

Abrasive Catalog

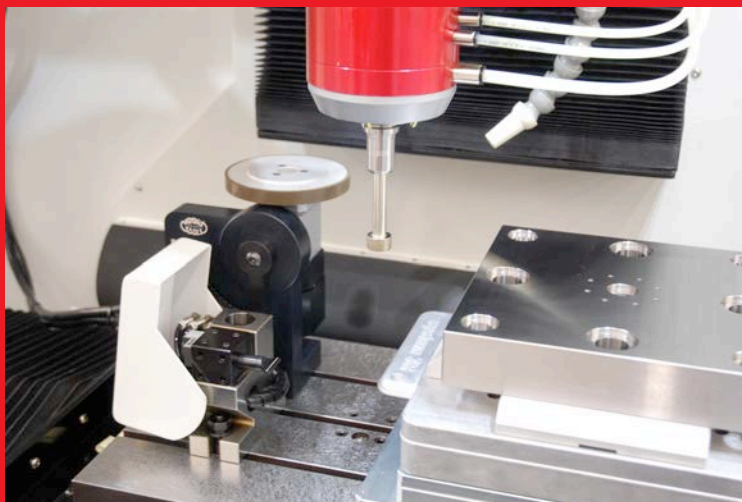


Table of Contents

| Section | Title | Page Number |
|----------------|---|--------------------|
| 1.0 | How to Order | 4 |
| 2.0 | Applications Support | 4 |
| 3.0 | Using Grinding Wheels Properly | 4 |
| 4.0 | Abrasive Definitions and Usage | 6 |
| 4.1 | Conventional Abrasive | 6 |
| 4.2 | Electroplated | 6 |
| 4.3 | ABN Super Abrasive (Gold Line) | 6 |
| 4.4 | CBN Super Abrasive | 6 |
| 4.5 | Diamond Super Abrasive | 6 |
| 4.6 | Resin Bond | 7 |
| 4.7 | Metal Bond | 7 |
| 4.8 | Carbide Burr | 8 |
| 5.0 | Wheel Chart Definitions | 8 |
| 6.0 | Grinding Wheel Selection | 9 |
| 6.1 | Conventional Abrasive Line | 9 |
| 6.2 | Gold Line Series (ABN Super Abrasive) | 11 |
| 6.3 | Contour Grinding Mandrel (CBN Super Abrasive) | 12 |
| 6.4 | Electroplated CBN and Diamond (Inch) | 13 |
| 6.5 | Electroplated CBN and Diamond (Metric) | 14 |
| 6.6 | High Speed Electroplated CBN and Diamond (Inch) | 15 |
| 6.7 | High Speed Electroplated CBN and Diamond (Metric) | 16 |
| 6.8 | Resin Bond CBN and Diamond (Inch) | 17 |
| 6.9 | Resin Bond CBN and Diamond (Metric) | 18 |

| | | |
|------------|---------------------------------------|-----------|
| 6.10 | Metal Bond CBN and Diamond (Inch) | 19 |
| 6.11 | Metal Bond CBN and Diamond (Metric) | 20 |
| 6.12 | High Speed Metal Bond CBN and Diamond | 21 |
| 6.13 | Bottom Grinding Mandrel | 22 |
| 6.14 | Carbide Burr | 23 |
| 6.15 | Special Order Mandrels | 24 |
| 7.0 | Grinding Accessories | 25 |
| 7.1 | Dressing Stick | 25 |
| 7.2 | Wheel Dressers | 25 |
| 8.0 | Additional Information | 26 |
| 8.1 | How to Dress Resin and Metal Bond | 26 |
| 8.2 | Operation | 26 |

1.0 How to Order

Call, fax, email or place an order on the Internet using Moore's online shopping feature. Moore Tool accepts all major credit cards.

P (203) 366-3224
F (203) 367-0418
sales@mooretool.com
www.mooretool.com

2.0 Applications Support

Technical abrasive application expertise is available at no cost to all Moore Tool customers. If you have a jig grinding problem, describe the details to us:

- Work piece material
- Work piece hardness
- Type of finish required
- Specific problem

Our grinding wheel specialist will provide recommendations for wheel type, abrasive, grit size, speed and feed rate.

Please contact the Moore Tool Abrasives Department.

(203) 366-3224 or sales@mooretool.com

3.0 Using Grinding Wheels Properly

WARNING – Grinding wheels improperly used can be DANGEROUS!

Do not exceed maximum wheel speeds and observe all safety precautions. Imbalance of mounted abrasive and plated mandrel generates considerable force at high speed. Therefore, each time a wheel is mounted in the spindle, it is important to check the run-out before turning on the air or electric grinding head.

To check wheel run-out, indicate the shank at the closest point to the grinding wheel head while turning the grinding spindle by hand. Run-out should not exceed the following:

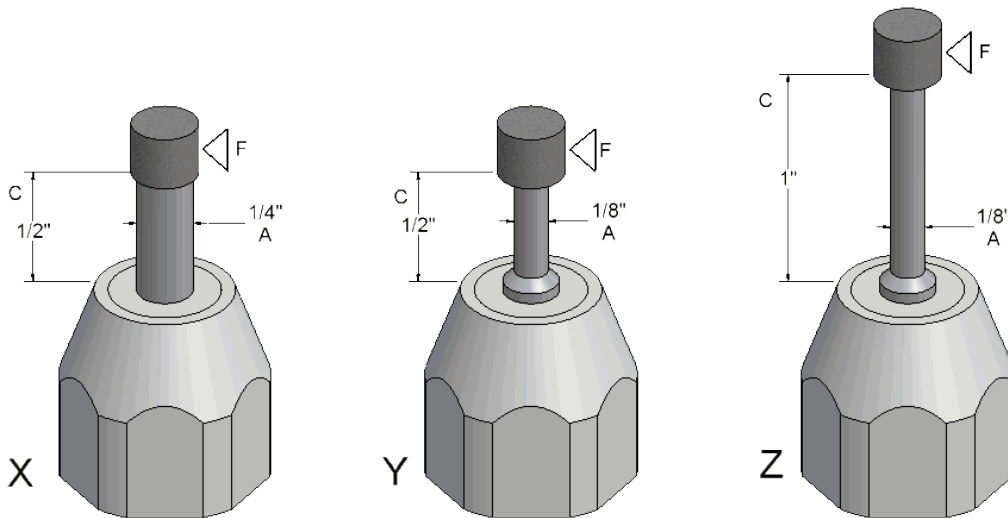
| Grinding Spindle Type | Maximum T.I.R. |
|-------------------------------------|--------------------|
| 9,000 Air Turbine Grinding Spindle | 0.0006" / 0,015 mm |
| 40,000 Air Turbine Grinding Spindle | 0.0004" / 0,010 mm |
| 55,000 Air Turbine Grinding Spindle | 0.0004" / 0,010 mm |
| 120,000 Turbine Grinding Spindle | 0.0003" / 0,007 mm |
| 175,000 Turbine Grinding Spindle | 0.0003" / 0,007 mm |
| | |
| 15,000 Electric Grinding Spindle | 0.0006" / 0,015 mm |
| 40,000 Electric Grinding Spindle | 0.0004" / 0,010 mm |
| 80,000 Electric Grinding Spindle | 0.0003" / 0,007 mm |
| | |
| ATC Electric Grinding Spindle | 0.0004" / 0,010 mm |

| Grinding Spindle Type | Maximum Wheel Diameter | Maximum Tool Length |
|-------------------------------------|------------------------|---------------------|
| 9,000 Air Turbine Grinding Spindle | 2.5" / 63,5 mm | 3.250" / 82,5 mm |
| 40,000 Air Turbine Grinding Spindle | 1.5" / 38,1 mm | 3.250" / 82,5 mm |
| 55,000 Air Turbine Grinding Spindle | 0.750" / 19,0 mm | 1.875" / 47,6 mm |
| 120,000 Turbine Grinding Spindle | 0.158" / 4,0 mm | 0.648 / 16.5 mm |
| 175,000 Turbine Grinding Spindle | 0.158" / 4,0 mm | 0.648 / 16.5 mm |
| | | |
| 15,000 Electric Grinding Spindle | 2.5" / 63,5 mm | 3.250" / 82,5 mm |
| 40,000 Electric Grinding Spindle | 1.5" / 38,1 mm | 3.250" / 82,5 mm |
| 80,000 Electric Grinding Spindle | 0.3125" / 7,9 mm | 1.875" / 47,6 mm |
| | | |
| ATC Electric Grinding Spindle | 1.5" / 38,1 mm | 3.250" / 82,5 mm |

The grinding wheel must be mounted as rigidly as possible. Deflection of the grinding wheel can have negative effect to cutting efficiency and the life of the mandrel and grinding head. The shorter the overhang of the wheel shank to the wheel head, the less effect of deflection and vibration. In practice, much of the shank of the wheel as possible should be held in the collet (please use caution to ensure the wheel is not "bottomed out" in the collet or spindle). For maximum rigidity, the shortest possible "C" (undercut) dimension and the largest possible "S" (shank diameter) should be used. See figure below.

The same force required to bend Mandrel "X" 0.0005 in. will deflect Mandrel "Y" 0.008 in. The same force will deflect Mandrel "Z" 0.064 in., or 128 times as much as Mandrel "X".

Please refer to and comply with ANSI (American National Standards Institute) safety code, B 7.1 and OSHA covering wheel speeds, safety guards, flanges, mounting procedures, general operating rules, handling, storage and inspection and general machine conditions. Copies of the ANSI Standard can be obtained from the American National Standards Institute. [Http://webstore.ansi.org](http://webstore.ansi.org)



4.0 Abrasive Definitions and Usage

4.1 Conventional Abrasive

Aluminum Oxide (AL2O3) and Silicon Carbide (SiC) abrasive.

- Low cost and easily dressed and trued.
- Shorter wheel life than super abrasives.
- Principle advantage – can be dressed into special configurations for form, radius and angle grinding.

4.2 Electroplate

A single layer of ABN or CBN abrasive that is bonded to the wheel shank with a layer of nickel electroplate.

- Cannot be dressed.
- Least expensive of the super abrasive bond structure with shortest wheel life.

4.3 ABN Super Abrasive (Amber Boron Nitride)

- Recommended for grinding low and high-carbon steels, high-chrome and high-speed tool steels.
 - O Series
 - M Series
 - D Series
 - DA Series
 - Powdered Metals
 - Cast Iron
- Particularly suited for long, uninterrupted cuts common in continuous path jig grinding.
- Aggressive cutting.
- Provides finer surface finish when chop grinding.

4.4 CBN Super Abrasive (Cubic Boron Nitride)

- Many of the same characteristics of ABN Super Abrasives.

4.5 Diamond Super Abrasive

- Recommended for grinding carbides, ferro-ceramics, reinforced resins, sapphire and glass, as well as super-tough alloys.
- Only practical solution for grinding tungsten carbide.
- Particularly suited for long, uninterrupted cuts common in continuous path jig grinding.
- Aggressive cutting.
- Provides finer surface finish when chop grinding.

4.6 Resin Bond

Resin bond combines an epoxy bonding material with the abrasive grains distributed evenly throughout the matrix. As the wheel wears, new abrasive grains are exposed to the work piece.

- Particularly well suited for dry grinding.
- Required periodic dressing and truing.
- Generally not used for aggressive stock removal.

4.7 Metal Bond

Uses a metal filler in a high temperature bond. Abrasive granules are distributed uniformly throughout the matrix.

- Stronger bond than resin and provides better abrasive particle retention.
- Stands up well under aggressive grinding conditions.
- Ideally suited for grinding small holes.
- Superior surface finish.
- Longest lasting super abrasive bond structure and generally most versatile and cost effective.

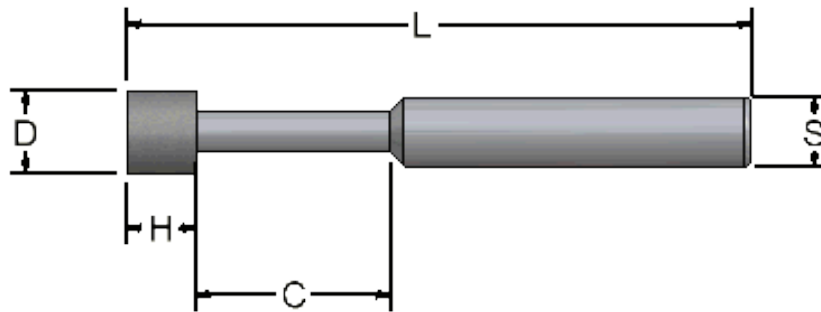
4.8 Carbide Burr

Diamond pattern end cut.

- Low cost.
- Used for stock removal.
- Soft steels and cast iron.
- Can be coated for longer wheel life.

5.0 Wheel Chart Definitions

- "D" Diameter of the head of the abrasive surface.
- "H" Height of the head of the abrasive surface.
- "C" Undercut.
- "L" Length of the completed shank including "H" dimension.
- "S" Diameter of shank.



6.0 Grinding Wheel Selection

6.1 Conventional Abrasive

For use with 40K, 55K or 60K R.P.M. Grinding Heads Only.
Recommended for use at 4500 – 6000 S.F.P.M.

| Please order by catalog number. All dimensions in inch. | | | | Recommended Use | | | | | | | |
|---|-----|-----|-----------|-----------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| | | | | A | A | B | B | C | C | D | D |
| | | | | Cat. | Part. | Cat. | Part. | Cat. | Part. | Cat. | Part. |
| D | H | S | L | No. | No. | No. | No. | No. | No. | No. | No. |
| 1/8 | 1/4 | 1/8 | 1 9/16 | 80039-B | 15-1/8-A | 80040-B | 15-1/8-B | 80041-B | 15-1/8-C | 80042-B | 15-1/8-D |
| 3/16 | 1/4 | 1/8 | 1 1/4 | 80043-B | 25-3/16-A | 80044-B | 25-3/16-B | 80045-B | 25-3/16-C | 80046-B | 25-3/16-D |
| 1/4 | 1/4 | 1/8 | 1 1/4 | 80047-B | 25-1/4-A | 80048-B | 25-1/4-B | 80049-B | 25-1/4-C | 80050-B | 25-1/4-D |
| 1/4 | 1/4 | 1/4 | 3 1/4 | 80059-B | 75-1/4-A | 80060-B | 75-1/4-B | 80061-B | 75-1/4-C | 80062-B | 75-1/4-D |
| 3/8 | 1/2 | 1/4 | 2 1/8 | 80051-B | 35-3/8-A | 80052-B | 35-3/8-B | 80053-B | 35-3/8-C | 80054-B | 35-3/8-D |
| 1/2 | 1/2 | 1/4 | 2 1/8 | 80055-B | 35-1/2-A | 80056-B | 35-1/2-B | 80057-B | 35-1/2-C | 80058-B | 35-1/2-D |
| 3/8 | 1/2 | 1/4 | 3 1/2 | 80063-B | 45-3/8-A | 80064-B | 45-3/8-B | 80065-B | 45-3/8-C | 80066-B | 45-3/8-D |
| 1/2 | 1/2 | 1/4 | 3 1/2 | 80067-B | 45-1/2-A | 80068-B | 45-1/2-B | 80069-B | 45-1/2-C | 80070-B | 45-1/2-D |
| 3/4 | 1/2 | 1/4 | 2 1/8 | 80071-B | 55-3/4-A | 80072-B | 55-3/4-B | 80073-B | 55-3/4-C | 80074-B | 55-3/4-D |
| 1 | 1/2 | 1/4 | 2 1/8 | 80075-B | 55-1-A | 80076-B | 55-1-B | 80077-B | 55-1-C | 80078-B | 55-1-D |

- A Cast Iron, Non-Ferrous Metals, Non-Metallics.
- B Soft Construction Steel, Soft Stainless Steel.
- C Tool & Die Steel.
- D Tool & Die Steel, Hardened Construction Steel, Hardened 400S, Stainless Steels.

Note: Wheels available in package lots of 25 only.

For use with 9K or 40K R.P.M. Grinding Heads Only.
Recommended for use at 4500 – 6000 S.F.P.M.

Recommended Use

| Please order by catalog number. All dimensions in inch. | | | | A | | B | | C | | D | |
|---|---|-----|-------|---------|----------|------|-------|---------|----------|---------|----------|
| | | | | Cat. | Part. | Cat. | Part. | Cat. | Part. | Cat. | Part. |
| D | H | S | L | No. | No. | No. | No. | No. | No. | No. | No. |
| ¾ | ½ | 3/8 | 4 1/8 | 80083-B | 10-3/4-A | - | - | 80084-B | 10-3/4-C | 80085-B | 10-3/4-D |
| 1 | ½ | 3/8 | 4 1/8 | 80086-B | 10-1-A | - | - | 80087-B | 10-1-C | 80088-B | 10-1-D |
| 1 | ½ | 3/8 | 2 5/8 | 80089-B | 20-1-A | - | - | 80090-B | 20-1-C | 80091-B | 20-1-D |
| 1 ½ | ½ | 3/8 | 2 5/8 | 80092-B | 20-1 ½-A | - | - | 80093-B | 20-1 ½-C | 80094-B | 20-1 ½-D |
| 1 ½ | ½ | 3/8 | 3 1/4 | 80095-B | 30-1/2-A | - | - | 80096-B | 30-1 ½-C | 80097-B | 30-1 ½-D |

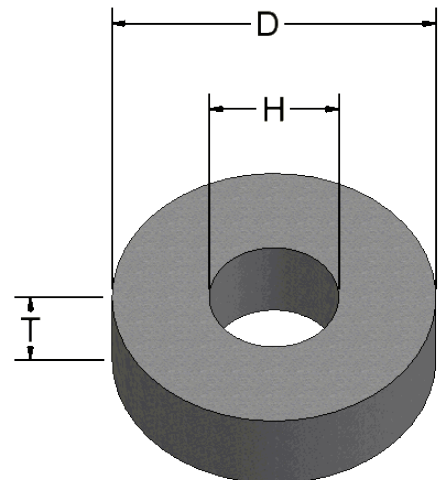
- A Cast Iron, Non-Ferrous Metals, Non-Metallics.
- B Tool & Die Steel.
- C Tool & Die Steel, Hardened Construction Steel, Hardened 400S, Stainless Steels.

Note: Wheels available in package lots of 12 only.

Un-mounted Wheels

For use with 9K or 15K R.P.M. Grinding Heads Only.
Recommended for use at 4500 – 6000 S.F.P.M.

| Please order by catalog number. All dimensions in inch. | | | Recommended Use | Cat. No. | Cat. No. |
|---|-----|-----|-----------------|----------|----------|
| D | H | T | | | |
| 3 | 3/8 | 1/2 | Stainless Steel | 80098 | 85-3-A |
| 3 | 3/8 | 1/2 | General Purpose | 80099 | 85-3-C |
| 3 | 3/8 | 1/2 | Wear Resistant | 80100 | 85-3-D |
| Note: Wheels available in package lots of 12 only. To order package, add -B to Catalog Number. | | | | | |



6.2 Gold Line

Recommended for use at 4500 – 6000 S.F.P.M.
All dimensions in inch – 60/80 Grit ABN 300.

| D | H | S | L | C | Catalog Number |
|-------|-------|-----|-------|-------|----------------|
| 0.250 | 0.281 | ¼ | 3.000 | 1.000 | 86050 |
| 0.313 | 0.313 | ¼ | 3.000 | - | 86051 |
| 0.375 | 0.375 | 3/8 | 3.000 | 1.000 | 86052 |
| 0.500 | 0.375 | 3/8 | 3.500 | - | 86053 |
| 0.625 | 0.375 | 3/8 | 3.500 | - | 86054 |
| 0.750 | 0.375 | 3/8 | 3.500 | - | 86055 |
| 1.000 | 0.375 | 3/8 | 3.500 | - | 86056 |

Recommended for use at 1370 - 1830 S.M.P.M.
All dimensions in millimeters – 60/80 Grit ABN 300.

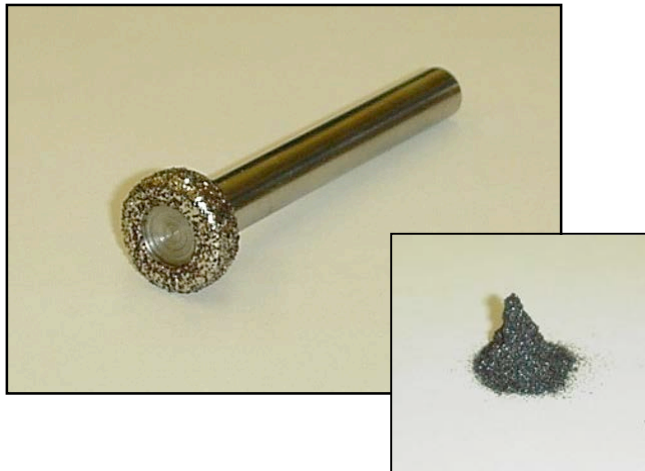
| D | H | S | L | C | Catalog Number |
|------|----|----|----|----|----------------|
| 6 | 7 | 6 | 76 | 25 | 86250 |
| 8 | 8 | 6 | 76 | - | 86251 |
| 10 | 10 | 10 | 76 | 25 | 86252 |
| 12.5 | 10 | 10 | 90 | - | 86253 |
| 16 | 10 | 10 | 90 | - | 86254 |
| 19 | 10 | 10 | 90 | - | 86255 |
| 25 | 10 | 10 | 90 | - | 86256 |

6.3 Contour Grinding Mandrels

50 Grit CBN

- Superior Jig Grinding Performance
 - Heavy stock removal designed for chop grinding.
 - Shorter cycle times.
 - Tough blocky crystal structure for long wheel life.
- Recommended Material
 - Tool and Die Steels.
 - High Speed Steels.
 - Cast Iron and High Tech Super Alloys.

| D | H | L | S | Catalog Number |
|------|---|-----|-----|----------------|
| .312 | ¼ | 3.0 | ¼ | 86261 |
| .437 | ¼ | 3.5 | 3/8 | 86262 |
| .500 | ¼ | 3.5 | 3/8 | 86263 |
| .625 | ¼ | 3.5 | 3/8 | 86264 |
| .750 | ¼ | 3.5 | 3/8 | 86265 |



6.4 Electroplated CBN and Diamond (Inch)

For use with 40K, 55K, 60K or 80K R.P.M. Grinding Heads Only.
Recommended for use at 4500 – 6000 S.F.P.M.

Please order by catalog number. All dimensions in inch.

| D | H | S | L | C | Catalog Number | | Catalog Number | |
|-------|------|------|-------|-------|----------------|-----------|----------------|----------|
| | | | | | CBN | CBN | Diamond | Diamond |
| | | | | | Coarse | Medium | Coarse | Medium |
| | | | | | 100/120 | 230/270 | 80/100 | 200/240 |
| .029 | .079 | 1/8 | 2.156 | .250 | - | 85001-BM | - | 85101-DM |
| .039 | .079 | 1/8 | 2.156 | .250 | 85002-BC | 85002-BM | 85102-DC | 85102-DM |
| .049 | .079 | 1/8 | 2.156 | .250 | 85003-BC | 85003-BM | 85103-DC | 85103-DM |
| .059 | .120 | 1/8 | 2.156 | .500 | 85041-BC | 85041-BM | 85141-DC | 85141-DM |
| .069 | .118 | 1/8 | 2.156 | .500 | 85004-BC | 85004-BM | 85104-DC | 85104-DM |
| .079 | .160 | 1/8 | 2.156 | .500 | 85042-BC | 85042-BM | 85142-DC | 85142-DM |
| .089 | .157 | 1/8 | 2.156 | .500 | 85005-BC | 85005-BM | 85105-DC | 85105-DM |
| .099 | .157 | 1/8 | 2.156 | .500 | 85043-BC | 85043-BM | 85143-DC | 85143-DM |
| .109 | .157 | 1/8 | 2.156 | .500 | 85006-BC | 85006-BM | 85106-DC | 85106-DM |
| .118 | .157 | 1/8 | 2.156 | .625 | 85044-BC | 85044-BM | 85144-DC | 85144-DM |
| .130 | .197 | 1/8 | 2.156 | .625 | 85007-BC | 85007-BM | 85107-DC | 85107-DM |
| .140 | .197 | 1/8 | 2.156 | - | 85045-BC | 85045-BM | 85145-DC | 85145-DM |
| .157 | .197 | 1/8 | 2.156 | - | 85008-BC | 85008-BM | 85108-DC | 85108-DM |
| .177 | .236 | 1/8 | 2.156 | - | 85009-BC | 85009-BM | 85109-DC | 85109-DM |
| .197 | .236 | 1/8 | 2.156 | - | 85010-BC | 85010-BM | 85110-DC | 85110-DM |
| .197 | .250 | 3/16 | 3.000 | 1.000 | 100749-BC | 100749-BM | - | - |
| .215 | .236 | 1/4 | 3.000 | 1.000 | 85046-BC | 85046-BM | 85146-DC | 85146-DM |
| .215 | .250 | 3/16 | 3.000 | - | 100750-BC | 100750-BM | - | - |
| .236 | .275 | 1/4 | 3.000 | 1.000 | 85012-BC | 85012-BM | 85112-DC | 85112-DM |
| .236 | .275 | 3/16 | 3.000 | - | 100751-BC | 100751-BM | - | - |
| .256 | .275 | 1/4 | 3.000 | 1.000 | 85013-BC | 85013-BM | 85113-DC | 85133-DM |
| .275 | .315 | 1/4 | 3.000 | - | 85047-BC | 85047-BM | 85147-DC | 85147-DM |
| .315 | .315 | 1/4 | 3.000 | - | 85014-BC | 85014-BM | 85114-DC | 85114-DM |
| .335 | .315 | 1/4 | 3.000 | - | 85015-BC | 85015-BM | 85115-DC | 85115-DM |
| .394 | .394 | 3/8 | 3.500 | - | 85017-BC | 85017-BM | 84117-DC | 85117-DM |
| .473 | .394 | 3/8 | 3.500 | - | 85019-BC | 85019-BM | 85119-DC | 85119-DM |
| .500 | .394 | 3/8 | 3.500 | - | 85048-BC | 85048-BM | 85148-DC | 85148-DM |
| .591 | .394 | 3/8 | 3.500 | - | 85021-BC | 85021-BM | 85121-DC | 85121-DM |
| .730 | .394 | 3/8 | 3.500 | - | 85023-BC | 85023-BM | 85123-DC | 85123-DM |
| 1.000 | .394 | 3/8 | 3.500 | - | 85024-BC | 85024-BM | 85124-DC | 85124-DM |

6.5 Electroplated CBN and Diamond (Metric)

For use with 40K, 55K, 60K or 80K R.P.M. Grinding Heads Only.
Recommended for use at 1370 – 1830 S.M.P.M.

Please order by catalog number. All dimensions in millimeters.

| | | | | | Catalog Number | | Catalog Number | |
|------|------|------|------|-------|----------------|----------|----------------|----------|
| | | | | | CBN | CBN | Diamond | Diamond |
| | | | | | Coarse | Medium | Coarse | Medium |
| D | H | S | L | C | 100/120 | 230/270 | 80/100 | 200/240 |
| 0,8 | 2,0 | 3,0 | 55,0 | 6,35 | - | 85201-BM | - | 85301-DM |
| 1,0 | 2,0 | 3,0 | 55,0 | 6,35 | 85202-BC | 85202-BM | 85302-DC | 85302-DM |
| 1,3 | 2,0 | 3,0 | 55,0 | 6,35 | 85203-BC | 85203-BM | 85303-DC | 85303-DM |
| 1,8 | 3,0 | 3,0 | 55,0 | 12,70 | 85204-BC | 85204-BM | 85304-DC | 85304-DM |
| 2,3 | 4,0 | 3,0 | 55,0 | 12,70 | 85205-BC | 85205-BM | 85305-DC | 85305-DM |
| 2,8 | 4,0 | 3,0 | 55,0 | 12,70 | 85206-BC | 85206-BM | 85306-DC | 85306-DM |
| 3,3 | 5,0 | 3,0 | 55,0 | 15,90 | 85207-BC | 85207-BM | 85307-DC | 85307-DM |
| 4,0 | 5,0 | 3,0 | 55,0 | - | 85208-BC | 85208-BM | 85308-DC | 85308-DM |
| 4,5 | 6,0 | 3,0 | 55,0 | - | 85209-BC | 85209-BM | 85309-DC | 85309-DM |
| 5,0 | 6,0 | 3,0 | 55,0 | - | 85210-BC | 85210-BM | 85310-DC | 85310-DM |
| 6,0 | 7,0 | 6,0 | 77,0 | 25,40 | 85212-BC | 85212-BM | 85312-DC | 85312-DM |
| 6,5 | 7,0 | 6,0 | 77,0 | - | 85213-BC | 85213-BM | 85313-DC | 85313-DM |
| 8,0 | 8,0 | 6,0 | 77,0 | - | 85214-BC | 85214-BM | 85314-DC | 85314-DM |
| 10,0 | 10,0 | 10,0 | 89,0 | - | 85230 | - | 85330 | - |
| 12,0 | 10,0 | 10,0 | 89,0 | - | 85231 | - | 85331 | - |
| 15,0 | 10,0 | 10,0 | 89,0 | - | 85232 | - | 85332 | - |
| 18,5 | 10,0 | 10,0 | 89,0 | - | 85233 | - | Special Order | - |
| 25,4 | 10,0 | 10,0 | 89,0 | - | 85234 | - | 85334 | - |

6.6 High Speed Electroplated CBN and Diamond (Inch)

For use with 120K or 175K R.P.M. Grinding Heads Only.
Recommended for use at 4000 – 6000 S.F.P.M.

Please order by catalog number. All dimensions in inch.

| D | H | S | L | C | Catalog Number | | Catalog Number | |
|------|------|-----|----------|------|----------------|----------|----------------|---------------|
| | | | | | CBN | CBN | Diamond | Diamond |
| | | | | | Coarse | Medium | Coarse | Medium |
| | | | | | 120/140 | 230/270 | 120/140 | 230/270 |
| .018 | .078 | 1/8 | 7/8 | .108 | - | 85400-BM | - | 85600-DM |
| .024 | .078 | 1/8 | 29/32 | .145 | - | 85401-BM | - | 85601-DM |
| .030 | .078 | 1/8 | 15/16 | .190 | - | 85402-BM | - | 85602-DM |
| .035 | .094 | 1/8 | 31/32 | .218 | - | 85403-BM | - | 85603-DM |
| .040 | .094 | 1/8 | 1 | .240 | 85404-BC | 85404-BM | 85604-DC | 85604-DM |
| .050 | .125 | 1/8 | 1 – 1/16 | .312 | 85405-BC | 85405-BM | 85605-DC | 85605-DM |
| .060 | .125 | 1/8 | 1 – 1/8 | .375 | 85406-BC | 85406-BM | 85606-DC | 85606-DM |
| .070 | .156 | 1/8 | 1 – 3/16 | .437 | 85407-BC | 85407-BM | 85607-DC | 85607-DM |
| .079 | .156 | 1/8 | 1 – ¼ | .500 | 85408-BC | 85408-BM | 85608-DC | 85608-DM |
| .090 | .156 | 1/8 | 1 – ¼ | .500 | 85409-BC | 85409-BM | 85609-DC | 85609-DM |
| .100 | .156 | 1/8 | 1 – ¼ | .500 | 85410-BC | 85410-BM | 85610-DC | 85610-DM |
| .110 | .188 | 1/8 | 1 – ¼ | .500 | 85411-BC | 85411-BM | 85611-DC | 85611-DM |
| .118 | .188 | 1/8 | 1 – ¼ | .500 | 85412-BC | 85412-BM | 85612-DC | 85612-DM |
| .135 | .188 | 1/8 | 1 – ¼ | - | 85413-BC | 85413-BM | 85613-DC | Special Order |
| .158 | .188 | 1/8 | 1 – ¼ | - | 85414-BC | 85414-BM | 85614-DC | 85614-DM |

6.7 High Speed Electroplated CBN and Diamond (Metric)

For use with 120K or 175K R.P.M. Grinding Heads Only.
Recommended for use at 1370 – 1830 S.M.P.M.

Please order by catalog number. All dimensions in millimeters.

| D | H | S | L | C | Catalog Number | | Catalog Number | |
|-----|------|-----|-------|------|----------------|----------|----------------|---------------|
| | | | | | CBN | CBN | Diamond | Diamond |
| | | | | | Coarse | Medium | Coarse | Medium |
| | | | | | 120/140 | 230/270 | 120/140 | 230/270 |
| 0,5 | 2,0 | 3,0 | 22,2 | 2,74 | - | 85500-BM | - | 85700-DM |
| 0,6 | 2,0 | 3,0 | 23,0 | 3,68 | - | 85501-BM | - | 85701-DM |
| 0,8 | 2,0 | 3,0 | 23,8 | 4,83 | - | 85502-BM | - | 85702-DM |
| 0,9 | 2,4 | 3,0 | 24,6 | 5,54 | - | 85503-BM | - | 85703-DM |
| 1,0 | 2,4 | 3,0 | 25,4 | 6,10 | 85504-BC | 85504-BM | 85704-DC | 85704-DM |
| 1,2 | 3,17 | 3,0 | 26,97 | 7,9 | 85505-BC | 85505-BM | 85705-DC | 85705-DM |
| 1,5 | 3,17 | 3,0 | 28,6 | 9,5 | 85506-BC | 85506-BM | 85706-DC | 85706-DM |
| 1,8 | 4,0 | 3,0 | 30,15 | 11,1 | 85507-BC | 85507-BM | 85707-DC | 85707-DM |
| 2,0 | 4,0 | 3,0 | 31,75 | 12,7 | 85508-BC | 85508-BM | 85708-DC | 85708-DM |
| 2,3 | 4,0 | 3,0 | 31,75 | 12,7 | 85509-BC | 85509-BM | 85709-DC | 85709-DM |
| 2,5 | 4,0 | 3,0 | 31,75 | 12,7 | 85510-BC | 85510-BM | 85710-DC | 85710-DM |
| 2,8 | 4,78 | 3,0 | 31,75 | 12,7 | 85511-BC | 85511-BM | 85711-DC | Special Order |
| 3,0 | 4,78 | 3,0 | 31,75 | 12,7 | 85512-BC | 85512-BM | 85712-DC | 85712-DM |
| 3,4 | 4,78 | 3,0 | 31,75 | - | 85513-BC | 85513-BM | 85713-DC | 85713-DM |
| 4,0 | 4,78 | 3,0 | 31,75 | - | 85514-BC | 85514-BM | 85714-DC | 85714-DM |

6.8 Resin Bond CBN and Diamond (Inch)

For use with 40K, 55K, 60K or 80K R.P.M. Grinding Heads Only.
Recommended for use at 4500 – 6000 S.F.P.M.

Please order by catalog number. All dimensions in inch.

| D | H | S | L | C | Catalog Number | | Catalog Number | |
|-------|------|-----|--------|------|----------------|------------|----------------|------------|
| | | | | | CBN | CBN | Diamond | Diamond |
| | | | | | Coarse | Medium | Coarse | Medium |
| | | | | | 150 | 220 | 120 | 180 |
| .090 | .187 | 1/8 | 2 3/16 | 5/16 | 85050-BC | 85050-BM | 85150-DC | 85150-DM |
| .125 | .187 | 1/8 | 2 3/16 | 5/16 | 85051-BC | 85051-BM | 85151-DC | 85151-DM |
| .156 | .187 | 1/8 | 2 3/16 | 3/8 | 85052-BC | 85052-BM | 85152-DC | 85152-DM |
| .187 | .187 | 1/8 | 2 3/16 | 3/8 | 85053-BC | 85053-BM | 85153-DC | 85153-DM |
| .250 | .250 | 1/4 | 3 | 7/8 | 85054-BC | 85054-BM | 85154-DC | 85154-DM |
| .312 | .250 | 1/4 | 3 | 7/8 | 85055-BC | 85055-BM | 85155-DC | 85155-DM |
| .375 | .250 | 1/4 | 3 1/8 | 7/8 | 85056-BC | 85056-BM | 85156-DC | 85156-DM |
| .437 | .250 | 1/4 | 3 1/8 | 7/8 | 85057-BC | 85057-BM | 85157-DC | 85157-DM |
| .500 | .250 | 1/4 | 3 1/8 | 7/8 | 85058-BC | 85058-BM | 85158-DC | 85158-DM |
| .625 | .250 | 3/8 | 3 1/2 | 7/8 | 85059-BC | 85059-BM | 85159-DC | 85159-DM |
| .750 | .250 | 3/8 | 3 1/2 | 7/8 | 85060-BC | 85060-BM | 85160-DC | 85160-DM |
| 1.000 | .250 | 3/8 | 3 1/2 | 7/8 | 85061-BC | 85061-BM | 85161-DC | 85161-DM |

6.9 Resin Bond CBN and Diamond (Metric)

For use with 40K, 55K, 60K or 80K R.P.M. Grinding Heads Only.
Recommended for use at 1370 – 1830 S.M.P.M.

Please order by catalog number. All dimensions in millimeters.

| D | H | S | L | C | Catalog Number | | Catalog Number | |
|------|-----|------|------|------|----------------|---------------|----------------|---------------|
| | | | | | CBN | CBN | Diamond | Diamond |
| | | | | | Coarse | Medium | Coarse | Medium |
| | | | | | 150 | 220 | 120 | 180 |
| 2,3 | 4,7 | 3,0 | 55,5 | 7,9 | 85250-BC | Special Order | 85350-DC | 85350-DM |
| 3,2 | 4,7 | 3,0 | 55,5 | 7,9 | 85251-BC | 85251-BM | 85351-DC | 85351-DM |
| 4,0 | 4,7 | 3,0 | 55,5 | 9,5 | 85252-BC | 85252-BM | 85352-DC | 85352-DM |
| 4,7 | 4,7 | 3,0 | 55,5 | 9,5 | 85253-BC | 85253-BM | 85353-DC | 85353-DM |
| 6,4 | 6,4 | 6,0 | 76,2 | 22,2 | 85254-BC | 85254-BM | 85354-DC | 85354-DM |
| 7,9 | 6,4 | 6,0 | 76,2 | 22,2 | 85255-BC | 85255-BM | 85355-DC | 85355-DM |
| 9,5 | 6,4 | 6,0 | 79,4 | 22,2 | 85256-BC | 85256-BM | 85356-DC | 85356-DM |
| 11,1 | 6,4 | 6,0 | 79,4 | 22,2 | Special Order | Special Order | 85357-DC | 85357-DM |
| 12,7 | 6,4 | 6,0 | 79,4 | 22,2 | 85258-BC | 85258-BM | 85358-DC | Special Order |
| 15,9 | 6,4 | 10,0 | 95,2 | - | 85280-BC | 85280-BM | 85380-DC | 85380-DM |
| 19,0 | 6,4 | 10,0 | 95,2 | - | 85281-BC | 85281-BM | Special Order | 85381-DM |
| 25,4 | 6,4 | 10,0 | 95,2 | - | 85282-BC | 85282-BM | 85382-DC | 85382-DM |

6.10 Metal Bond CBN and Diamond (Inch)

For use with 40K, 55K, 60K or 80K R.P.M. Grinding Heads Only.
Recommended for use at 2000 – 4000 S.F.P.M.

Please order by catalog number. All dimensions in inch.

| D | H | S | L | C | Catalog Number | | Catalog Number | |
|------|------|------|-------|-------|----------------|------------|----------------|---------------|
| | | | | | CBN | CBN | Diamond | Diamond |
| | | | | | Coarse | Medium | Coarse | Medium |
| | | | | | 100 | 150 | 100 | 150 |
| .125 | .187 | 1/8 | 2.000 | 1.000 | - | 50608 | - | 50708 |
| .156 | .187 | 1/8 | 2.000 | - | - | 50609 | - | 50709 |
| .187 | .125 | 1/8 | 2.000 | - | - | 50610 | - | 50710 |
| .187 | .250 | 3/16 | 2.500 | - | - | 100738 | - | Special Order |
| .250 | .125 | 1/8 | 2.000 | - | - | 50611 | - | 50711 |
| .250 | .250 | 3/16 | 2.500 | - | - | 100739 | - | Special Order |
| .281 | .250 | 1/8 | 2.000 | - | - | 50612 | - | 50712 |
| .281 | .250 | 3/16 | 2.500 | - | - | 100740 | - | Special Order |
| .312 | .250 | ¼ | 2.000 | - | - | 50613 | - | 50713 |
| .375 | .250 | ¼ | 2.500 | - | 50614 | - | 50714 | - |
| .437 | .375 | 3/8 | 3.000 | - | 50615 | - | 50715 | - |
| .500 | .375 | 3/8 | 3.000 | - | 50616 | - | 50716 | - |

6.11 Metal Bond CBN and Diamond (Metric)

For use with 40K, 55K, 60K or 80K R.P.M. Grinding Heads Only.
Recommended for use at 610 – 1220 S.M.P.M.

Please order by catalog number. All dimensions in millimeters.

| D | H | S | L | C | Catalog Number | | Catalog Number | |
|------|-----|------|------|------|----------------|---------------|----------------|---------------|
| | | | | | CBN | CBN | Diamond | Diamond |
| | | | | | Coarse | Medium | Coarse | Medium |
| | | | | | 100 | 150 | 100 | 150 |
| 3,2 | 4,7 | 3,0 | 50,8 | 25,4 | - | 85550 | - | 85650 |
| 4,0 | 4,7 | 3,0 | 50,8 | - | - | 85551 | - | 85651 |
| 4,7 | 3,1 | 3,0 | 50,8 | - | - | 85552 | - | 85652 |
| 6,4 | 3,1 | 3,0 | 50,8 | - | - | Special Order | - | 85653 |
| 7,1 | 6,4 | 3,0 | 50,8 | - | - | Special Order | - | Special Order |
| 7,9 | 6,4 | 6,0 | 50,8 | - | - | 85555 | - | 85655 |
| 9,5 | 6,4 | 6,0 | 63,5 | - | 85556 | - | 85656 | - |
| 11,1 | 9,5 | 10,0 | 76,2 | - | Special Order | - | 85657 | - |
| 12,7 | 9,5 | 10,0 | 76,2 | - | 85558 | - | 85658 | - |

6.12 High Speed Metal Bond CBN and Diamond

For use with 120K or 175K R.P.M. Grinding Heads Only.
Recommended for use at 2000 – 4000 S.F.P.M.

| Please order by catalog number. All dimensions in inch. | | | | | Catalog Number | |
|---|------|-----|-------|------|----------------|---------------|
| | | | | | CBN | Diamond |
| | | | | | Grit Size | Grit Size |
| D | H | S | L | C | 180 | 180 |
| .030 | .093 | 1/8 | .937 | .180 | 50600 | Special Order |
| .035 | .093 | 1/8 | .968 | .210 | 50601 | 50701 |
| .040 | .093 | 1/8 | 1.000 | .240 | 50602 | 50702 |
| .050 | .093 | 1/8 | 1.062 | .300 | 50603 | 50703 |
| .060 | .093 | 1/8 | 1.125 | .360 | 50604 | 50704 |
| .070 | .093 | 1/8 | 1.187 | .420 | 50605 | 50705 |
| .080 | .093 | 1/8 | 1.250 | .480 | 50606 | 50706 |
| .090 | .093 | 1/8 | 1.250 | .540 | 50607 | 50707 |

For use with 120K or 175K R.P.M. Grinding Heads Only.
Recommended for use at 610 – 1220 S.M.P.M.

| Please order by catalog number. All dimensions in millimeters. | | | | | Catalog Number | |
|--|-----|-----|------|------|----------------|-----------|
| | | | | | CBN | Diamond |
| | | | | | Grit Size | Grit Size |
| D | 180 | 180 | L | C | 180 | 180 |
| 0,8 | 2,4 | 3,0 | 23,8 | 4,57 | 50800 | 50900 |
| 0,9 | 2,4 | 3,0 | 24,6 | 5,33 | 50801 | 50901 |
| 1,0 | 2,4 | 3,0 | 25,4 | 6,09 | 50802 | 50902 |
| 1,3 | 2,4 | 3,0 | 27,0 | 7,62 | 50803 | 50903 |
| 1,5 | 2,4 | 3,0 | 28,5 | 9,14 | 50804 | 50904 |
| 1,8 | 2,4 | 3,0 | 30,1 | 10,7 | 50805 | 50905 |
| 2,0 | 2,4 | 3,0 | 31,8 | 12,2 | 50806 | 50906 |
| 2,3 | 2,4 | 3,0 | 31,8 | 13,7 | 50807 | 50907 |

6.13 Bottom Grinding Mandrel

For use with 40K, 55K, 60K or 80K R.P.M. Grinding Heads Only.

| Please order by catalog number. All dimensions in inch. | | | | | Catalog Number |
|---|------|-----|-------|-------|----------------|
| | | | | | ABN |
| | | | | | Grit Size |
| D | H | S | L | C | 60/80 |
| .250 | .125 | ¼ | 2.000 | 1.000 | 74142 |
| .375 | .125 | 3/8 | 2.000 | 1.000 | 74143 |
| .500 | .125 | 3/8 | 2.500 | - | 74144 |
| .625 | .125 | 3/8 | 2.500 | - | 74145 |
| .750 | .125 | 3/8 | 2.500 | - | 74146 |
| 1.000 | .125 | 3/8 | 2.500 | - | 74147 |

For use with 40K, 55K, 60K or 80K R.P.M. Grinding Heads Only.

| Please order by catalog number. All dimensions in millimeters. | | | | | Catalog Number |
|--|-----|------|------|------|----------------|
| | | | | | ABN |
| | | | | | Grit Size |
| D | H | S | L | C | 60/80 |
| 6,0 | 3,0 | 6,0 | 50,8 | 25,4 | 85750 |
| 10,0 | 3,0 | 10,0 | 50,8 | 25,4 | 85751 |
| 12,7 | 3,0 | 10,0 | 63,5 | - | 85752 |
| 15,8 | 3,0 | 10,0 | 63,5 | - | 85753 |
| 19,0 | 3,0 | 10,0 | 63,5 | - | 85754 |
| 24,4 | 3,0 | 10,0 | 63,5 | - | 85755 |

6.14 Carbide Burr

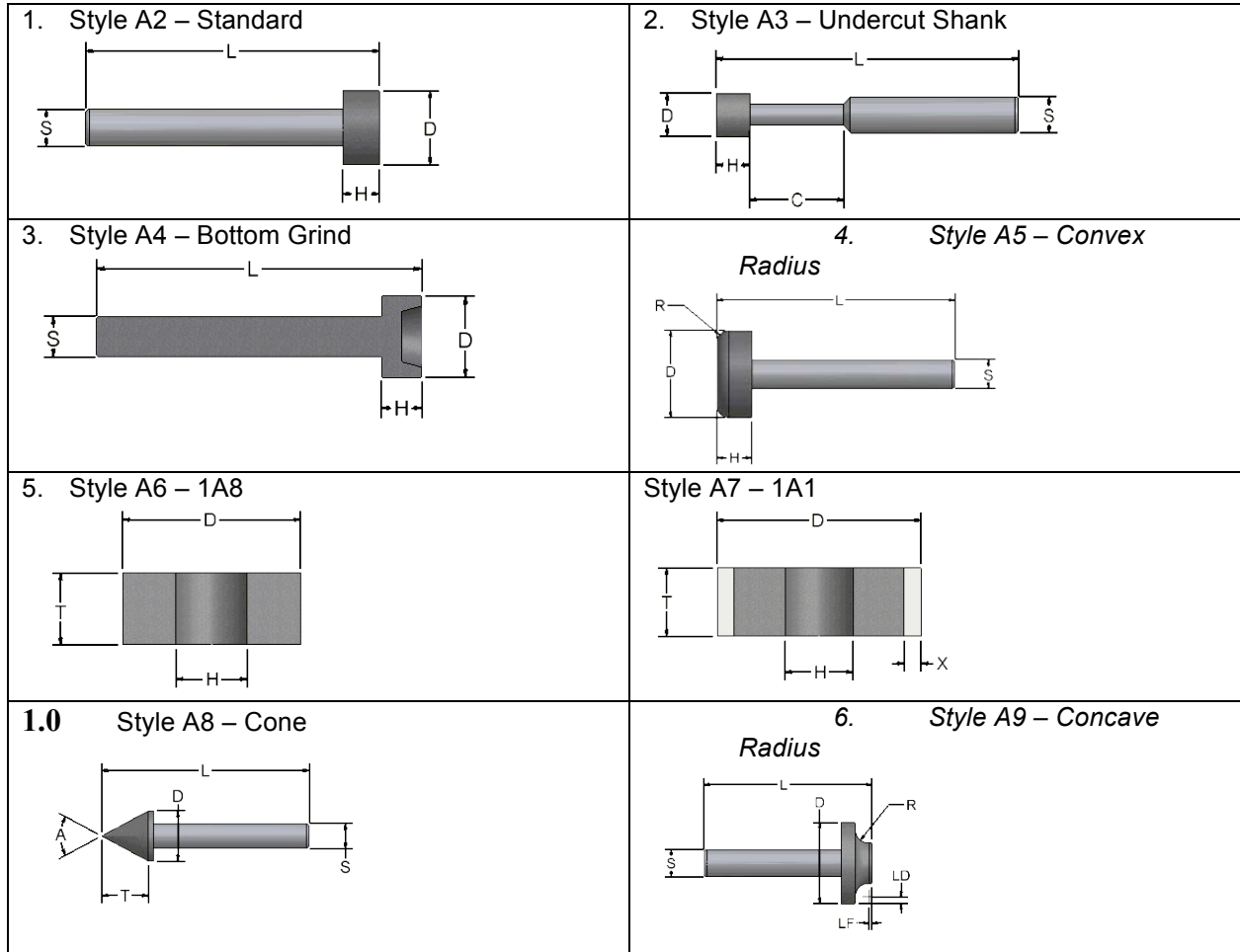
For use with 40K, 55K, 60K or 80K R.P.M. Grinding Heads Only.

Please order by catalog number. All dimensions in inch.

| D | H | S | L | C | Catalog Number |
|------|------|------|-------|------|----------------|
| .125 | .188 | 1/8 | 1.500 | .500 | 100741 |
| .156 | .188 | 3/16 | 2.000 | .625 | 100742 |
| .188 | .250 | 3/16 | 2.000 | .625 | 100743 |
| .219 | .281 | ¼ | 2.000 | .750 | 100744 |
| .250 | .313 | ¼ | 2.000 | .750 | 100745 |
| .313 | .344 | ¼ | 2.500 | - | 100746 |
| .375 | .375 | ¼ | 2.500 | - | 100747 |
| .500 | .375 | 3/8 | 3.500 | - | 100748 |

6.15 Please use this form when ordering special wheels.

P (203) 366-3224
F (203) 367-0418
sales@mooretool.com
www.sales@mooretool.com



| | | | | | | | | | | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| “D” | “T” | “S” | “C” | “H” | “L” | “UL” | “A” | “R” | “LF” | “LD” |
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

| | | | | | | | |
|-----------|----------------------|------------|----------------------|---------|----------------------|------------|----------------------|
| Quantity: | <input type="text"/> | Diamond: | <input type="text"/> | Plated: | <input type="text"/> | VM: | <input type="text"/> |
| Style: | <input type="text"/> | CBN: | <input type="text"/> | Resin: | <input type="text"/> | Vitrified: | <input type="text"/> |
| | | Grit Size: | <input type="text"/> | Metal: | <input type="text"/> | | |

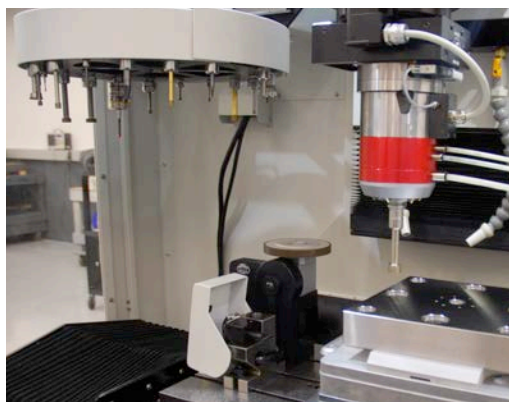
7.0 Grinding Accessories

7.1 Dressing Stick

| Catalog Number | Application |
|----------------|--|
| 82152 | Dressing CBN and Diamond resin bond grinding mandrels. |
| 55761 | Dressing CBN metal bond grinding mandrels. |
| 55762 | Dressing Diamond metal bond grinding mandrels. |
| 59891 | Dressing and truing aluminum oxide and silicon carbide. |
| 80400 | Cleaning electroplated super abrasive grinding mandrels. |
| 2537 | Boron carbide for dressing vitrified wheels up to 10 inch in diameter, grade M and softer. |

7.2 Wheel Dresser

| Catalog Number | Name |
|----------------|-----------------------------------|
| G500-680-310 | Dresser Assembly, Rotary DTS-1300 |
| 102775 | Standard Dressing Wheel |
| 102776-M | Dressing Wheel - Pointed |
| 2656-A | Hand Held Dresser |
| 2657 | Replacement Diamond |
| 80030 | Magnetic Base Dresser |
| 2657 | Replacement Diamond |
| 80031 | Angle Type Dresser |
| 80032 | Replacement Diamond |
| 73416 | Diamond Nib |



1.1.....Model DTS 1300 - Variable Speed Dressing Unit

- Dressing and truing of grinding wheels.
- Dressing forms and shapes into grinding wheels.
- RPM range 230 Vac. Drive: 1,000 to 12,000.
- Flood Coolant Ready.
- Simple controls with a compact design.
- Spindle run out 0.00005 (1.3 Micron).

Please visit the Internet at www.mooretool.com or the Moore Jig Grinding Accessories catalog for a full list of accessories offered by Moore Tool.

8.0 Additional Information

8.1 How to Dress Resin and Metal Bond

Resin and metal bond super abrasive mandrels must be periodically trued. The truing operation feeds the super abrasive mandrel past the truing tool. Feed rate should be 30 to 40 inches per minute (0,75 – 1 meters per minute) per pass. Always apply coolant during the dressing cycle. Truing tends to glaze resin and metal bond super abrasive mandrels. Therefore, it is necessary to dress the mandrel to re-expose the sharp edge of the crystal. A Moore Tool dressing stick should be saturated with water and then fed into the rotating wheel. As the stick is consumed, the bonded material is removed and the crystals are exposed. As the stick consumption rate accelerates and then levels off, it can be assumed that the mandrel is ready for grinding.

8.2 Operation

Formula for determining R.P.M. (Revolutions Per Minute).

Inch: R.P.M. = S.F.P.M. (Surface Feet Per Minute) times 3.82 divided by the wheel head diameter in inches.

Metric: R.P.M. = S.M.P.M. (Surface Meters Per Minute) times 318 divided by the wheel head diameter in millimeters.

Formula for determining S.F.P.M. and S.M.P.M.

Inch: S.F.P.M. = R.P.M. of the grinding head times the wheel head diameter divided by 3.82.

Metric: S.M.P.M. = R.P.M. of the grinding head times the wheel head diameter divided by 318.

Recommended speeds by abrasive type:

| S.F.P.M. | S.M.P.M. | Abrasive Type |
|-------------|-------------|---|
| 4500 - 6000 | 1370 – 1830 | Electroplated ABN, CBN and Diamond. Resin Bond CBN and Diamond. |
| 2000 - 4000 | 610 - 1220 | Metal Bond CBN and Diamond |

| Inch | Metric | 9K R.P.M. | 40K R.P.M. | 55K R.P.M. | 60K R.P.M. | 120K R.P.M. | 175K R.P.M. |
|--------------|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Air Pressure | Air Pressure | Approximate R.P.M. | Approximate R.P.M. | Approximate R.P.M. | Approximate R.P.M. | Approximate R.P.M. | Approximate R.P.M. |
| PSI | BAR | | | | | | |
| 30 | 2.0 | - | 16,000 | - | - | X | X |
| 40 | 2.7 | - | 19,400 | - | - | X | X |
| 50 | 3.4 | 6,000 | 23,000 | 37,000 | 41,500 | X | X |
| 60 | 4.1 | 7,300 | 26,400 | 41,000 | 46,000 | 117,000 | 150,000 |
| 70 | 4.8 | 8,000 | 29,700 | 45,000 | 48,000 | - | - |
| 80 | 5.4 | 8,750 | 33,200 | 49,000 | 51,300 | 125,000 | 165,000 |
| 90 | 6.1 | 9,250 | 36,300 | 51,000 | 56,200 | - | - |
| 100 | 6.8 | 9,700 | 40,000 | 55,000 | 60,000 | 134,000 | 175,000 |

Warning: Do not operate 120,000 and 175,000 R.P.M. grinding heads at less than 60 PSI (4.1 BAR).