADS PER INCH			EDP NO.
	NC UNC	NF UNF	NS	
8	32			87667
		36		87668
10	24			87669
		32		87670
12	24			87671
		28		87672

LIST NO. 126 & 126QI - METRIC SIZES

SIZE MM	PITCH MM	EDP NO.	
		126	126QI
M5	0.8	82589	87704
M6	1	82590	87705
M7	1	-	87706
M8	1.25	82591	87707
M9	1.25	-	87708
M10	1.5	82592	87709
M11	1.5	-	87710

SIZE MM	PITCH MM	EDP NO.	
		126	126QI
M12	1.75	82593	87711
M14	1.25	-	87712
M14	2	82594	87713
M16	2	82595	87714
M18	1.5	-	87715
M18	2.5	-	87716
M20	2.5	82596	87717

LIST NO. 126 & 126QI - NPT TAPER PIPE THREAD SIZES

SIZE	THREADS PER INCH	EDP NO.	
		126	126QI
1/8	27	82587	87718
1/4	18	82588	87719
3/8	18	82540	87720

SIZE	THREADS PER INCH	EDP NO.	
		126	126QI
1/2	14	82541	87721
3/4	14	82542	87722
1	11-1/2	82543	87723

Adjustable Round Split Dies Carbon Steel

List No. 190

MADE IN USA

List No. 190QI

IMPORT

Adjustable Round Split dies use a set screw for adjustment of the thread size for precision threading applications.

STANDARD PACKAGE
All sizes - 1 each



LIST NO. 190 - FRACTIONAL SIZES - CARBON STEEL

SIZE	THREADS PER INCH		EDP NO.				
	NC UNC	NF UNF	1" O.D.	1-1/2" O.D.	2" O.D.	2-1/2" O.D.	3" O.D.
1/4	20		82629	82639	82653	-	-
		28	82630	82640	82654	-	-
5/16	18		82631	82641	82655	-	-
		24	82632	82642	82656	-	-
3/8	16		82633	82643	82657	-	-
		24	82634	82644	82658	-	-
7/16	14		82635	82645	82659	-	-
		20	82636	82646	82660	-	-
1/2	13		82637	82647	82661	-	-
		20	82638	82648	82662	-	-
9/16	12		-	82649	82663	-	-
		18	-	82650	82664	-	-
5/8	11		-	82651	82665	-	-
		18	-	82652	82666	-	-

SIZE	THREADS PER INCH		EDP NO.				
	NC UNC	NF UNF	1" O.D.	1-1/2" O.D.	2" O.D.	2-1/2" O.D.	3" O.D.
3/4	10		-	-	82669	82676	-
		16	-	-	82670	82677	-
7/8	9		-	-	82671	82678	-
		14	-	-	82672	82679	-
1	8		-	-	82673	82680	82683
		12	-	-	82674	82681	82684
1-1/8	7		-	-	-	-	82686
		12	-	-	-	-	82687
1-1/4	7		-	-	-	-	82688
		12	-	-	-	-	82689
1-3/8	6		-	-	-	-	82690
		12	-	-	-	-	82691
1-1/2	6		-	-	-	-	82692
		12	-	-	-	-	82693

LIST NO. 190QI - FRACTIONAL SIZES - CARBON STEEL

SIZE	THREADS PER INCH		EDP NO.				
	NC UNC	NF UNF	13/16" O.D.	1" O.D.	1-1/2" O.D.	2" O.D.	2-1/2" O.D.
1/4	20		87754	87758	87769	-	-
		28	87755	87759	87770	-	-
5/16	18		87756	87760	87771	-	-
		24	87757	87761	87772	-	-
3/8	16		-	87762	87773	-	-
		24	-	87763	87774	-	-
7/16	14		-	87764	87775	-	-
		20	-	87765	87776	-	-
1/2	13		-	87766	87777	-	-
		20	-	87767	87778	-	-
9/16	12		-	-	87779	-	-
		18	-	-	87780	-	-

SIZE	THREADS PER INCH		EDP NO.				
	NC UNC	NF UNF	13/16" O.D.	1" O.D.	1-1/2" O.D.	2" O.D.	2-1/2" O.D.
5/8	11		-	-	87781	87785	87793
		18	-	-	87782	87786	87794
3/4	10		-	-	87783	87787	87795
		16	-	-	87784	87788	87796
7/8	9		-	-	-	87789	87797
		14	-	-	-	87790	87798
1	8		-	-	-	87791	87799
		12	-	-	-	87792	87800
1-1/4	7		-	-	-	-	87801
		12	-	-	-	-	87802
1-1/2	6		-	-	-	-	87803
		12	-	-	-	-	87804

Adjustable Round Split Dies Carbon Steel

List No. 190

MADE IN USA

List No. 190QI

IMPORT

Adjustable Round Split dies use a set screw for adjustment of the thread size for precision threading applications.

STANDARD PACKAGE
All sizes - 1 each



LIST NO. 190 & 190QI - MACHINE SCREW SIZES - CARBON STEEL

SIZE	THREADS PER INCH		LIST NO. 190 EDP NO.		LIST NO. 190QI EDP NO.	
	NC UNC	NF UNF	13/16" O.D.	1" O.D.	13/16" O.D.	1" O.D.
2	56		82603	-	87727	-
		64	-	-	87728	-
3	48		82605	-	87729	-
		56	82606	-	87730	-
4	40	36*	-	-	87731	-
			82608	-	87732	-
		48	82609	-	87733	-
5	40		82610	-	87734	87744
		44	82611	-	87735	87745

SIZE	THREADS PER INCH		LIST NO. 190 EDP NO.		LIST NO. 190QI EDP NO.	
	NC UNC	NF UNF	13/16" O.D.	1" O.D.	13/16" O.D.	1" O.D.
6	32		82612	82620	87736	87746
		40	82613	-	87737	87747
8	32		82614	82621	87738	87748
		36	82615	-	87739	87749
10	24		82616	82622	87740	87750
		32	82617	82623	87741	87751
12	24		82618	82624	87742	87752
		28	82619	-	87743	87753

* NS / UNS

Adjustable Round Split Dies High Speed Steel

List No. 195M

MADE IN USA

List No. 195QI

IMPORT

Adjustable Round Split dies use a set screw for adjustment of the thread size for precision threading applications.
High Speed Steel dies recommended for longer tool life.

STANDARD PACKAGE
All sizes - 1 each



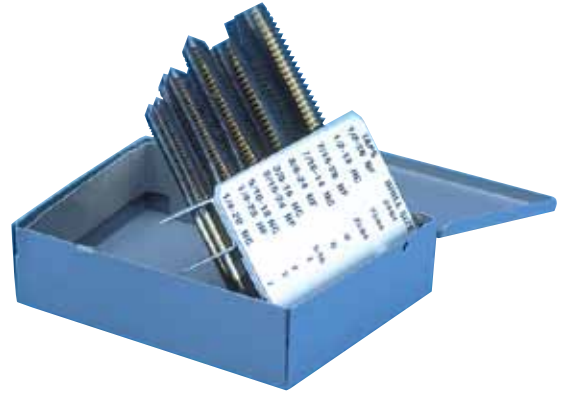
LIST NO. 195M & 195QI - METRIC SIZES - HIGH SPEED STEEL

SIZE MM	PITCH MM	LIST NO. 195M EDP NO.			LIST NO. 195QI EDP NO.	
		13/16" O.D.	1" O.D.	1-1/2" O.D.	1" O.D.	1-1/2" O.D.
M2	0.4	-	-	-	87805	-
M2.5	0.45	82748	-	-	87806	-
M3	0.5	82749	-	-	87807	-
M3.5	0.6	82750	-	-	87808	-
M4	0.7	82751	-	-	87809	-
M4.5	0.75	82752	-	-	87810	-
M5	0.8	82753	-	-	87811	-
M6	1	82754	82755	-	87812	-
M7	1	-	82756	-	87813	-

SIZE MM	PITCH MM	LIST NO. 195M EDP NO.			LIST NO. 195QI EDP NO.	
		13/16" O.D.	1" O.D.	1-1/2" O.D.	1" O.D.	1-1/2" O.D.
M8	1.25	-	82757	-	87814	-
M10	1.5	-	82758	-	87815	-
M11	1.5	-	-	-	87816	-
M12	1.75	-	82759	-	87817	-
M14	2	-	-	82760	-	87818
M16	2	-	-	82761	-	87819
M18	2.5	-	-	82762	-	87820
M20	2.5	-	-	82763	-	87821

TAP SETS

Tap Sets In Index Case



10-Pc. NC & NF Tap Set

Plug Chamfer • Fractional Sizes • Bright Finish

SET NO.	NC-UNC	NF-UNF	EDP NO.
301	1/4-20	1/4-28	82767
	5/16-18	5/16-24	
	3/8-16	3/8-24	
	7/16-14	7/16-20	
	1/2-13	1/2-20	

TAPS

Ground Thread
High Speed Steel

MADE IN USA

MARXBORE™ Gold & Black 10-Pc. NC & NF Tap Set

Plug Chamfer • Fractional Sizes

SET NO.	NC-UNC	NF-UNF	EDP NO.
302	1/4-20	1/4-28	82768
	5/16-18	5/16-24	
	3/8-16	3/8-24	
	7/16-14	7/16-20	
	1/2-13	1/2-20	

10-Pc. NC Tap Set

Plug Chamfer • Machine Screw and Fractional Sizes
Bright Finish

SET NO.	MACHINE SCREW	FRACTIONAL SIZE	EDP NO.
305	4-40	1/4-20	82773
	6-32	5/16-18	
	8-32	3/8-16	
	10-24	1/2-13	
	10-32	5/8-11	

MARXBORE™ Gold & Black 19-Pc. NC & NF Tap Set

Plug Chamfer • Machine Screw Sizes

SET NO.	NC-UNC	NF-UNF	EDP NO.
303	0-80	-	82771
	1-64	1-72	
	2-56	2-64	
	3-48	3-56	
	4-40	4-48	
	5-40	5-44	
	6-32	6-40	
	8-32	8-36	
	10-24	10-32	
	12-24	12-28	

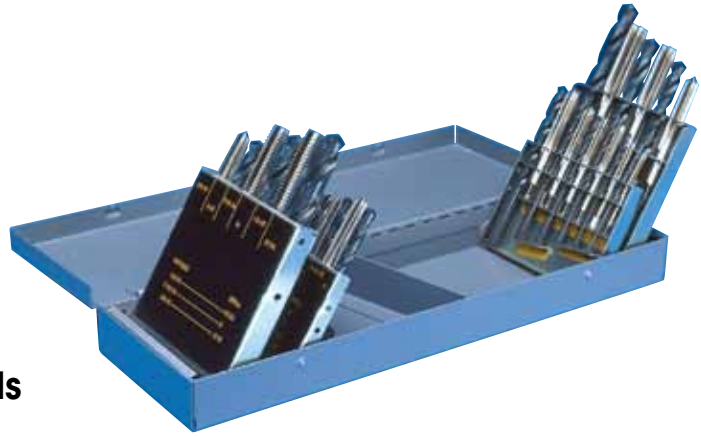
MARXBORE™ Gold & Black 10-Pc. NC Tap Set

Plug Chamfer • Machine Screw and Fractional Sizes

SET NO.	MACHINE SCREW	FRACTIONAL SIZE	EDP NO.
306	4-40	1/4-20	82774
	6-32	5/16-18	
	8-32	3/8-16	
	10-24	1/2-13	
	10-32	5/8-11	

TAP & DRILL SETS

Tap & Drill Sets In Index Case



36-Pc. NC & NF Tap & Drill Set 118° Point Treated (Black Oxide) Drills Bright Finish Taps

Plug Chamfer • Fractional and Machine Screw Sizes

SET NO.	NC-UNC TAPS	DRILL SIZE	NF-UNF TAPS	DRILL SIZE	EDP NO.
308	6-32	#36	6-40	#33	82776
	8-32	#29	8-36	#29	
	10-24	#25	10-32	#21	
	12-24	#16	12-28	#15	
	1/4-20	#7	1/4-28	#3	
	5/16-18	F	5/16-24	I	
	3/8-16	5/16	3/8-24	Q	
	7/16-14	U	7/16-20	25/64	
1/2-13	27/64	1/2-20	29/64		

TAPS

Ground Thread
High Speed Steel

DRILLS

High Speed Steel

MADE IN USA

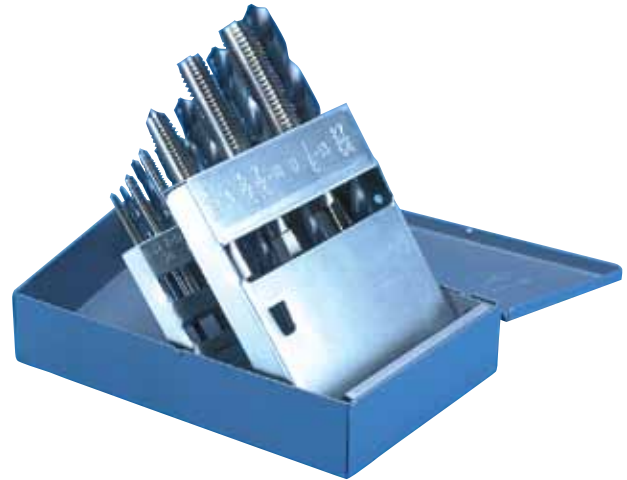
MARXBORE™ Gold & Black 36-Pc. NC & NF Tap & Drill Set 135° Split Point Gold & Black Drills Gold & Black Taps

Plug Chamfer • Fractional and Machine Screw Sizes

SET NO.	NC-UNC TAPS	DRILL SIZE	NF-UNF TAPS	DRILL SIZE	EDP NO.
309	6-32	#36	6-40	#33	82777
	8-32	#29	8-36	#29	
	10-24	#25	10-32	#21	
	12-24	#16	12-28	#15	
	1/4-20	#7	1/4-28	#3	
	5/16-18	F	5/16-24	I	
	3/8-16	5/16	3/8-24	Q	
	7/16-14	U	7/16-20	25/64	
1/2-13	27/64	1/2-20	29/64		

TAP & DRILL SETS

Tap & Drill Sets In Index Case



18-Pc. NC Tap & Drill Set 118° Point Treated (Black Oxide) Drills Bright Finish Taps

Plug Chamfer • Fractional and Machine Screw Sizes

SET NO.	NC-UNC TAPS	DRILL SIZE	EDP NO.
311	6-32	#36	82779
	8-32	#29	
	10-24	#25	
	10-32	#21	
	1/4-20	#7	
	5/16-18	F	
	3/8-16	5/16	
	7/16-14	U	
1/2-13	27/64		

TAPS

Ground Thread
High Speed Steel

DRILLS

High Speed Steel

MADE IN USA

MARXBORE™ Gold & Black 18-Pc. NC Tap & Drill Set 135° Split Point Gold & Black Drills Gold & Black Taps

Plug Chamfer • Fractional and Machine Screw Sizes

SET NO.	NC-UNC TAPS	DRILL SIZE	EDP NO.
312	6-32	#36	82780
	8-32	#29	
	10-24	#25	
	10-32	#21	
	1/4-20	#7	
	5/16-18	F	
	3/8-16	5/16	
	7/16-14	U	
1/2-13	27/64		

TAP & DRILL SETS

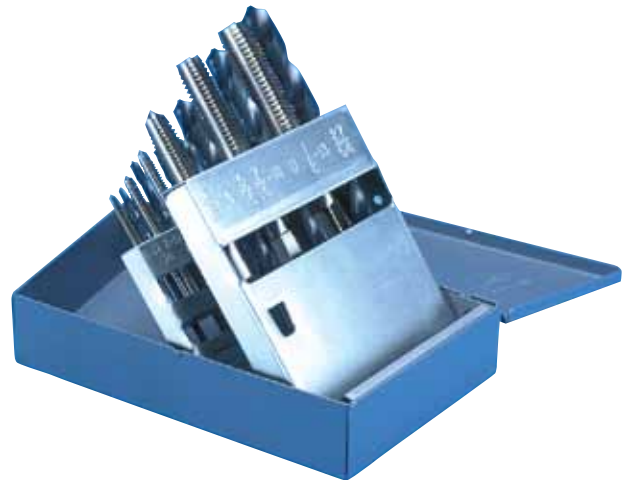
Tap & Drill Sets

In Index Case

18-Pc. NF Tap & Drill Set 118° Point Treated (Black Oxide) Drills Bright Finish Taps

Plug Chamfer • Fractional and Machine Screw Sizes

SET NO.	NF-UNF TAPS	DRILL SIZE	EDP NO.
314	6-40	#33	82782
	8-36	#29	
	10-24	#25	
	10-32	#21	
	1/4-28	#3	
	5/16-24	I	
	3/8-24	Q	
	7/16-20	25/64	
	1/2-20	29/64	



MARXBORE™ Gold & Black 18-Pc. NF Tap & Drill Set 135° Split Point Gold & Black Drills Gold & Black Taps

Plug Chamfer • Fractional and Machine Screw Sizes

SET NO.	NF-UNF TAPS	DRILL SIZE	EDP NO.
315	6-40	#33	82769
	8-36	#29	
	10-24	#25	
	10-32	#21	
	1/4-28	#3	
	5/16-24	I	
	3/8-24	Q	
	7/16-20	25/64	
	1/2-20	29/64	

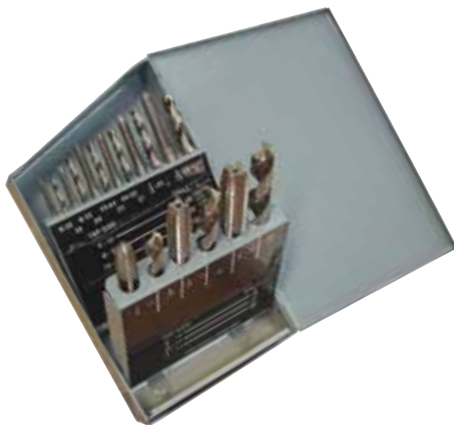
TAPS

Ground Thread
High Speed Steel

DRILLS

High Speed Steel

MADE IN USA



List No. 300QI

IMPORT

18-Pc. Tap & Drill Sets

In Index Case

118° Point HSS Bright Finish Drills
Ground Thread HSS Bright Finish Taps

LIST NO. 300QI – IMPORT

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
18	#6-32 to 1/2-13 NC Thread	Plug Taps: 6-32, 8-32, 10-24, 10-32 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13 Jobber Length Drills: #36, #29, #25, #21, #7, F, 5/16, U, 27/64	86422
18	#6-40 to 1/2-20 NF Thread	Plug Taps: 6-40, 8-36, 10-24, 10-32, 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20 Jobber Length Drills: #33, #29, #25, #21, #3, I, Q, 25/64, 29/64	86423

TAP & DIE SETS

12-Pc. 1/4" thru 1/2"

Tap & Die Sets

High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
12	1/4 to 1/2 NC Thread	Sizes: 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13 Plug Taps, 1" O.D. Solid Round Dies, Straight Handle Tap Wrench, Die Stock	86424
12	1/4 to 1/2 NF Thread	Sizes: 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20 Plug Taps, 1" O.D. Solid Round Dies, Straight Handle Tap Wrench, Die Stock	86425



List No. 300QI

IMPORT

16-Pc. 1/4" thru 3/4"

Tap & Die Sets

High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
16	1/4 to 3/4 NF Thread	Sizes: 1/4-28, 5/16-24, 3/8-24, 7/16-20, 1/2-20, 5/8-18, 3/4-16 Plug Taps, 1-1/2" O.D. Solid Round Dies, Straight Handle Tap Wrench, Die Stock	86426
16	1/4 to 3/4 NC Thread	Sizes: 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 5/8-11, 3/4-10 Plug Taps, 1-1/2" O.D. Solid Round Dies, Straight Handle Tap Wrench, Die Stock	86427



List No. 300QI

IMPORT

21-Pc. 1/4" thru 3/4"

NC Tap & Die Set

High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
21	1/4 to 3/4 NC Thread	Sizes: 1/4-20, 5/16-18, 3/8-16, 7/16-14, 1/2-13, 9/16-12, 5/8-11, 3/4-10 Plug Taps, 1-1/2" O.D. Solid Round Dies, 1/4-3/4 Straight Handle Tap Wrench, 1/4-1/2 T-Handle Tap Wrench, Die Stock, Screwdriver, Screw Pitch Gage	86428



List No. 300QI

IMPORT

TAP & DIE SETS

22-Pc. 1/4" thru 1/2" NC & NF Tap & Die Set High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
22	1/4 to 1/2 NC & NF Thread	Sizes: 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20 Plug Taps, 1" O.D. Solid Round Dies, Straight Handle Tap Wrench, Die Stock	86429



List No. 300QI

IMPORT

30-Pc. 1/4" thru 3/4" NC & NF Tap & Die Set High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
30	1/4 to 3/4 NC & NF Thread	Sizes: 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 5/8-11, 5/8-18, 3/4-10, 3/4-16 Plug Taps, 1-1/2" O.D. Solid Round Dies, Straight Handle Tap Wrench, Die Stock	86430



List No. 300QI

IMPORT

39-Pc. #4 thru 1/2" NC & NF Tap & Die Set Includes 1/8 NPT High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
39	#4-40 to 1/2 NC & NF Thread and 2/8 NPT	Sizes: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Plug Taps, 1" O.D. Solid Round Dies, 1/16-1/2 Straight Handle Tap Wrench, 0-1/4 T-Handle Tap Wrench, Die Stock, Screwdriver, Screw Pitch Gage	86431



List No. 300QI

IMPORT

TAP & DIE SETS

41-Pc. 1/4" thru 3/4" NC & NF Tap & Die Set

Includes 1/8 NPT & 1/4 NPT
High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
41	1/4 to 3/4 NC & NF Thread and 1/8 & 1/4 NPT	Sizes: 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 1/8-27 NPT, 1/4-18 NPT Plug Taps, 1-1/2" O.D. Solid Round Dies, 1/4-3/4 Straight Handle Tap Wrench, 1/4-1/2 T-Handle Tap Wrench, Die Stock, Screwdriver, Screw Pitch Gage	86432



List No. 300QI

IMPORT

45-Pc. 1/4" thru 1" NC & NF Tap & Die Set

High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
45	1/4 to 1 NC & NF Thread	Sizes: 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-14 Plug Taps, 1-1/2" & 2" O.D. Solid Round Dies, 1/4-3/4 & 3/8-1 Straight Handle Tap Wrenches, 1-1/2" & 2" Die Stocks, Screwdriver	86433



List No. 300QI

IMPORT

64-Pc. #4 thru 1" NC & NF Tap & Die Set

Includes 1/8 NPT & 1/4 NPT
High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
64	#4 to 1 NC & NF Thread and 1/8 & 1/4 NPT	Sizes: 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 9/16-12, 9/16-18, 5/8-11, 5/8-18, 3/4-10, 3/4-16, 7/8-9, 7/8-14, 1-8, 1-14, 1/8-27 NPT, 1/4-18 NPT Plug Taps, 1", 1-1/2", & 2" O.D. Solid Round Dies, 1/16-1/2 & 3/8-1 Straight Handle Tap Wrenches, 0-1/4 T-Handle Tap Wrench, 1", 1-1/2" & 2" Die Stocks, Screwdriver, Screw Pitch Gage	86434



List No. 300QI

IMPORT

39-Pc. 3mm thru 12mm Metric Tap & Die Set

Includes 1/8 NPT
High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
39	3mm to 12mm	Sizes: 3mm x 0.5, 3mm x 0.6, 4mm x 0.7, 4mm x 0.75, 5mm x 0.8, 5mm x 0.9, 6mm x 0.75, 6mm x 1.0, 7mm x 0.75, 7mm x 1.0, 8mm x 1.0, 8mm x 1.25, 10mm x 1.25, 10mm x 1.5, 12mm x 1.5, 12mm x 1.75, 1/8-27 NPT Plug Taps, 1" O.D. Solid Round Dies, Straight Handle Tap Wrench, T-Handle Tap Wrench, Die Stock, Screwdriver, Screw Pitch Gage	88081



List No. 300QI

IMPORT

44-Pc. 6mm thru 24mm Metric Tap & Die Set

High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
44	6mm to 24mm	Sizes: 6mm x 0.75, 6mm x 1.0, 8mm x 1.0, 8mm x 1.25, 10mm x 1.25, 10mm x 1.5, 12mm x 1.5, 12mm x 1.75, 14mm x 1.5, 14mm x 2.0, 16mm x 1.5, 16mm x 2.0, 18mm x 1.5, 18mm x 2.5, 20mm x 1.5, 20mm x 2.5, 22mm x 1.5, 22mm x 2.5, 24mm x 1.5, 24mm x 3.0 Plug Taps, 1-1/2" O.D. & 2" O.D. Adjustable Round Dies, 8mm-24mm Straight Handle Tap Wrench, 4mm-6mm T-Handle Tap Wrench, 2" Die Stock with 1-1/2" Adapter, Screwdriver	88082



List No. 300QI

IMPORT

60-Pc. 3mm thru 12mm & #4 thru 1/2" Metric & Inch Tap & Die Set

Includes 1/8 NPT
High Speed Steel — In Plastic Case

LIST NO. 300QI

PCS. PER SET	SIZE RANGE	SET CONTENTS	EDP NO.
60	3mm to 12mm & #4 to 1/2"	Sizes: 3mm x 0.5, 4mm x 0.7, 5mm x 0.8, 6mm x 1.0, 7mm x 1.0, 8mm x 1.25, 9mm x 1.25, 10mm x 1.0, 10mm x 1.5, 12mm x 1.75, 4-40, 6-32, 8-32, 10-24, 10-32, 12-24, 1/4-20, 1/4-28, 5/16-18, 5/16-24, 3/8-16, 3/8-24, 7/16-14, 7/16-20, 1/2-13, 1/2-20, 1/8-27 NPT Plug Taps, 1" O.D. Solid Round Dies, Straight Handle Tap Wrench, T-Handle Tap Wrench, Die Stock, Screwdriver, Screw Pitch Gages	88083



List No. 300QI

IMPORT

STANDARD TAPS SPEED RECOMMENDATIONS

Workpiece Material	Brinell Hardness (BHN)	Surface Speed (SFM)
Low Carbon Steel - 1018, 12L12, 1108, 1213	≤ 120	65
Low & Medium Carbon Steel - 1018, 1551, 11L44	120 - 250	40
Medium Carbon and Alloyed Steel - 1040, 1140, 4340, 8640	≤ 250	40
Tool and Die Steels - P20, A2, D2, H12	≤ 250	20
Tool and Die Steels - P20, A2, D2, H12	250 - 350	15
Free Machining Stainless Steels - 303, 410, 416, 440F	≤ 260	35
Moderate Machining Stainless Steels - 304, 316	≤ 300	25
Difficult Machining Stainless Steels - 17-4PH, 316L, AM350	≤ 300	10
Cast Iron - Soft Gray	≤ 160	70
Cast Iron - Gray	160 - 260	60
Cast Iron - Ductile	250	50
Cast Iron - Malleable	250 - 330	35
Titanium Alloys - Commercially Pure 99.0	110 - 170	20
Titanium Alloys - Ti-6Al-4V, ASTM B367 Grades C-3, C-4	≤ 250	15
High Temperature Alloys - Inconel, Hastelloy, Waspaloy	≤ 150	25
High Temperature Alloys - Inconel, Hastelloy, Waspaloy	150 - 250	10
Aluminum Alloys - 2025, 6061, A140, 514.0	≤ 150	100
Copper Alloys - Brass and Bronze	≤ 200	50
Magnesium Alloys - AZ80A, HM12A, AM60A, ZE41A	50 - 90	70

SPEEDS shown are suggested starting points only and may be increased or decreased depending on actual material and machining conditions. Start conservatively and increase until the machining cycle is optimized.

TAP SPEEDS may be **increased** for coated taps, spiral point taps, fine pitch taps and when the percentage of thread is decreased.

TAP SPEEDS may need to be **decreased** for uncoated taps, spiral flute taps, coarse pitch taps, bottoming taps, difficult materials, longer thread lengths, and when the percentage of thread is increased.

PIPE TAP SPEEDS should be between one-half and three-quarters of the speeds of taps of comparable diameter and pitch.

NOTE: Difficult-to-Machine Materials may require or benefit from the application of specific recommended cutting tools for longer tool life. Applications Technical Support available on request.
Cutting Fluids selection and application can often contribute to longer tool life. Please consult your cutting fluids supplier for advice on your specific machining application.

TAP DRILL SIZES

RECOMMENDED HOLE DIAMETERS FOR TAPPING					
UNIFIED THREADS			METRIC THREADS		
TAP SIZE	CUTTING TAPS Based on 75% Thread (in.)	FORMING TAPS Based on 65% Thread (in.)	TAP SIZE	CUTTING TAPS Based on 75% Thread (in.)	FORMING TAPS Based on 65% Thread (in.)
0-80	0.0478"	0.0545"	M1.6 X 0.35	0.0496"	0.0569"
1-64	0.0578"	0.0661"	M1.8 X 0.35	0.0574"	0.0648"
1-72	0.0595"	0.0669"	M2 X 0.4	0.0634"	0.0718"
2-56	0.0686"	0.0781"	M2.2 X 0.45	0.0694"	0.0788"
2-64	0.0708"	0.0791"	M2.5 X 0.45	0.0812"	0.0906"
3-48	0.0787"	0.0898"	M3 X 0.5	0.0989"	0.1094"
3-56	0.0816"	0.0911"	M3.5 X 0.6	0.1148"	0.1274"
4-40	0.0876"	0.1010"	M4 X 0.7	0.1306"	0.1453"
4-48	0.0917"	0.1028"	M4.5 X 0.75	0.1484"	0.1641"
5-40	0.1006"	0.1140"	M5 X 0.8	0.1662"	0.1829"
5-44	0.1029"	0.1150"	M6 X 1.0	0.1979"	0.2188"
6-32	0.1076"	0.1242"	M7 X 1.0	0.2372"	0.2582"
6-40	0.1136"	0.1270"	M8 X 1.25	0.2670"	0.2932"
8-32	0.1336"	0.1502"	M8 X 1.0	0.2766"	0.2976"
8-36	0.1369"	0.1517"	M10 X 1.5	0.3362"	0.3676"
10-24	0.1494"	0.1716"	M10 X 1.25	0.3458"	0.3719"
10-32	0.1596"	0.1762"	M12 X 1.75	0.4053"	0.4420"
12-24	0.1754"	0.1976"	M12 X 1.25	0.4245"	0.4507"
12-28	0.1812"	0.2002"	M14 X 2.0	0.4745"	0.5164"
1/4-20	0.2013"	0.2279"	M14 X 1.5	0.4936"	0.5251"
1/4-28	0.2152"	0.2342"	M16 X 2.0	0.5532"	0.5951"
5/16-18	0.2584"	0.2879"	M16 X 1.5	0.5724"	0.6038"
5/16-24	0.2719"	0.2941"	M18 X 2.5	0.6128"	0.6652"
3/8-16	0.3141"	0.3474"	M18 X 1.5	0.6511"	0.6826"
3/8-24	0.3344"	0.3566"	M20 X 2.5	0.6915"	0.7439"
7/16-14	0.3679"	0.4059"	M20 X 1.5	0.7299"	0.7613"
7/16-20	0.3888"	0.4154"	M22 X 2.5	0.7702"	0.8226"
1/2-13	0.4251"	0.4660"	M22 X 1.5	0.8086"	0.8400"
1/2-20	0.4513"	0.4779"	M24 X 3.0	0.8298"	0.8927"
9/16-12	0.4813"	0.5257"	M24 X 2.0	0.8682"	
9/16-18	0.5084"	0.5379"	M27 X 3.0	0.9479"	
5/8-11	0.5364"	0.5848"	M27 X 2.0	0.9863"	
5/8-18	0.5709"	0.6004"	M30 X 3.5	1.0469"	
3/4-10	0.6526"	0.7058"	M30 X 2.0	1.1044"	
3/4-16	0.6891"	0.7224"	M33 X 3.5	1.1650"	
7/8-9	0.7668"		M33 X 2.0	1.2225"	
7/8-14	0.8054"		M36 X 4.0	1.2639"	
1-8	0.8782"		M36 X 3.0	1.3023"	
1-12	0.9188"		M39 X 4.0	1.3820"	
1-14	0.9304"		M39 X 3.0	1.4204"	

RECOMMENDED HOLE DIAMETERS FOR PIPE TAPS				
TAP SIZE	NPT** HOLE SIZE	NPTF** HOLE SIZE	NPS HOLE SIZE	NPSF HOLE SIZE
1/16	0.2460"	0.2420"	0.2500"	0.2460"
1/8	0.3390"	0.3320"	0.3438"	0.3390"
1/4	0.4375"	0.4375"	0.4375"	0.4375"
3/8	0.5781"	0.5625"	0.5781"	0.5781"
1/2	0.7031"	0.7031"	0.7188"	0.7188"
3/4	0.9063"	0.9063"	0.9375"	0.9219"
1	1.1406"	1.1406"	1.1719"	1.1563"
1-1/4	1.4844"	1.4844"	1.5156"	
1-1/2	1.7344"	1.7344"	1.7500"	
2	2.2031"	2.1875"	2.2187"	
2-1/2	2.6250"	2.6250"	2.6563"	
3	3.2500"	3.2500"		

**For tapping without reaming

NOTE: Information in this chart is for reference only. we will not be held liable for any consequential damages or economic loss due to the use of information contained within this chart.

END MILLS

Single End Mills

2-Flute Single End Mills

High Speed Steel — Center Cutting

2-Flute end mills provide increased chip capacity and are recommended for milling slots, keyways and pockets.

Center Cutting end allows for plunge cutting like a drill into solid material.



List No. 189

MADE IN USA

List No. 189QI

IMPORT

LIST NO. 189 & 189QI – 2-FLUTE

DIA.	SHANK DIA.	LOC	OAL	EDP NO.	
				189	189QI
1/8	3/8	3/8	2-5/16	88136	85830
5/32	3/8	7/16	2-5/16	88137	85831
3/16	3/8	7/16	2-5/16	88138	85832
7/32	3/8	1/2	2-3/8	88139	85833
1/4	3/8	1/2	2-5/16	88140	85834
9/32	3/8	1/2	2-3/8	88141	85835
5/16	3/8	9/16	2-5/16	88142	85836
3/8	3/8	9/16	2-5/16	88143	85837
7/16	3/8	13/16	2-1/2	88144	85838
1/2	3/8	13/16	2-1/2	-	85839
1/2	1/2	1	3	88146	85840
9/16	1/2	1-1/8	3-1/8	88147	85841
5/8	1/2	1-1/8	3-1/8	88148	85842

DIA.	SHANK DIA.	LOC	OAL	EDP NO.	
				189	189QI
11/16	1/2	1-5/16	3-5/16	88149	85843
3/4	1/2	1-5/16	3-7/16	-	85844
3/4	3/4	1-5/16	3-9/16	88151	85845
13/16	3/4	1-1/2	3-3/4	88152	85846
7/8	3/4	1-1/2	3-3/4	88153	85847
15/16	3/4	1-1/2	3-3/4	88154	85848
1	3/4	1-1/2	3-3/4	88155	85849
1	1	1-5/8	4-1/8	88156	85850
1-1/8	1	1-5/8	4-1/8	88157	-
1-1/4	1	1-5/8	4-1/8	88158	-
1-3/8	1	1-5/8	4-1/8	88159	-
1-1/2	1	1-5/8	4-1/8	88160	-

4-Flute Single End Mills

High Speed Steel — Center Cutting

Multi-Flute end mills offer higher feed rates, improved surface finish and greater core strength for reduced tool deflection.

Center Cutting end allows for plunge cutting like a drill into solid material.



List No. 455

MADE IN USA

List No. 455QI

IMPORT

LIST NO. 455 & 455QI – 4-FLUTE

DIA.	SHANK DIA.	LOC	OAL	EDP NO.	
				455	455QI
1/8	3/8	3/8	2-5/16	88161	85851
5/32	3/8	7/16	2-5/16	88162	85852
3/16	3/8	1/2	2-3/8	88163	85853
7/32	3/8	1/2	2-3/8	88164	85854
1/4	3/8	5/8	2-7/16	88165	85855
9/32	3/8	11/16	2-1/2	88166	85856
5/16	3/8	3/4	2-1/2	88167	85857
3/8	3/8	3/4	2-1/2	88168	85858
7/16	3/8	1	2-11/16	88169	85859
1/2	3/8	1	2-11/16	-	85860
1/2	1/2	1-1/4	3-1/4	88171	85861
9/16	1/2	1-3/8	3-3/8	88172	85862

DIA.	SHANK DIA.	LOC	OAL	EDP NO.	
				455	455QI
5/8	1/2	1-3/8	3-3/8	88173	85863
11/16	1/2*	1-3/8	3-3/8	88174*	85864
3/4	1/2	1-5/8	3-5/8	-	85865
3/4	3/4	1-5/8	3-7/8	88176	85866
13/16	3/4	1-7/8	4-1/8	88177	85867
7/8	3/4	1-7/8	4-1/8	88178	85868
15/16	3/4**	1-7/8	4-1/8	88179**	85869
1	3/4	1-7/8	4-1/8	88180	85870
1	1	2	4-1/2	88181	85871
1-1/8	1	2	4-1/2	88182	-
1-1/4	1-1/4	2	4-1/2	88183	-
1-1/2***	1-1/4	2	4-1/2	88184***	-

* List No. 455 is 5/8 Shank Dia.

** List No. 455 is 7/8 Shank Dia.

*** 6-Flute

END MILLS

Double End Mills

2-Flute Double End Mills High Speed Steel — Center Cutting

2-Flute end mills provide increased chip capacity and are recommended for milling slots, keyways and pockets.

Center Cutting end allows for plunge cutting like a drill into solid material.



List No. 896

MADE IN USA

List No. 896QI

IMPORT

LIST NO. 896 & 896QI – 2-FLUTE

DIA.	SHANK DIA.	LOC	OAL	EDP NO.	
				896	896QI
1/8	3/8	3/8	3-1/16	88190	85879
5/32	3/8	7/16	3-1/8	88191	85880
3/16	3/8	7/16	3-1/8	88192	85881
7/32	3/8	1/2	3-1/8	88193	85882
1/4	3/8	1/2	3-1/8	88194	85883
9/32	3/8	9/16	3-1/8	88195	85884
5/16	3/8	9/16	3-1/8	88196	85885
11/32	3/8	9/16	3-1/8	88197	85886
3/8	3/8	9/16	3-1/8	88198	85887
13/32	1/2	13/16	3-3/4	88199	85888
7/16	1/2	13/16	3-3/4	88200	85889
15/32	1/2	13/16	3-3/4	88201	85890

DIA.	SHANK DIA.	LOC	OAL	EDP NO.	
				896	896QI
1/2	1/2	13/16	3-3/4	88202	85891
9/16	5/8	1-1/8	4-1/2	88203	85892
5/8	5/8	1-1/8	4-1/2	88204	85893
11/16	3/4	1-5/16	5	88205	85894
3/4	3/4	1-5/16	5	88206	85895
13/16	7/8	1-9/16	5-1/2	-	85896
7/8	7/8	1-9/16	5-1/2	88208	85897
15/16	1	1-5/8	5-7/8	-	85898
1	1	1-5/8	5-7/8	88210	85899

4-Flute Double End Mills High Speed Steel — Center Cutting

Multi-Flute end mills offer higher feed rates, improved surface finish and greater core strength for reduced tool deflection.

Center Cutting end allows for plunge cutting like a drill into solid material.



List No. 553

MADE IN USA

List No. 553QI

IMPORT

LIST NO. 553 & 553QI – 4-FLUTE

DIA.	SHANK DIA.	LOC	OAL	EDP NO.	
				553	553QI
1/8	3/8	3/8	3-1/16	88211	85900
5/32	3/8	7/16	3-1/8	88212	85901
3/16	3/8	1/2	3-1/4	88213	85902
7/32	3/8	9/16	3-1/4	88214	85903
1/4	3/8	5/8	3-3/8	88215	85904
9/32	3/8	11/16	3-3/8	88216	85905
5/16	3/8	3/4	3-1/2	88217	85906
11/32	3/8	3/4	3-1/2	88218	85907
3/8	3/8	3/4	3-1/2	88219	85908
13/32	1/2	1	4-1/8	88220	85909
7/16	1/2	1	4-1/8	88221	85910
15/32	1/2	1	4-1/8	88222	85911

DIA.	SHANK DIA.	LOC	OAL	EDP NO.	
				553	553QI
1/2	1/2	1	4-1/8	88223	85912
9/16	5/8	1-3/8	5	88224	85913
5/8	5/8	1-3/8	5	88225	85914
11/16	3/4	1-5/8	5-5/8	88226	85915
3/4	3/4	1-5/8	5-5/8	88227	85916
13/16	7/8	1-7/8	6-1/8	-	85917
7/8	7/8	1-7/8	6-1/8	88229	85918
15/16	1	1-7/8	6-3/8	-	85919
1	1	1-7/8	6-3/8	88231	85920

END MILLS

2-Flute Ball Nose Single End Mills

High Speed Steel — Center Cutting

Ball Nose end mills are designed for milling die cavities, fillets, round bottom holes and radius bottom slots.

2-Flute end mills provide increased chip capacity.

Center Cutting end allows for plunge cutting like a drill into solid material.



List No. 188QI

IMPORT

LIST NO. 188QI - 2-FLUTE

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
1/8	3/8	3/8	2-5/16	85923
3/16	3/8	1/2	2-3/8	85924
1/4	3/8	5/8	2-7/16	85925
5/16	3/8	3/4	2-1/2	85926
3/8	3/8	3/4	2-1/2	85927
7/16	1/2	1	3-1/4	85928

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
1/2	1/2	1	3-1/4	85929
5/8	5/8	1-3/8	3-3/8	85930
3/4	3/4	1-5/8	3-7/8	85931
7/8	7/8	2	4-1/4	85932
1	1	2-1/2	4-3/4	85933

4-Flute Ball Nose Single End Mills

High Speed Steel — Center Cutting

Ball Nose end mills are designed for milling die cavities, fillets, round bottom holes and radius bottom slots.

Multi-Flute end mills offer improved surface finish and feature greater core strength for reduced tool deflection.

Center Cutting end allows for plunge cutting like a drill into solid material.



List No. 188QI

IMPORT

LIST NO. 188QI - 4-FLUTE

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
1/8	3/8	3/8	2-5/16	85934
3/16	3/8	1/2	2-3/8	85935
1/4	3/8	5/8	2-7/16	85936
5/16	3/8	3/4	2-1/2	85937
3/8	3/8	3/4	2-1/2	85938

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
1/2	1/2	1-1/4	3-1/4	85939
5/8	5/8	1-5/8	3-3/4	85940
3/4	3/4	1-5/8	3-7/8	85941
7/8	7/8	1-7/8	4-1/8	85942
1	1	2	4-1/2	85943

2-Flute Drill Mills 90° Point Angle

High Speed Steel

Designed to perform both drilling and milling operations with the same tool.

Performs: drilling, spotting, countersinking, chamfering, slotting, side milling, profile milling and other drilling & milling operations.



List No. 191QI

IMPORT

LIST NO. 191QI

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
1/8	3/8	3/8	2-5/16	85872
3/16	3/8	7/16	2-5/16	85873
1/4	3/8	5/8	2-7/16	85874
5/16	3/8	23/32	2-15/32	85875

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
3/8	3/8	3/4	2-1/2	85876
7/16	3/8	1-1/32	2-23/32	85877
1/2	1/2	1-1/4	3-1/4	85878

END MILLS

Solid Carbide Single End Mills

Micrograin Carbide — Center Cutting

30° Helix Angle

Solid Carbide offers higher cutting speeds, high rigidity, excellent hardness, wear resistance and heat resistance and long tool life. **Tool Coatings** also available.

2-Flute mills provide increased chip capacity for higher feed rates in easy-to-machine materials including low alloy steels, non-ferrous materials and cast iron.

3-Flute mills provide a compromise between the chip capacity of 2-flute mills and the tool strength, higher feed rate and improved surface finish of 4-flute mills.

4-Flute mills provide increased tool strength and reduced tool deflection. Also, reduced chip load per tooth for the milling of tougher materials, greater wear resistance and improved surface finish.



List No. 192
2-Flute

MADE IN USA



List No. 193
3-Flute

MADE IN USA



List No. 194
4-Flute

MADE IN USA

TOLERANCES

Size to 1/4" +.000 - .002

9/32" to 1" +.000 - .003

Shank Dia. +.0000 - .0005

LIST NO. 192 - 2-FLUTE

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
1/16	1/8	3/16	1-1/2	88235
3/32	1/8	3/8	1-1/2	88236
1/8	1/8	1/2	1-1/2	88237
5/32	3/16	9/16	2	88238
3/16	3/16	5/8	2	88239
7/32	1/4	5/8	2-1/2	88240
1/4	1/4	3/4	2-1/2	88241
5/16	5/16	13/16	2-1/2	88242

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
3/8	3/8	7/8	2-1/2	88243
7/16	7/16	7/8	2-1/2	88244
1/2	1/2	1	3	88245
9/16	9/16	1-1/4	3-1/2	88246
5/8	5/8	1-1/4	3-1/2	88247
3/4	3/4	1-1/2	4	88248
7/8	7/8	1-1/2	4	88249
1	1	1-1/2	4	88250

LIST NO. 193 - 3-FLUTE

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
1/16	1/8	3/16	1-1/2	88260
3/32	1/8	3/8	1-1/2	88261
1/8	1/8	1/2	1-1/2	88262
5/32	3/16	9/16	2	88263
3/16	3/16	5/8	2	88264
7/32	1/4	5/8	2-1/2	88265
1/4	1/4	3/4	2-1/2	88266
5/16	5/16	13/16	2-1/2	88267

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
3/8	3/8	1	2-1/2	88268
7/16	7/16	1	2-3/4	88269
1/2	1/2	1	3	88270
5/8	5/8	1-1/4	3-1/2	88271
3/4	3/4	1-1/2	4	88272
1	1	1-1/2	4	88273

LIST NO. 194 - 4-FLUTE

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
1/16	1/8	3/16	1-1/2	88280
3/32	1/8	3/8	1-1/2	88281
1/8	1/8	1/2	1-1/2	88282
5/32	3/16	9/16	2	88283
3/16	3/16	5/8	2	88284
7/32	1/4	5/8	2-1/2	88285
1/4	1/4	3/4	2-1/2	88286
5/16	5/16	13/16	2-1/2	88287

DIA.	SHANK DIA.	LOC	OAL	EDP NO.
3/8	3/8	7/8	2-1/2	88288
7/16	7/16	7/8	2-1/2	88289
1/2	1/2	1	3	88290
9/16	9/16	1-1/4	3-1/2	88291
5/8	5/8	1-1/4	3-1/2	88292
3/4	3/4	1-1/2	4	88293
7/8	7/8	1-1/2	4	88294
1	1	1-1/2	4	88295

TOOL BITS

Square Tool Bits

M2 HSS Square Tool Bits

For General Purpose Applications
High Speed Steel — M2

Excellent strength and toughness suited for a wide variety of applications in ferrous and non-ferrous alloys.



List No. 226

MADE IN USA

List No. 226QI

IMPORT

LIST NO. 226 & 226QI

M2 - High Speed Steel

SIZE	OAL	EDP NO.	
		226	226QI
3/16	2-1/2	86016	86034
1/4	2-1/2	86017	86035
5/16	2-1/2	86018	86036
5/16	4	-	86037
3/8	3	86019	86038

SIZE	OAL	EDP NO.	
		226	226QI
7/16	3-1/2	86020	86039
1/2	4	86021	86040
5/8	4-1/2	86022	86041
3/4	5	86023	86042
1	7	86024	86043

M42 Cobalt Square Tool Bits

For Heavy Duty Applications
Cobalt Steel — M42

Combines good wear resistance with high red hardness values and is especially useful for difficult machining operations. The increase in red hardness permits higher cutting speeds on general work materials and allows cutting of harder and tougher work materials which generate more heat at the tool's cutting edges.



List No. 226

MADE IN USA

List No. 226QI

IMPORT

LIST NO. 226 & 226QI

M42 - 8% Cobalt Steel

SIZE	OAL	EDP NO.	
		226	226QI
3/16	2-1/2	86025	86044
1/4	2-1/2	86026	86045
5/16	2-1/2	86027	86046
5/16	4	-	86047
3/8	3	86028	86048

SIZE	OAL	EDP NO.	
		226	226QI
7/16	3-1/2	86029	86049
1/2	4	86030	86050
5/8	4-1/2	86031	86051
3/4	5	86032	86052
1	7	86033	86053

TOOL BITS

Straight Turning Tools – Style AR

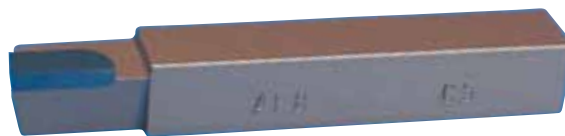
CARBIDE TIPPED

For turning to a square shoulder

LIST NO. 511QI

RIGHT HAND

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			NOSE RADIUS	CARBIDE GRADES EDP NO.	
		X	Y	Z		C2	C6
		AR4	10	1/4		1/4	2
AR5	10	5/16	5/16	2-1/4	1/64	87832	87833
AR6	10	3/8	3/8	2-1/2	1/64	87834	87835
AR7	10	7/16	7/16	3	1/32	87836	87837



List No. 511QI

IMPORT

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			NOSE RADIUS	CARBIDE GRADES EDP NO.	
		X	Y	Z		C2	C6
		AR8	10	1/2		1/2	3-1/2
AR10	10	5/8	5/8	4	1/32	87840	87841
AR12	5	3/4	3/4	4-1/2	1/32	87842	87843
AR16	1	1	1	7	1/32	87844	87845

Straight Turning Tools – Style AL

LIST NO. 511QI

LEFT HAND

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			NOSE RADIUS	CARBIDE GRADES EDP NO.	
		X	Y	Z		C2	C6
		AL4	10	1/4		1/4	2
AL5	10	5/16	5/16	2-1/4	1/64	87848	87849
AL6	10	3/8	3/8	2-1/2	1/64	87850	87851
AL7	10	7/16	7/16	3	1/32	87852	87853



List No. 511QI

IMPORT

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			NOSE RADIUS	CARBIDE GRADES EDP NO.	
		X	Y	Z		C2	C6
		AL8	10	1/2		1/2	3-1/2
AL10	10	5/8	5/8	4	1/32	87856	87857
AL12	5	3/4	3/4	4-1/2	1/32	87858	87859
AL16	1	1	1	7	1/32	87860	87861

15° Lead Angle Turning Tools – Style BR

CARBIDE TIPPED

For turning when a square shoulder is not required and for interrupted cuts.

LIST NO. 511QI

RIGHT HAND

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			NOSE RADIUS	CARBIDE GRADES EDP NO.	
		X	Y	Z		C2	C6
		BR4	10	1/4		1/4	2
BR5	10	5/16	5/16	2-1/4	1/64	87864	87865
BR6	10	3/8	3/8	2-1/2	1/64	87866	87867
BR7	10	7/16	7/16	3	1/32	87868	87869



List No. 511QI

IMPORT

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			NOSE RADIUS	CARBIDE GRADES EDP NO.	
		X	Y	Z		C2	C6
		BR8	10	1/2		1/2	3-1/2
BR10	10	5/8	5/8	4	1/32	87872	87873
BR12	5	3/4	3/4	4-1/2	1/32	87874	87875
BR16	1	1	1	7	1/32	87876	87877

15° Lead Angle Turning Tools – Style BL

LIST NO. 511QI

LEFT HAND

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			NOSE RADIUS	CARBIDE GRADES EDP NO.	
		X	Y	Z		C2	C6
		BL4	10	1/4		1/4	2
BL5	10	5/16	5/16	2-1/4	1/64	87880	87881
BL6	10	3/8	3/8	2-1/2	1/64	87882	87883
BL7	10	7/16	7/16	3	1/32	87884	87885



List No. 511QI

IMPORT

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			NOSE RADIUS	CARBIDE GRADES EDP NO.	
		X	Y	Z		C2	C6
		BL8	10	1/2		1/2	3-1/2
BL10	10	5/8	5/8	4	1/32	87888	87889
BL12	5	3/4	3/4	4-1/2	1/32	87890	87891
BL16	1	1	1	7	1/32	87892	87893

Grade C2

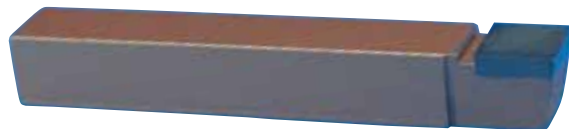
For use in cast iron and non-ferrous materials

Grade C6

For general purpose use in steel and steel alloys

TOOL BITS

Square Nose Tools – Style C



List No. 511QI

IMPORT

CARBIDE TIPPED

For chamfering, facing, turning and for making special tool forms.

LIST NO. 511QI

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			CARBIDE GRADES EDP NO.	
		X	Y	Z	C2	C6
C4	10	1/4	1/4	2	87894	87895
C5	10	5/16	5/16	2-1/4	87896	87897
C6	10	3/8	3/8	2-1/2	87898	87899
C7	10	7/16	7/16	3	87900	87901

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			CARBIDE GRADES EDP NO.	
		X	Y	Z	C2	C6
C8	10	1/2	1/2	3-1/2	87902	87903
C10	10	5/8	5/8	4	87904	87905
C12	5	3/4	3/4	4-1/2	87906	87907
C16	1	1	1	7	87908	87909

80° Included Angle Tools – Style D



List No. 511QI

IMPORT

CARBIDE TIPPED

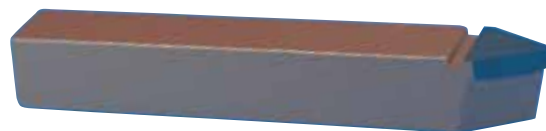
For under cutting and for ID and OD chamfering.

LIST NO. 511QI

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			CARBIDE GRADES EDP NO.	
		X	Y	Z	C2	C6
D4	10	1/4	1/4	2	87910	87911
D5	10	5/16	5/16	2-1/4	87912	87913
D6	10	3/8	3/8	2-1/2	87914	87915
D7	10	7/16	7/16	3	87916	87917

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			CARBIDE GRADES EDP NO.	
		X	Y	Z	C2	C6
D8	10	1/2	1/2	3-1/2	87918	87919
D10	10	5/8	5/8	4	87920	87921
D12	5	3/4	3/4	4-1/2	87922	87923
D16	1	1	1	7	87924	87925

60° Included Angle Threading Tool – Style E



List No. 511QI

IMPORT

CARBIDE TIPPED

For standard 60° threading, boring, v-grooving and other applications.

LIST NO. 511QI

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			CARBIDE GRADES EDP NO.	
		X	Y	Z	C2	C6
E4	10	1/4	1/4	2	87926	87927
E5	10	5/16	5/16	2-1/4	87928	87929
E6	10	3/8	3/8	2-1/2	87930	87931

TOOL NO.	STANDARD PACKAGE QUANTITY	SHANK DIMENSIONS			CARBIDE GRADES EDP NO.	
		X	Y	Z	C2	C6
E8	10	1/2	1/2	3-1/2	87932	87933
E10	10	5/8	5/8	4	87934	87935
E12	10	3/4	3/4	4-1/2	87936	87937

Grade C2

For use in cast iron and non-ferrous materials

Grade C6

For general purpose use in steel and steel alloys

BURRS

Carbide Burrs 1/8" Shank

MADE IN USA

Double Cut

Double cut - Rapid stock removal in tough applications. Design reduces the pulling action, reduces size of chips, ensures rapid stock removal.



EDP NO.	83369	83370	83348	83349	83350	83351	83352	83353	83354	83355	83356	83357	83358	83359	83360	83361	83363
TOOL NO.	SG-43	SG-44	SA-43	SA-42	SC-42	SC-41	SD-42	SE-41	SF-41	SG-41	SJ-42	SL-41	SH-41	SN-42	SK-42	SB-41	SB-43
DIA.	1/8	1/8	1/8	3/32	1/8	3/32	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/8
L.O.C.	3/8	1/2	5/8	1/2	5/8	1/2	1/8	3/16	1/4	1/4	3/16	13/32	3/16	1/8	1/8	1/8	5/8

Carbide Burrs 1/4" Dia. - 1/8" Steel Shank

Double Cut

Double cut - Rapid stock removal in tough applications. Design reduces the pulling action, reduces size of chips, ensures rapid stock removal.

MADE IN USA



EDP NO.	83338	83339	83340	83341	83342	83343	83344	83345	83346
TOOL NO.	SA-51	SB-51	SC-51	SD-51	SE-51	SF-51	SG-51	SM-51	SN-51
LOC	1/2	1/4	1/2	1/4	3/8	1/2	1/2	1/2	1/4

STANDARD PACKAGE
All sizes — 1 each

BURRS

Carbide Burrs 1/4" Shanks

Single cut - General Purpose. Recommended for steel, cast iron, ferrous materials. Offers good stock removal and smooth workpiece finish.

Double cut - Rapid stock removal in tough applications. Design reduces the pulling action, reduces size of chips, ensures rapid stock removal.

Solid carbide brazed to steel shanks.



List No. 597
Single Cut

MADE IN USA



List No. 597
Double Cut

MADE IN USA

LIST NO. 597

CYLINDRICAL SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SA-11	1/8	1/2	83200	83371
SA-12	1/8	5/8	83201	83458
SA-13	5/32	5/8	83202	83459
SA-14	3/16	5/8	83203	83460
SA-1	1/4	5/8	83204	83372
SA-1L	1/4	1	83205	83373
SA-2	5/16	3/4	83206	83374
SA-3	3/8	3/4	83207	83375
SA-3L	3/8	1	83208	83376
SA-3X	3/8	1-1/2	83209	83461

STANDARD PACKAGE

All sizes — 1 each

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SA-4	7/16	1	83210	83462
SA-5	1/2	1	83211	83377
SA-6	5/8	1	83212	83378
SA-15	3/4	1/2	83213	83463
SA-16	3/4	3/4	83214	83379
SA-7	3/4	1	83215	83464
SA-8	7/8	1	83216	83465
SA-9	1	1	83217	83466



List No. 597
End Cut

MADE IN USA

LIST NO. 597

CYLINDER SHAPE WITH END CUT

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SB-11	1/8	1/2	83467	83515
SB-12	1/8	5/8	83468	83516
SB-13	5/32	5/8	83469	83517
SB-14	3/16	5/8	83470	83518
SB-1	1/4	5/8	83471	83519
SB-1L	1/4	1	83472	83520
SB-2	5/16	3/4	83473	83521
SB-3	3/8	3/4	83474	83522
SB-3L	3/8	1	83475	83523
SB-3X	3/8	1-1/2	83476	83524

STANDARD PACKAGE

All sizes — 1 each

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SB-4	7/16	1	83477	83525
SB-5	1/2	1	83478	83526
SB-6	5/8	1	83479	83527
SB-15	3/4	1/2	83480	83528
SB-16	3/4	3/4	83481	83529
SB-7	3/4	1	83482	83530
SB-8	7/8	1	83483	83531
SB-9	1	1	83484	83532

BURRS

Carbide Burrs 1/4" Shanks (cont.)

Single cut – General Purpose. Recommended for steel, cast iron, ferrous materials. Offers good stock removal and smooth workpiece finish.

Double cut – Rapid stock removal in tough applications. Design reduces the pulling action, reduces size of chips, ensures rapid stock removal.

Solid carbide brazed to steel shanks.



List No. 597

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 597

CYLINDRICAL SHAPE – RADIUS END

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SC-11	1/8	1/2	83218	83380
SC-12	1/8	5/8	83219	83485
SC-13	5/32	5/8	83220	83486
SC-14	3/16	5/8	83221	83487
SC-1	1/4	5/8	83222	83488
SC-1L	1/4	1	83223	83381
SC-2	5/16	3/4	83224	83382
SC-3	3/8	3/4	83225	83489
SC-3L	3/8	1	83226	83383
SC-3X	3/8	1-1/2	83227	83490

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SC-4	7/16	1	83228	83491
SC-5	1/2	1	83229	83384
SC-6	5/8	1	83230	83385
SC-7	3/4	1	83233	83493
SC-9	1	1	83234	83494
SC-15	3/4	1/2	83232	83492
SC-16	3/4	3/4	83231	83386



List No. 597

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 597

BALL SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SD-11	1/8	3/32	83235	83387
SD-14	3/16	1/8	83236	83388
SD-1	1/4	7/32	83237	83389
SD-2	5/16	1/4	83238	83390
SD-3	3/8	5/16	83239	83391

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SD-4	7/16	3/8	83240	83495
SD-5	1/2	7/16	83241	83392
SD-6	5/8	9/16	83242	83393
SD-7	3/4	11/16	83243	83394
SD-9	1	15/16	83244	83496

BURRS

Carbide Burrs 1/4" Shanks (cont.)

Single cut - General Purpose. Recommended for steel, cast iron, ferrous materials. Offers good stock removal and smooth workpiece finish.

Double cut - Rapid stock removal in tough applications. Design reduces the pulling action, reduces size of chips, ensures rapid stock removal.

Solid carbide brazed to steel shanks.

LIST NO. 597

OVAL SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SE-11	3/16	5/16	83245	83395
SE-1	1/4	3/8	83246	83396
SE-3	3/8	5/8	83247	83397

LIST NO. 597

TREE SHAPE - RADIUS END

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SF-11	1/8	1/2	83251	83497
SF-1	1/4	5/8	83252	83401
SF-3	3/8	3/4	83253	83402
SF-4	7/16	1	83254	83498
SF-13	1/2	3/4	83255	83499

LIST NO. 597

TREE SHAPE - POINTED END

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SG-1	1/4	5/8	83260	83406
SG-2	5/16	3/4	83261	83407
SG-3	3/8	3/4	83262	83408
SG-13	1/2	3/4	83263	83409

LIST NO. 597

60° CONE SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SJ-1	1/4	3/16	83440	83502
SJ-3	3/8	5/16	83441	83503
SJ-5	1/2	7/16	83442	83504



List No. 597

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SE-5	1/2	7/8	83248	83398
SE-6	5/8	1	83249	83399
SE-7	3/4	1	83250	83400



TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SF-5	1/2	1	83256	83403
SF-6	5/8	1	83257	83404
SF-14	3/4	1-1/4	83258	83405
SF-15	3/4	1-1/2	83259	83500



TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SG-5	1/2	1	83264	83410
SG-6	5/8	1	83265	83411
SG-7	3/4	1	83266	83412
SG-15	3/4	1-1/2	83267	83501



TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SJ-6	5/8	9/16	83443	83505
SJ-7	3/4	11/16	83444	83506
SJ-9	1	15/16	83445	83507

BURRS

Carbide Burrs 1/4" Shanks (cont.)

Single cut – General Purpose. Recommended for steel, cast iron, ferrous materials. Offers good stock removal and smooth workpiece finish.

Double cut – Rapid stock removal in tough applications. Design reduces the pulling action, reduces size of chips, ensures rapid stock removal.

Solid carbide brazed to steel shanks.

LIST NO. 597

90° CONE SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SK-1	1/4	1/8	83446	83508
SK-3	3/8	3/16	83447	83509
SK-5	1/2	1/4	83448	83510

LIST NO. 597

TAPERED SHAPE – RADIUS END 14° Included Angle

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SL-1	1/4	5/8	83268	83413
SL-2	5/16	7/8	83269	83414
SL-3	3/8	1-1/16	83270	83415
SL-4	1/2	1-1/8	83271	83416

LIST NO. 597

FLAME SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SH-1	1/4	5/8	83430	83435
SH-2	5/16	3/4	83431	83436
SH-5	1/2	1-1/4	83432	83437



List No. 597

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SK-6	5/8	5/16	83449	83511
SK-7	3/4	3/8	83450	83512
SK-9	1	1/2	83451	83513



TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SL-5	5/8	1-3/16	83272	83514
SL-6	5/8	1-5/16	83273	83417
SL-7	3/4	1-1/2	83274	83418



TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SH-6	5/8	1-7/16	83433	83438
SH-7	3/4	1-5/8	83434	83439

BURRS

Carbide Burrs 1/4" Shanks (cont.)

Single cut – General Purpose. Recommended for steel, cast iron, ferrous materials. Offers good stock removal and smooth workpiece finish.

Double cut – Rapid stock removal in tough applications. Design reduces the pulling action, reduces size of chips, ensures rapid stock removal.

Solid carbide brazed to steel shanks.

LIST NO. 597

CONE SHAPE

TOOL NO.	INCLUDED ANGLE	DIA.	LENGTH OF CUT	EDP NO.	
				SINGLE CUT	DOUBLE CUT
SM-1	22°	1/4	1/2	83275	83419
SM-2	14°	1/4	3/4	83276	83420
SM-3	10°	1/4	1	83277	83421

LIST NO. 597

INVERTED CONE SHAPE

TOOL NO.	INCLUDED ANGLE	DIA.	LENGTH OF CUT	EDP NO.	
				SINGLE CUT	DOUBLE CUT
SN-1	10°	1/4	5/16	83281	83425
SN-2	13°	3/8	3/8	83282	83426
SN-4	28°	1/2	1/2	83283	83427



List No. 597

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

TOOL NO.	INCLUDED ANGLE	DIA.	LENGTH OF CUT	EDP NO.	
				SINGLE CUT	DOUBLE CUT
SM-4	28°	3/8	5/8	83278	83422
SM-5	28°	1/2	7/8	83279	83423
SM-6	31°	5/8	1	83280	83424



TOOL NO.	INCLUDED ANGLE	DIA.	LENGTH OF CUT	EDP NO.	
				SINGLE CUT	DOUBLE CUT
SN-6	18°	5/8	3/4	83284	83428
SN-7	30°	3/4	5/8	83285	83429

Carbide Burrs For Non-Ferrous Materials 1/4" Shanks

NF Burrs are designed for use on aluminum, non-ferrous metals, soft steel, reinforced plastics, and other soft materials. High flute design for easy chip flow and fast stock removal. Provides excellent work finish with minimum loading when cutting soft, sticky materials.

Solid carbide brazed to steel shanks.

LIST NO. 597

CYLINDRICAL SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SA-1-NF	1/4	5/8	83286
SA-3-NF	3/8	3/4	83287
SA-5-NF	1/2	1	83288

LIST NO. 597

CYLINDRICAL SHAPE - RADIUS END

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SC-1-NF	1/4	5/8	83291
SC-3-NF	3/8	3/4	83292
SC-5-NF	1/2	1	83293

Note: tool no. indicated with 3/8" are furnished with 3/8" shank.



List No. 597

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SA-6-NF	5/8	1	83289
SA-7-NF	3/4	1	83290
SA-7-NF 3/8	3/4	1	83452



TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SC-6-NF	5/8	1	83294
SC-7-NF	3/4	1	83295
SC-7-NF 3/8	3/4	1	83453

BURRS

Carbide Burrs For Non-Ferrous Materials 1/4" Shanks (cont.)

NF Burrs are designed for use on aluminum, non-ferrous metals, soft steel, reinforced plastics, and other soft materials. High flute design for easy chip flow and fast stock removal. Provides excellent work finish with minimum loading when cutting soft, sticky materials.

Solid carbide brazed to steel shanks.

LIST NO. 597

BALL SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SD-1-NF	1/4	3/16	83296
SD-3-NF	3/8	5/16	83297
SD-5-NF	1/2	7/16	83298

LIST NO. 597

OVAL SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SE-3-NF	3/8	5/8	83301
SE-5-NF	1/2	7/8	83302
SE-6-NF	5/8	1	83303

LIST NO. 597

TREE SHAPE – RADIUS END

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SF-1-NF	1/4	3/4	83305
SF-3-NF	3/8	3/4	83306
SF-5-NF	1/2	1	83307

LIST NO. 597

TAPERED SHAPE – RADIUS END 14° Included Angle

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SL-3-NF	3/8	1-1/16	83310
SL-4-NF	1/2	1-1/8	83311
SL-5-NF	5/8	1-3/16	83312

Note: tool no. indicated with 3/8" are furnished with 3/8" shank.



List No. 597

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SD-6-NF	5/8	9/16	83299
SD-7-NF	3/4	11/16	83300
SD-7-NF 3/8	3/4	11/16	83454



TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SE-7-NF	3/4	1	83304
SE-7-NF 3/8	3/4	1	83455



TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SF-6-NF	5/8	1	83308
SF-14-NF	3/4	1-1/4	83309
SF-14-NF 3/8	3/4	1-1/4	83456



TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.
SL-6-NF	5/8	1-5/16	83313
SL-7-NF	3/4	1-1/2	83314
SL-7-NF 3/8	3/4	1-1/2	83457

6" Long Shank — Carbide Burrs 1/4" Diameter Steel Shank

Single cut – General Purpose. Recommended for steel, cast iron, ferrous materials. Offers good stock removal and smooth workpiece finish.

Double cut – Rapid stock removal in tough applications. Design reduces the pulling action, reduces size of chips, ensures rapid stock removal.

Solid carbide brazed to steel shanks.

LIST NO. 597

CYLINDRICAL SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SA-1L6	1/4	1/2	83315	84375
SA-3L6	3/8	3/4	83316	84376
SA-5L6	1/2	1	83317	84377



List No. 597

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 597

CYLINDRICAL SHAPE – RADIUS END

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SC-1L6	1/4	1/2	83318	84378
SC-3L6	3/8	3/4	83319	84379
SC-5L6	1/2	1	83320	84380



LIST NO. 597

BALL SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SD-1L6	1/4	3/16	83321	84381
SD-3L6	3/8	5/16	83322	84382
SD-5L6	1/2	7/16	83323	84383



LIST NO. 597

OVAL SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SE-1L6	1/4	3/8	83324	84384
SE-3L6	3/8	5/8	83325	84385
SE-5L6	1/2	7/8	83326	84386



LIST NO. 597

TREE SHAPE – RADIUS END

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SF-1L6	1/4	1/2	83327	84387
SF-3L6	3/8	3/4	83328	84388
SF-5L6	1/2	1	83329	84389



BURRS

6" Long Shank — Carbide Burrs 1/4" Diameter Steel Shank (cont.)

Single cut - General Purpose. Recommended for steel, cast iron, ferrous materials. Offers good stock removal and smooth workpiece finish.

Double cut - Rapid stock removal in tough applications. Design reduces the pulling action, reduces size of chips, ensures rapid stock removal.

Solid carbide brazed to steel shanks.

LIST NO. 597

TREE SHAPE - POINTED END

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SG-1L6	1/4	1/2	83330	84390
SG-3L6	3/8	3/4	83331	84391
SG-5L6	1/2	1	83332	84392



List No. 597

MADE IN USA

STANDARD PACKAGE

All sizes — 1 each

LIST NO. 597

FLAME SHAPE

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SH-2L6	5/16	3/4	83333	84393
SH-5L6	1/2	1-1/4	83334	84394



LIST NO. 597

14° TAPER - RADIUS END

TOOL NO.	DIAMETER	LENGTH OF CUT	EDP NO.	
			SINGLE CUT	DOUBLE CUT
SL-1L6	1/4	5/8	83335	84395
SL-3L6	3/8	1-1/16	83336	84396
SL-4L6	1/2	1-1/8	83337	84397



1/8" Shank Carbide Burr Sets

LIST NO. 597

DIAMETER	INCLUDES	SET NO.	EDP NO.
1/8	SA-43, SA-42, SC-42, SC-41, SD-42, SE-41, SF-41, SG-41, SJ-42, SL-41, SH-41, SN-42	C-100	83543
1/8	SA-42, SA-43, SC-42, SC-41, SF-42, SG-42, SM-43, SE-41, SD-42	C-150	83533
1/4	SA-51, SB-51, SC-51, SD-51, SE-51, SF-51, SG-51, SM-51, SN-51	C-300	83545
1/4	SA-51, SC-51, SF-51, SG-51, SM-51, SD-51	C-350	83534



1/4" Shank Carbide Burr Sets

LIST NO. 597

DIAMETER	INCLUDES	SET NO.	EDP NO.
1/4	SA-1, SA-14, SC-1, SC-14, SD-1, SE-1, SF-1, SG-1, SJ-1, SL-1, SH-1, SN-1	C-200	83544
1/4	SA-1, SC-1, SF-1, SG-1, SM-2, SE-1, SL-1, SD-1	C-400	83535
1/4	SA-5, SC-5, SF-5, SG-5, SM-5, SE-5, SL-4, SD-5	C-450	83536
1/4	SA-5, SC-5, SD-5, SE-5, SG-5, SM-5, SL-4, SH-5	C-500	83537
1/4	SA-5, SC-1, SC-3, SD-3, SE-5, SH-5, SK-5, SG-1	C-550	83538
1/4	SA-1, SA-5, SC-1, SC-3, SC-5, SF-5, SL-3, SL-4	C-600	83539
1/4	SB-1, SC-3, SD-2, SE-5, SF-5, SL-4, SG-3, SM-5	C-650	83540
1/4	SA-1, SA-3, SA-5, SC-1, SC-3, SC-5, SF-1, SF-3, SF-5	C-700	83541
1/4	SA-1, SA-3, SA-5, SC-1, SC-3, SC-5, SD-3, SD-5, SE-3, SF-1, SF-3, SF-5, SG-1, SG-3, SL-3, SL-4	C-750	83542
1/4	SA-5, SC-3, SC-5, SD-5, SF-3, SF-5, SG-3, SL-4	C-725	83546

Double cut for rapid stock removal.
Supplied in premium hardwood case.

MADE IN USA

STYLES OF CUT



Double Cut

Most popular style. For rapid stock removal in tough applications. Design reduces the pulling action, reduces size of chips, ensures rapid stock removal.



Single Cut

General Purpose. Recommended for steel, cast iron, ferrous materials. Offers good stock removal and smooth workpiece finish.



Non-Ferrous Cut

For use on aluminum, non-ferrous metals, soft steel, reinforced plastics, and other soft materials. High flute design for easy chip flow and fast stock removal. Provides excellent work finish with minimum loading when cutting soft, sticky metals.

SAWS AND BLADES

Bi-Metal Hole Saws

Separate Arbor Style

For use in cutting holes for pipe and tubing installations, as well as door lock installations, electrical conduit, hoses & antennas.

Supplied with a 1-7/8" cutting depth. M-3 HSS cutting edge. Bi-metal construction with a heavy duty backing plate. 4/6 Variable tooth.

List No. 405

MADE IN USA

STANDARD PACKAGE

1 each



LIST NO. 405

DIAMETER		PIPE TAP		PIPE ENTRANCE		EDP NO.
IN.	METRIC	IN.	METRIC	IN.	METRIC	
9/16	14mm					83020
5/8	16mm				10mm	83021
11/16	17mm					83022
3/4	19mm	1/2	13mm	3/8	13mm	83023
13/16	21mm					83024
7/8	22mm	3/4	19mm	1/2	19mm	83025
15/16	24mm					83026
1	25mm					83027
1-1/16	27mm					83028
1-1/8	29mm	1	25mm	3/4	25mm	83029
1-3/16	30mm					83030
1-1/4	32mm					83031
1-5/16	33mm					83032
1-3/8	35mm			1		83033
1-7/16	37mm					83034
1-1/2	38mm	1-1/4	32mm		32mm	83035
1-9/16	40mm					83019
1-5/8	41mm					83036
1-11/16	43mm					83037
1-3/4	44mm	1-1/2	38mm	1-1/4	38mm	83038
1-13/16	46mm					83039
1-7/8	48mm					83040
2	51mm			1-1/2		83041
2-1/16	52mm					83042
2-1/8	54mm					83043
2-1/4	57mm	2	51mm		51mm	83044

DIAMETER		PIPE TAP		PIPE ENTRANCE		EDP NO.
IN.	METRIC	IN.	METRIC	IN.	METRIC	
2-5/16	59mm					83045
2-3/8	60mm					83046
2-1/2	64mm			2		83047
2-9/16	65mm					83048
2-5/8	67mm	2-1/2	64mm		64mm	83049
2-3/4	70mm					83050
2-7/8	73mm					83051
3	76mm			2-1/2		83052
3-1/8	79mm					83053
3-1/4	83mm	3	76mm		76mm	83054
3-3/8	86mm					83055
3-1/2	89mm					83056
3-5/8	92mm			3		83057
3-3/4	95mm	3-1/2	89mm			83058
3-7/8	98mm					83059
4	102mm					83060
4-1/8	105mm			3-1/2	89mm	83061
4-1/4	108mm	4	102mm			83062
4-3/8	111mm					83063
4-1/2	114mm					83064
4-3/4	121mm	4-1/2	114mm	4	102mm	83065
5	127mm					83066
5-1/2	140mm			5	127mm	83067
5-3/4	146mm					83068
6	152mm					83069

SAWS AND BLADES

Mandrels for 9/16" - 1-3/16" Hole Saws (1/2"-20 Thread Size)

LIST NO. 408

SHANK TYPE	CHUCK SIZE	DESCRIPTION	EDP NO.
1/4" Round	1/4"	Most economical type	83128
1/4" Universal	1/4"-1/2"	Positive lock non-slip jaw type	83129
3/8" Hex	3/8"-1/2"	Fits 3/8" & 1/2" drill chucks	83131



83128



83129



83131

Mandrels for 1-1/4" - 2" Hole Saws (5/8"-18 Thread Size)

MADE IN USA

LIST NO. 409

SHANK TYPE	CHUCK SIZE	DESCRIPTION	EDP NO.
1/4" Universal	1/4"-1/2"	Positive lock non-slip jaw type	83132



83132

Mandrels for 1-1/4" - 6" Hole Saws Quick Change Type (5/8"-18 Thread Size)

LIST NO. 410

SHANK TYPE	CHUCK SIZE	DESCRIPTION	EDP NO.
7/16" Hex	1/2"	Quick Change Type	83134
3/8" Hex	3/8"-1/2"	Quick Change Type	83135



83134



83135

Mandrel Accessories

LIST NO. 411

DESCRIPTION	FOR USE WITH ABOVE MANDREL NUMBER	EDP NO.
Mandrel Adapter	Threaded adapter & washer allow the following to be used with 1-1/4" thru 2" hole saws: 83128, 83129, 83131	83137
12" Extension	83129, 83134	83138
1/4" Pilot Drill 4-1/4" O.A.L.	83128, 83134	83139
1/4" Pilot Drill 3-1/4" O.A.L.	83129, 83132, 83131, 83135	83109

For use with all hole saws (excluding one-piece type). Pilot drill supplied with mandrels.

STANDARD PACKAGE

1 each

MADE IN USA

Bi-Metal Hole Saw Kits

List No. 413 • EDP No. 83174 Plumber's Kit

Contains 6 bi-metal hole saws.
Sizes 3/4, 7/8, 1-1/8, 1-1/2, 1-3/4 & 2-1/4". Also includes mandrels and a mandrel adapter in a convenient polyethylene case.



List No. 413 • EDP No. 83175 Electrician's Kit

Contains 6 bi-metal hole saws.
Sizes 7/8, 1-1/8, 1-3/8, 1-3/4, 2 & 2-1/2". Also includes mandrels and a mandrel adapter in a convenient polyethylene case.

For use in cutting holes for pipe and tubing installations, as well as door lock installations, electrical conduit, hoses & antennas. Will cut through a dimensional 2 x 4.

Supplied with a 1-7/8" cutting depth. M-3 HSS cutting edge. Bi-metal construction with a heavy duty backing plate. 4/6 Variable tooth.

List No. 413 • EDP No. 83176 Deluxe Kit

Contains 9 bi-metal hole saws.
Sizes 3/4, 7/8, 1-1/8, 1-3/8, 1-1/2, 1-3/4, 2, 2-1/4 & 2-1/2". Also includes mandrels and a mandrel adapter and a pilot drill in a convenient polyethylene case.

MADE IN USA

List No. 413 • EDP No. 83177 Handyman's Kit

Contains 5 bi-metal hole saws.
Sizes 7/8, 1, 1-1/8, 1-1/4 & 1-1/2". Also includes mandrels and a mandrel adapter in a convenient polyethylene case.

List No. 413 • EDP No. 83178 Industrial Kit

Master set contains 15 bi-metal hole saws.
Sizes 3/4, 7/8, 1-1/8, 1-3/8, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 3, 3-1/4, 3-5/8, 3-3/4, 4-1/8 & 4-1/2". Also includes mandrels and pilot drill, all in a metal case.

SAWS AND BLADES

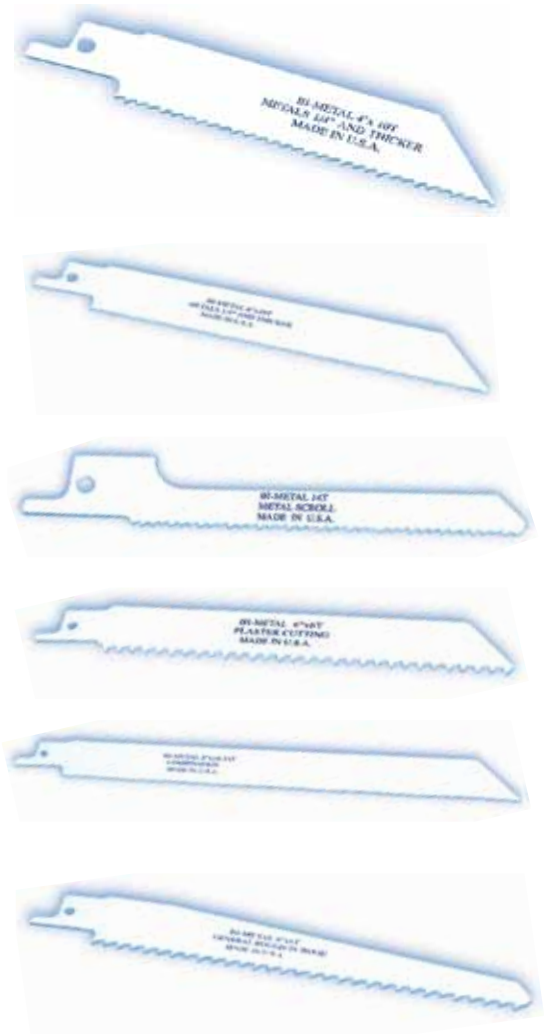
Heavy-Duty Cobalt Bi-Metal Reciprocating Saw Blades

Heavy duty 8% cobalt cutting edge. Thicker and wider than standard bi-metal blades. Shock resistant.

MADE IN USA

LIST NO. 406

RECOMMENDED USE	OVERALL LENGTH	TEETH PER INCH	INDIVIDUAL EDP NO.	5 PC. PKG. EDP NO.
Metal Cutting	4	10	83079	83078
	4	14	83081	83080
	4	18	83083	83082
Metal Cutting	6	14	83073	83072
	6	18	83075	83074
	6	24	83077	83076
Metal Scroll	3-1/2	14	83087	83086
	3-1/2	18	83089	83088
Plaster Cutting	6	6	83091	83090
	6	6	83095	83094
Combination	8	10/14	83093	83092
Wood Cutting	6	6	83095	83094
	6	10	83097	83096
	9	6	83099	83098
	12	6	83101	83100
	12	2/3	83103	83102
	12	10/14	83105	83104



Bi-Metal Hacksaw Blades



LIST NO. 416

OVERALL LENGTH	TEETH PER INCH	EDP NO.
12	14	83190
	18	83191
	24	83192
	32	83193

HSS Bi-metal construction. Spring steel back with high speed steel cutting edge. Outperforms carbon blades 10 to 1. 1/2" width x .025" thick.

STANDARD PACKAGE
1 each

MADE IN USA













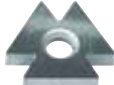

DEBURRING TOOLS

MarxBurr Deburring System



MADE IN GERMANY

LIST NO. 598

DESCRIPTION	PKG. QTY.	EDP NO.	
Universal Handle "A" Handle fits all holders B-C-D-E-F-N. Steel holders can be adjusted in the handle up to 4" in length and can be locked into any position. Extra replacement blades are stored inside of the handle.	1	86350	
Steel Holder "B"	1	86351	
Blade B10 HSS blade most commonly used for internal and external deburring work on long-chipping materials such as steel, aluminum, plastics, etc.	10	86352	
Blade B20 HSS blade used for short-chipping materials such as brass and cast iron. Usable in both directions.	10	86353	
Blade B30 HSS blade for the simultaneous deburring of inside and outside bores in material up to 5/32" thick.	10	86354	
Blade B50 Scriber with regrindable carbide tipped point.	1	86355	
Blade B60 HSS blade removes burrs from the back of materials up to 3/4" thick.	10	86356	
Blade B70 Carbide tipped blade deburrs materials up to 1/8" thick.	1	86357	
Steel Holder "C"	1	86358	
Blade C40 Small HSS triangular scraper 5/32" x 3/4" for precision work on surfaces up to 5/32" wide.	1	86359	
Blade C42 Large HSS triangular scraper 5/16" x 1-3/16" for standard work on surfaces up to 5/16" wide.	1	86360	
Steel Holder "D"	1	86361	
Blade D80 Reversible carbide insert with 6 cutting edges for blunt scraping and deburring of sheet metal up to 1/8" thick.	1	86362	
Blade D82 Reversible carbide insert with 2 cutting edges for deburring of sheet metal up to 5/16" thick.	1	86363	

Blades, Handles & Holders

For hand deburring in a wide variety of materials. Ergonomic universal handle allows adjustment of steel blade holders up to 4" in length. Removable cap for extra blade storage in the handle.

**INTERCHANGEABLE
WITH OTHER
BRAND NAME
HANDLES, HOLDERS
& BLADES**

(continued)

DEBURRING TOOLS












MarxBurr Deburring System



LIST NO. 598

(continued)

MADE IN GERMANY

DESCRIPTION	PKG. QTY.	EDP NO.	
Steel Holder "E"	1	86364	
Blade E100 HSS long shank blade with B10 cutting edge. For internal and external deburring work on long-chipping materials such as steel, aluminum, plastics, etc.	10	86365	
Blade E200 HSS long shank blade with B20 cutting edge. For short-chipping material such as brass and cast iron. Usable in both directions.	10	86366	
Blade E300 HSS long shank blade with B30 cutting edge. For simultaneous deburring of inside and outside bores in materials up to 5/32" thick.	10	86367	
Blade E600 HSS blade suitable for deburring from behind in materials up to 3/4" thick.	5	86368	
Steel Holder "F"	1	86369	
Blade F12 HSS countersink for deburring bores up to 1/2" in diameter.	1	86370	
Blade F20 HSS countersink for deburring bores up to 3/4" in diameter.	1	86371	
Blade F30 HSS countersink for deburring bores up to 1-3/16" in diameter.	1	86372	
Steel Holder "N"	1	86381	
Disk Blade N HSS disk blade for deburring grooves from 3/32" - 7/16" wide. Especially suited for deburring shaft keyways.	1	86349	

Blades, Handles & Holders

For hand deburring in a wide variety of materials. Ergonomic universal handle allows adjustment of steel blade holders up to 4" in length. Removable cap for extra blade storage in the handle.

INTERCHANGEABLE
WITH OTHER
BRAND NAME
HANDLES, HOLDERS
& BLADES

DEBURRING TOOLS

MarxBurr Deburring System Kits



MADE IN GERMANY

LIST NO. 598

DESCRIPTION	PKG. QTY.	EDP NO.	
Deburring Kit "B" Handle A, Holder B, Blade B10, Blade B20	1	86373	
Deburring Kit "C" Handle A, Holder C, Blade C42	1	86374	
Deburring Kit "D" Handle A, Holder D, Blade D80	1	86375	
Deburring Kit "E" Handle A, Holder E, Blade E100, Blade E200, Blade E300	1	86376	
Deburring Kit "F" Handle A, Holder F, Blade F20	1	86377	
Groove Deburring Kit "N" Handle A, Holder N, Disk Blade N	1	86380	

Kits

For hand deburring in a wide variety of materials. Ergonomic universal handle allows adjustment of steel blade holders up to 4" in length. Removable cap for extra blade storage in the handle.

**INTERCHANGEABLE
WITH OTHER
BRAND NAME
HANDLES, HOLDERS
& BLADES**

MarxBurr Rapid Deburring Tools

LIST NO. 598

DESCRIPTION	PKG. QTY.	EDP NO.	
Deburring Tool "RNE" Hexagonal aluminum handle with non-exchangeable E100 HSS blade	1	86378	
Deburring Tool "RE" Hexagonal aluminum handle with exchangeable E100 HSS blade	1	86379	

Rapid Deburring Tools

Handy pocket-size tools for hand deburring in a wide variety of materials. Hexagonal aluminum handles.

SCREW EXTRACTORS

Screw Extractors

For removing broken bolts, screws or studs without damage to the threaded hole.
Furnished with a left-hand spiral. Carbon steel.



STANDARD PACKAGE
Size 1 thru 3 — 12 each
Size 4 & 5 — 6 each
Size 6 and over — 1 each

MADE IN USA

Individual Screw Extractors

LIST NO. 773

SCREW EXTRACTOR NUMBER	DIAMETER			OAL	DRILL SIZE TO USE	FOR EXTRACTING		EDP NO.
	SMALL END	LARGE END				BOLT AND SCREW SIZE	STANDARD PIPE SIZE	
1	1/16	1/8		2	5/64	3/16 - 1/4		81415
2	3/32	13/64		2-3/8	7/64	1/4 - 5/16		81416
3	1/8	1/4		2-11/16	5/32	5/16 - 7/16		81417
4	3/16	11/32		3	1/4	7/16 - 9/16		81418
5	1/4	7/16		3-3/8	17/64	9/16 - 3/4	1/8 - 1/4	81419
6	3/8	19/32		3-3/4	13/32	3/4 - 1	3/8	81420
7	1/2	25/32		4-1/8	17/32	1 - 1-3/8	1/2	81421
8	3/4	1-1/32		4-3/8	13/16	1-3/8 - 1-3/4	3/4	81422
9	1	1-9/32		4-5/8	1-1/16	1-3/4 - 2-1/8	1	81423

Screw Extractor Sets

LIST NO. 773

MADE IN USA



81427		81428	
EXTRACTOR NUMBER	SIZE RANGE	EXTRACTOR NUMBER	SIZE RANGE
1	3/16 to 1/4	6	3/4 to 1
2	1/4 to 5/16	7	1 to 1-3/8
3	5/16 to 7/16	8	1-3/8 to 1-3/4
4	7/16 to 9/16	9	1-3/4 to 2-1/8
5	9/16 to 3/4		

Combination Screw Extractor and Drill Set

In Metal Case – Screw Machine Length Drills

LIST NO. 773

MADE IN USA



EXTRACTOR NUMBER	DRILL SIZE	EDP NO.
1	5/64	
2	7/64	
3	5/32	81429
4	1/4	
5	17/64	

SCREW EXTRACTORS

Screw Extractors

For removing broken bolts, screws or studs without damage to the threaded hole.

Furnished with a left-hand spiral for use only in connection with right-hand threaded pieces.



STANDARD PACKAGE

Size 1 thru 4 — 12 each
 Size 5 & 6 — 6 each
 Size 7 and over — 1 each
 Sets — 1 each

IMPORT

Individual Screw Extractors

LIST NO. 773QI

SCREW EXTRACTOR NUMBER	DIAMETER		OAL	DRILL SIZE TO USE	FOR EXTRACTING		EDP NO.
	SMALL END	LARGE END			BOLT AND SCREW SIZE	STANDARD PIPE SIZE	
1	1/16	1/8	2	5/64	3/16 - 1/4		88070
2	3/32	13/64	2-3/8	7/64	1/4 - 5/16		88071
3	1/8	1/4	2-11/16	5/32	5/16 - 7/16		88072
4	3/16	11/32	3	1/4	7/16 - 9/16		88073
5	1/4	7/16	3-3/8	17/64	9/16 - 3/4	1/8 - 1/4	88074
6	3/8	19/32	3-3/4	13/32	3/4 - 1	3/8	88075
7	1/2	25/32	4-1/8	17/32	1 - 1-3/8	1/2	88076
8	3/4	1-1/32	4-3/8	13/16	1-3/8 - 1-3/4	3/4	88077
9	1	1-9/32	4-5/8	1-1/16	1-3/4 - 2-1/8	1	88078



IMPORT

Screw Extractor Set

In Plastic Case

IMPORT

LIST NO. 773QI

EXTRACTOR NO.	SIZE RANGE	EDP NO.
1	3/16 to 1/4	
2	1/4 to 5/16	
3	5/16 to 7/16	88079
4	7/16 to 9/16	
5	9/16 to 3/4	



MARXMAN™

MAINTENANCE TOOLS

789 North Dixboro Road, Ann Arbor, Michigan 48105
(888) NSF-9000

Certificate of Registration

This certifies that the Quality Management System of
MORSE CUTTING TOOLS

31695 Stephenson Hwy.
Madison Heights, Michigan, 48071-1672, United States

has been assessed by NSF-ISR and found to be in conformance to the following standard(s):

ISO 9001:2008

Scope of Registration:

The design of cutting tools and accessories including distribution services and sales thereof.

Exclusions: None.

Industrial Classification:

SIC: 5084
NACE: G 51.1
IAF - QMS: 29

Certificate Number: 64541-IS1
Certificate Issue Date: 01-SEP-2009
Registration Date: 30-AUG-2009
Expiration Date *: 29-AUG-2012



Christian B. Lupo

Christian B. Lupo, General Manager
NSF-ISR, Ltd.

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REGISTERED TO
ISO 9001:2008

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Marxman™ Tools

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