

## Hexagon Push Broaches

### 内六角推刀

- \* For cutting hexagonal shaped holes in undersized round machined holes.
- \* Used to re-cut a round hole into a hole having a hexagonal shape in a single pass though the workpiece.
- \* This design allows broach to start in a plain round hole and cut a precisely shaped hexagonal hole in a single pass through the hole.

- \* Designed to be used manually with an arbor pass to produce the hexagonal holes.
- \* Well suited for use in a variety of ferrous and non-ferrous materials.



Metric-ANSI4.2-1978

| Size | Tolerance   | Length | PILOT Dia | DRILL Size | Length of cut Mini | Max   | ORDER No. |
|------|-------------|--------|-----------|------------|--------------------|-------|-----------|
| 6mm  | .2367~.2377 | 6-1/2  | .2362     | 6mm        | 1/4                | 3/4   | 5003-0012 |
| 7    | .2760~.2770 | 7-3/4  | .2756     | 7          | 3/8                | 1     | 5003-0014 |
| 8    | .3155~.3165 | 8-1/4  | .3150     | 8          | 3/8                | 1     | 5003-0016 |
| 10   | .3942~.3952 | 10     | .3937     | 10         | 1/2                | 1-3/8 | 5003-0018 |
| 12   | .4729~.4739 | 12-3/8 | .4724     | 12         | 1/2                | 1-3/8 | 5003-0020 |
| 14   | .5517~.5527 | 14-1/4 | .5512     | 14         | 1/2                | 1-1/2 | 5003-0022 |
| 16   | .6310~.6320 | 16-7/8 | .6230     | 16         | 5/8                | 1-5/8 | 5003-0024 |
| 18   | .7092~.7102 | 17     | .7087     | 18         | 5/8                | 1-5/8 | 5003-0026 |
| 20   | .7879~.7889 | 17-7/8 | .7874     | 20         | 5/8                | 1-5/8 | 5003-0028 |
| 22   | .8666~.8676 | 18-7/8 | .8661     | 22         | 5/8                | 1-5/8 | 5003-0030 |
| 24   | .9454~.9464 | 19-7/8 | .9449     | 24         | 5/8                | 1-5/8 | 5003-0032 |
| 25   | .9848~.9858 | 19-7/8 | .9842     | 25         | 5/8                | 1-5/8 | 5003-0034 |

INCH-ANSI4.2-1978

| Size  | Tolerance   | Length | PILOT Dia | DRILL Size | Length of cut Mini | Max   | ORDER No. |
|-------|-------------|--------|-----------|------------|--------------------|-------|-----------|
| 1/4   | .2505~.2515 | 6      | 1/4       | 1/4        | 1/4                | 3/4   | 5002-0022 |
| 9/32  | .2815~.2825 | 7-1/4  | 9/32      | 9/32       | 5/16               | 1     | 5002-0024 |
| 5/16  | .3130~.3140 | 7-3/4  | 5/16      | 5/16       | 3/8                | 1     | 5002-0026 |
| 11/32 | .3440~.3450 | 7-3/4  | 11/32     | 11/32      | 3/8                | 1-1/4 | 5002-0028 |
| 3/8   | .3755~.3765 | 8-1/2  | 3/8       | 3/8        | 3/8                | 1-1/4 | 5002-0030 |
| 13/32 | .4065~.4075 | 9-5/8  | 13/32     | 13/32      | 1/2                | 1-3/8 | 5002-0032 |
| 7/16  | .4385~.4395 | 10-5/8 | 7/16      | 7/16       | 1/2                | 1-3/8 | 5002-0034 |
| 15/32 | .4690~.4700 | 11-7/8 | 15/32     | 15/32      | 1/2                | 1-3/8 | 5002-0036 |
| 1/2   | .5005~.5015 | 11-7/8 | 1/2       | 1/2        | 1/2                | 1-3/8 | 5002-0038 |
| 9/16  | .5630~.5640 | 13-3/4 | 9/16      | 9/16       | 1/2                | 1-5/8 | 5002-0040 |
| 5/8   | .6260~.6270 | 16-1/4 | 5/8       | 5/8        | 5/8                | 2     | 5002-0042 |
| 11/16 | .6880~.6890 | 16-3/4 | 11/16     | 11/16      | 5/8                | 2     | 5002-0044 |
| 3/4   | .7510~.7520 | 17-1/4 | 3/4       | 3/4        | 5/8                | 2     | 5002-0046 |
| 7/8   | .8755~.8765 | 18-1/2 | 7/8       | 7/8        | 5/8                | 2     | 5002-0048 |
| 1     | 1.002~1.003 | 19-3/4 | 1         | 1          | 5/8                | 2     | 5002-0050 |

## Square Push Broaches



Metric-ANSI4.2-1978

| Size | Tolerance   | Length   | PILOT Dia | DRILL Size | Length of cut Mini | Max   | ORDER No. |
|------|-------------|----------|-----------|------------|--------------------|-------|-----------|
| 6mm  | .2367~.2377 | 7        | .2500     | 6.35       | 3/8                | 3/4   | 5005-0012 |
| 8    | .3155~.3165 | 8-3/16   | .3267     | 8.3        | 7/16               | 7/8   | 5005-0014 |
| 10   | .3942~.3952 | 10-7/8   | .4057     | 10.3       | 1/2                | 1     | 5005-0016 |
| 12   | .4729~.4739 | 12-1/2   | .4921     | 12.5       | 5/8                | 1-1/4 | 5005-0018 |
| 14   | .5517~.5527 | 14-7/8   | .5905     | 15         | 3/4                | 1-1/2 | 5005-0020 |
| 16   | .6310~.6320 | 16-13/16 | .6693     | 17         | 7/8                | 1-3/4 | 5005-0022 |
| 18   | .7092~.7102 | 18-1/2   | .7874     | 20         | 7/8                | 1-3/4 | 5005-0024 |
| 20   | .7879~.7889 | 18-7/8   | .8661     | 22         | 7/8                | 1-3/4 | 5005-0026 |
| 22   | .8666~.8676 | 23-1/4   | .9448     | 24         | 7/8                | 1-3/4 | 5005-0028 |
| 24   | .9454~.9464 | 24-9/16  | 1.0236    | 26         | 7/8                | 1-3/4 | 5005-0030 |
| 25   | .9848~.9858 | 24-9/16  | 1.0630    | 27         | 7/8                | 1-3/4 | 5005-0032 |

INCH-ANSI4.2-1978

| Size  | Tolerance   | Length  | PILOT Dia | DRILL Size | Length of cut Mini | Max   | ORDER No. |
|-------|-------------|---------|-----------|------------|--------------------|-------|-----------|
| 1/4   | .2505~.2515 | 6-1/2   | .2656     | 17/64      | 1/4                | 3/4   | 5004-0012 |
| 9/32  | .2815~.2825 | 7-3/4   | .2969     | 19/64      | 5/16               | 1     | 5004-0014 |
| 5/16  | .3130~.3140 | 7-7/8   | .3281     | 21/64      | 3/8                | 1     | 5004-0016 |
| 11/32 | .3440~.3450 | 9-3/8   | .3594     | 23/64      | 3/8                | 1-1/4 | 5004-0018 |
| 3/8   | .3755~.3765 | 9-3/8   | .3906     | 25/64      | 3/8                | 1-1/4 | 5004-0020 |
| 13/32 | .4065~.4075 | 10-5/8  | .4219     | 27/64      | 1/2                | 1-3/8 | 5004-0022 |
| 7/16  | .4385~.4395 | 10-7/8  | .4531     | 29/64      | 1/2                | 1-3/8 | 5004-0024 |
| 15/32 | .4690~.4700 | 12      | .5000     | 1/2        | 1/2                | 1-3/8 | 5004-0026 |
| 1/2   | .5005~.5015 | 12      | .5312     | 17/32      | 1/2                | 1-3/8 | 5004-0028 |
| 9/16  | .5630~.5640 | 14-3/4  | .5938     | 19/32      | 1/2                | 1-1/2 | 5004-0030 |
| 5/8   | .6260~.6270 | 16-5/16 | .6562     | 21/32      | 5/8                | 1-5/8 | 5004-0032 |
| 11/16 | .6880~.6890 | 17-3/4  | .7500     | 3/4        | 5/8                | 1-5/8 | 5004-0034 |
| 3/4   | .7510~.7520 | 17-3/4  | .8125     | 13/16      | 5/8                | 1-5/8 | 5004-0036 |
| 7/8   | .8755~.8765 | 22-3/4  | .9395     | 15/16      | 1/2                | 2     | 5004-0038 |
| 1     | 1.002~1.003 | 24-1/8  | 1.0938    | 1-3/32     | 1/2                | 2     | 5004-0040 |

## Keyway Broaches

## 键槽推刀

## TECHNICAL DATA:

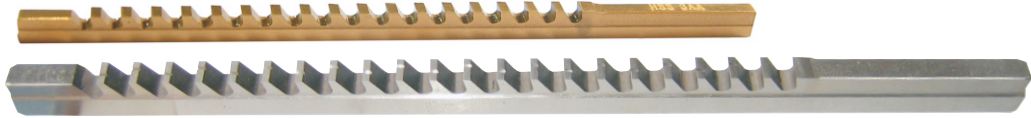
- \* Manufactured from H.S.S.
- \* Ground from solid.
- \* Straight teeth on one edge of broach.
- \* Made to cut either inch or millimeter size keyways.
- \* Bright finish.

## FEATURES:

- \* Hardened and ground bars with cutting teeth on one side.
- \* Sized and proportioned to afford a good cutting range and ample rigidity.
- \* Replacement shims are also available.

## APPLICATIONS:

- \* Specialty tools designed for cutting keyways in machined holes.
- \* Typically used manually with a arbor press to produce the keyways.
- \* Well suited for use in a variety of ferrous and non-ferrous materials.



| BROACH Size | TYPE | TOLERANCES Dec.Squiv. | DIMENSIONS   | SHIMS* REQ'D | LENGTH OF CUT | UN-Coated ORDER | Tin-Coated ORDER |
|-------------|------|-----------------------|--------------|--------------|---------------|-----------------|------------------|
| 1/16        | A    | .0625~.0635           | 1/8x5        | 0            | 13/64~1-1/8   | 5000-0002       | 5000-1002        |
| 3/32        | A    | .0938~.0948           | 1/8x5        | 0            | 13/64~1-1/8   | 5000-0004       | 5000-1004        |
| 1/8         | A    | .1252~.1262           | 1/8x5        | 1            | 13/64~1-1/8   | 5000-0006       | 5000-1006        |
| 3/32        | B    | .0938~.0948           | 3/16x6-3/4   | 0            | 19/64~1-11/16 | 5000-0008       | 5000-1008        |
| 1/8         | B    | .1252~.1262           | 3/16x6-3/4   | 1            | 19/64~1-11/16 | 5000-0010       | 5000-1010        |
| 5/32        | B    | .1564~.1574           | 3/16x6-3/4   | 1            | 19/64~1-11/16 | 5000-0012       | 5000-1012        |
| 3/16        | B    | .1877~.1887           | 3/16x6-3/4   | 1            | 19/64~1-11/16 | 5000-0014       | 5000-1014        |
| 3/16        | C    | .1877~.1887           | 3/8x11-3/4   | 1            | 25/46~2-1/2   | 5000-0016       | 5000-1016        |
| 1/4         | C    | .2502~.2512           | 3/8x11-3/4   | 1            | 25/46~2-1/2   | 5000-0018       | 5000-1018        |
| 5/16        | C    | .3127~.3137           | 3/8x11-3/4   | 1            | 25/46~2-1/2   | 5000-0020       | 5000-1020        |
| 3/8         | C    | .3755~.3765           | 3/8x11-3/4   | 2            | 25/46~2-1/2   | 5000-0022       | 5000-1022        |
| 5/16        | D    | .3127~.3137           | 9/16x13-7/8  | 1            | 1-6           | 5000-0024       | 5000-1024        |
| 3/8         | D    | .3755~.3765           | 9/16x13-7/8  | 2            | 1-6           | 5000-0026       | 5000-1026        |
| 7/16        | D    | .4380~.4390           | 9/16x13-7/8  | 2            | 1-6           | 5000-0028       | 5000-1028        |
| 1/2         | D    | .5006~.5016           | 9/16x13-7/8  | 3            | 1-6           | 5000-0030       | 5000-1030        |
| 5/8         | E    | .6260~.6270           | 3/4x15-1/2   | 4            | 1-6           | 5000-0032       | 5000-1032        |
| 3/4         | E    | .7515~.7525           | 3/4x15-1/2   | 5            | 1-6           | 5000-0034       | 5000-1034        |
| 7/8         | F    | .8765~.8775           | 1x20-1/4     | 6            | 1-6           | 5000-0036       | 5000-1036        |
| 1           | F    | 1.0015~1.002          | 1x20-1/4     | 7            | 1-6           | 5000-0038       | 5000-1038        |
| 1-1/8       |      | 1.1265~1.1275         | 1-1/8x20-1/4 | 8            | 1-6           | 5000-0040       | 5000-1040        |
| 1-1/4       |      | 1.252~1.253           | 1-1/4x20-1/4 | 9            | 1-1/2~8       | 5000-0042       | 5000-1042        |
| 1-3/8       |      | 1.377~1.378           | 1-3/8x20-1/4 | 10**         | 1-1/2~8       | 5000-0044       | 5000-1044        |
| 1-1/2       |      | 1.502~1.503           | 1-1/2x20-1/4 | 11**         | 1-1/2~8       | 5000-0046       | 5000-1046        |

| BROACH Size | TYPE | TOLERANCES Dec.Squiv. | DIMENSIONS  | SHIMS* REQ'D | LENGTH OF CUT | UN-Coated ORDER | Tin-Coated ORDER |
|-------------|------|-----------------------|-------------|--------------|---------------|-----------------|------------------|
| 2mm         | A    | .0782~.0791           | 1/8x5       | 0            | 13/64~1-1/8   | 5001-0002       | 5001-1002        |
| 3           | A    | .1176~.1185           | 1/8x5       | 1            | 13/64~1-1/8   | 5001-0004       | 5001-1004        |
| 4           | B    | .1569~.1579           | 1/4x6-3/4   | 1            | 19/64~1-11/16 | 5001-0006       | 5001-1006        |
| 5           | B    | .1963~.1972           | 1/4x6-3/4   | 1            | 19/64~1-11/16 | 5001-0008       | 5001-1008        |
| 5           | C    | .1963~.1972           | 3/8x11-3/4  | 1            | 25/46~2-1/2   | 5001-0010       | 5001-1010        |
| 6           | C    | .2356~.2366           | 3/8x11-3/4  | 1            | 25/46~2-1/2   | 5001-0012       | 5001-1012        |
| 8           | C    | .3143~.3155           | 3/8x11-3/4  | 2            | 25/46~2-1/2   | 5001-0014       | 5001-1014        |
| 10          | D    | .3930~.3942           | 9/16x13-7/8 | 2            | 1-6           | 5001-0016       | 5001-1016        |
| 12          | D    | .4716~.4730           | 9/16x13-7/8 | 2            | 1-6           | 5001-0018       | 5001-1018        |
| 14          | D    | .5503~.5517           | 9/16x13-7/8 | 2            | 1-6           | 5001-0020       | 5001-1020        |
| 16          | E    | .6290~.6304           | 3/4x15-1/2  | 3            | 1-6           | 5001-0022       | 5001-1022        |
| 18          | E    | .7078~.7092           | 3/4x15-1/2  | 3            | 1-6           | 5001-0024       | 5001-1024        |
| 20          | F    | .7864~.7880           | 1x20-1/4    | 3            | 1-6           | 5001-0026       | 5001-1026        |
| 22          | F    | .8651~.8667           | 1x20-1/4    | 4            | 1-6           | 5001-0028       | 5001-1028        |
| 24          | F    | .9434~.9455           | 1x20-1/4    | 5            | 1-6           | 5001-0030       | 5001-1030        |
| 25          | F    | .9832~.9848           | 1x20-1/4    | 4            | 1-6           | 5001-0032       | 5001-1032        |

# Broaches

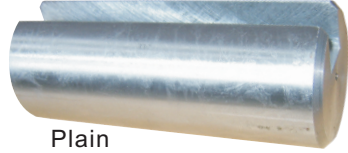
## Keyway Bushing

推套

- \* Imperial or Metric size.
- \* Specialty tools designed to be used in conjunction with standard keyway broaches for cutting.
- \* These tools are hardened and ground cylinders with slots cut into one side.
- \* Designed to be used manually with an arbor press and broaches to produce the keyways.
- \* Designed to act as guides to position and direct the keyway broach through the cutting stroke.



Collared



Plain

| Size      | OVERALL<br>LENGTH | ORDER<br># |
|-----------|-------------------|------------|
| 1/4-A     | 1-1/8             | 5050-0111  |
| 5/16-A    | 1-1/8             | 5050-0112  |
| 3/8-A     | 1-1/8             | 5050-0113  |
| 7/16-A    | 1-1/8             | 5050-0114  |
| 1/2-A     | 1-1/8             | 5050-0115  |
| 1/2-B     | 1-11/16           | 5050-0211  |
| 9/16-B    | 1-11/16           | 5050-0212  |
| 5/8-B     | 1-11/16           | 5050-0213  |
| 11/16-B   | 1-11/16           | 5050-0214  |
| 3/4-B     | 1-11/16           | 5050-0215  |
| 13/16-B   | 1-11/16           | 5050-0216  |
| 7/8-B     | 1-11/16           | 5050-0217  |
| 3/4-C     | 2-1/2             | 5050-0311  |
| 13/16-C   | 2-1/2             | 5050-0312  |
| 7/8-C     | 2-1/2             | 5050-0313  |
| 15/16-C   | 2-1/2             | 5050-0314  |
| 1-C       | 2-1/2             | 5050-0315  |
| 1-1/16-C  | 2-1/2             | 5050-0316  |
| 1-1/8-C   | 2-1/2             | 5050-0317  |
| 1-3/16-C  | 2-1/2             | 5050-0318  |
| 1-1/4-C   | 2-1/2             | 5050-0319  |
| 1-5/16-C  | 2-1/2             | 5050-0320  |
| 1-3/8-C   | 2-1/2             | 5050-0321  |
| 1-7/16-C  | 2-1/2             | 5050-0322  |
| 1-1/2-C   | 2-1/2             | 5050-0323  |
| 1-9/16-C  | 2-1/2             | 5050-0324  |
| 1-7/16-D  | 4                 | 5050-0411  |
| 1-1/2-D   | 4                 | 5050-0412  |
| 1-9/16-D  | 4                 | 5050-0413  |
| 1-5/8-D   | 4                 | 5050-0414  |
| 1-11/16-D | 4                 | 5050-0415  |
| 1-3/4-D   | 4                 | 5050-0416  |
| 1-13/16-D | 5                 | 5050-0417  |
| 1-7/8-D   | 5                 | 5050-0418  |
| 1-15/16-D | 5                 | 5050-0419  |
| 2-D       | 5                 | 5050-0420  |
| 2-1/16-D  | 5                 | 5050-0421  |
| 2-1/8-D   | 5                 | 5050-0422  |
| 2-3/16-D  | 5                 | 5050-0423  |
| 2-1/4-D   | 5                 | 5050-0424  |
| 2-5/16-D  | 5                 | 5050-0425  |
| 2-3/8-D   | 6                 | 5050-0426  |
| 2-7/16-D  | 6                 | 5050-0427  |
| 2-1/2-D   | 6                 | 5050-0428  |
| 2-9/16-D  | 6                 | 5050-0429  |
| 2-5/8-D   | 6                 | 5050-0430  |
| 2-11/16-D | 6                 | 5050-0431  |
| 2-3/4-D   | 6                 | 5050-0432  |
| 2-13/16-D | 6                 | 5050-0433  |
| 2-7/8-D   | 6                 | 5050-0434  |
| 2-15/16-D | 6                 | 5050-0435  |
| 3-D       | 6                 | 5050-0436  |

| Size      | OVERALL<br>LENGTH | ORDER<br># |
|-----------|-------------------|------------|
| 2-5/16-E  | 6                 | 5050-0511  |
| 2-3/8-E   | 6                 | 5050-0512  |
| 2-7/16-E  | 6                 | 5050-0513  |
| 2-1/2-E   | 6                 | 5050-0514  |
| 2-9/16-E  | 6                 | 5050-0515  |
| 2-5/8-E   | 6                 | 5050-0516  |
| 2-11/16-E | 6                 | 5050-0517  |
| 2-3/4-E   | 6                 | 5050-0518  |
| 2-13/16-E | 6                 | 5050-0519  |
| 2-7/8-E   | 6                 | 5050-0520  |
| 2-15/16-E | 6                 | 5050-0521  |
| 3-E       | 6                 | 5050-0522  |

| Size | OVERALL<br>LENGTH | ORDER<br># |
|------|-------------------|------------|
| 6-A  | 28                | 5051-0111  |
| 7-A  | 28                | 5051-0112  |
| 8-A  | 28                | 5051-0113  |
| 9-A  | 28                | 5051-0114  |
| 10-A | 28                | 5051-0115  |
| 11-B | 43                | 5051-0211  |
| 12-B | 43                | 5051-0212  |
| 13-B | 43                | 5051-0213  |
| 14-B | 43                | 5051-0214  |
| 15-B | 43                | 5051-0215  |
| 16-B | 43                | 5051-0216  |
| 17-B | 43                | 5051-0217  |
| 18-B | 43                | 5051-0218  |
| 19-B | 43                | 5051-0219  |
| 17-C | 63                | 5051-0311  |
| 18-C | 63                | 5051-0312  |
| 19-C | 63                | 5051-0313  |
| 20-C | 63                | 5051-0314  |
| 22-C | 63                | 5051-0315  |
| 24-C | 63                | 5051-0316  |
| 25-C | 63                | 5051-0317  |
| 26-C | 63                | 5051-0318  |
| 27-C | 63                | 5051-0319  |
| 28-C | 63                | 5051-0320  |
| 30-C | 63                | 5051-0321  |
| 32-C | 63                | 5051-0322  |
| 34-C | 63                | 5051-0323  |
| 35-C | 63                | 5051-0324  |
| 36-C | 63                | 5051-0325  |
| 32-D | 101               | 5051-0411  |
| 34-D | 101               | 5051-0412  |
| 35-D | 101               | 5051-0413  |
| 36-D | 101               | 5051-0414  |
| 38-D | 101               | 5051-0415  |
| 40-D | 101               | 5051-0416  |
| 42-D | 101               | 5051-0417  |

| Size | OVERALL<br>LENGTH | ORDER<br># |
|------|-------------------|------------|
| 44-D | 101               | 5051-0418  |
| 45-D | 127               | 5051-0419  |
| 46-D | 127               | 5051-0420  |
| 48-D | 127               | 5051-0421  |
| 50-D | 127               | 5051-0422  |
| 52-D | 127               | 5051-0423  |
| 54-D | 127               | 5051-0424  |
| 55-D | 127               | 5051-0425  |
| 56-D | 127               | 5051-0426  |
| 52-E | 127               | 5051-0511  |
| 54-E | 127               | 5051-0512  |
| 55-E | 127               | 5051-0513  |
| 56-E | 127               | 5051-0514  |
| 58-E | 127               | 5051-0515  |
| 60-E | 152               | 5051-0516  |
| 62-E | 152               | 5051-0517  |
| 64-E | 152               | 5051-0518  |
| 65-E | 152               | 5051-0519  |
| 66-E | 152               | 5051-0520  |
| 68-E | 152               | 5051-0521  |
| 70-E | 152               | 5051-0522  |
| 72-E | 152               | 5051-0523  |

Keyway Shims

推刀垫片  
Imperial or Metric size.

- APPLICATIONS:**
- \* These shims are placed between the broach and bushing to permit the broach to cut deeper slots in succeeding passes through the hole.
  - \* For optimal performance and the best tool life the correct cutting setups and operations must be used and suitable lubricating / cutting oils or appropriate coolant fluids are recommended.



Imperial

| Size   | Thickness | ORDER #   |
|--------|-----------|-----------|
| 1/8-A  | .031      | 5052-0100 |
| 1/8-B  | .031      | 5052-0101 |
| 5/32-B | .042      | 5052-0102 |
| 3/16-B | 0.05      | 5052-0103 |
| 3/16-C | 0.05      | 5052-0104 |
| 1/4-C  | 0.0625    | 5052-0105 |
| 5/16-C | 0.055     | 5052-0106 |
| 3/8-C  | 0.625     | 5052-0107 |
| 5/16-D | 0.056     | 5052-0108 |
| 3/8-D  | 0.0625    | 5052-0109 |
| 7/16-D | 0.056     | 5052-0110 |
| 1/2-D  | 0.0625    | 5052-0111 |
| 5/8-E  | 0.0625    | 5052-0112 |
| 3/4-E  | 0.0625    | 5052-0113 |
| 7/8-F  | 0.0625    | 5052-0114 |
| 1-F    | 0.0625    | 5052-0115 |
| 1-1/8  | 0.0625    | 5052-0116 |
| 1-1/4  | 0.0625    | 5052-0116 |

Metric

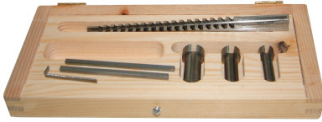
| Size  | Thickness | ORDER #   |
|-------|-----------|-----------|
| 3mmA  | .031      | 5053-0102 |
| 4B-1  | .038      | 5053-0104 |
| 5B-1  | .050      | 5053-0106 |
| 5C    | .047      | 5053-0108 |
| 6C-1  | .062      | 5053-0110 |
| 8C-1  | .078      | 5053-0112 |
| 10D-1 | .056      | 5053-0114 |
| 12D-1 | .056      | 5053-0116 |
| 14D-1 | .062      | 5053-0118 |
| 16E-1 | .062      | 5053-0120 |
| 18E-1 | .062      | 5053-0122 |
| 20F-1 | .062      | 5053-0124 |
| 22F-1 | .062      | 5053-0126 |
| 24F   | .062      | 5053-0128 |
| 25F-1 | .062      | 5053-0130 |
|       |           |           |
|       |           |           |

## Metric Keyway Broaches Sets

\*All sets come with wooden case

### No.60# Metric Set

The most common metric keyway combinations for small keyways and bores.



No.60#

| MODEL  | Keyway Size | Bushing DIA BORE SIZE Plain Only | ORDER #   |
|--------|-------------|----------------------------------|-----------|
| No.60# | 2A          | 6, 8, 10                         | 5100-0060 |
|        | 3A          |                                  |           |

### No.70# Metric Set

Our most popular metric broach set.



No.70#

|        | Keyway | Bushing DIA          | ORDER     |
|--------|--------|----------------------|-----------|
| MODEL  | Size   | BORE SIZE Plain Only | #         |
| No.70# | 4B     | 12,14,15,16          | 5100-0070 |
|        | 5B     |                      |           |
|        | 6C     | 18,19,20,22,24       |           |
|        | 8C     |                      |           |

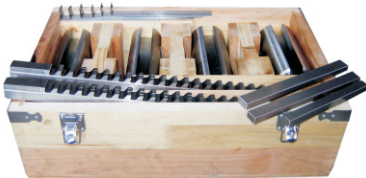
### No.80 Metric Set

The most common metric keyway combinations for medium-sized keyway and bores.

| MODEL  | Keyway Size | Bushing DIA BORE SIZE Plain Only | ORDER #   |
|--------|-------------|----------------------------------|-----------|
| No.80# | 10D         | 32, 34, 35, 36                   | 5100-0080 |
|        | 12D         | 38, 40, 42, 44                   |           |
|        | 14D         | 45, 46, 48, 50                   |           |

### No.90# Metric Set

The most common metric keyway combinations for large keyway and bores.



No.90#

| MODEL  | Keyway Size | Bushing DIA BORE SIZE Plain Only | ORDER #   |
|--------|-------------|----------------------------------|-----------|
| No.90# | 16E         | 52, 54, 55, 56                   | 5100-0090 |
|        | 18E         | 58, 60, 62, 65                   |           |

### No.110# Metric Set

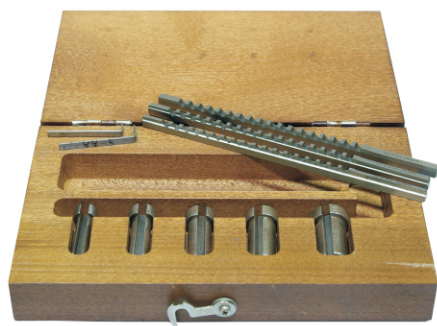
The most common metric keyway combinations for large keyway and bores.

| MODEL   | Keyway<br>Size | Bushing DIA<br>BORE SIZE                        | ORDER<br># |
|---------|----------------|-------------------------------------------------|------------|
| No.110# | 2A             | 6A,8A,10A                                       | 5100-0110  |
|         | 3A             |                                                 |            |
|         | 4B             | 12B,14B,15B,16B                                 |            |
|         | 5B             |                                                 |            |
|         | 6C             | 18C,19C,20C,22C,24C,25C,28C,30C                 |            |
|         | 8C             |                                                 |            |
|         | 10D            | 32D,34D,35D,36D,38D,40D,42D,44D,45D,46D,48D,50D |            |
|         | 14D            |                                                 |            |
|         | 16E            | 52E,54E,55E,56E,58E,60E,62E,65E,66E,68E         |            |
|         | 18E            |                                                 |            |
|         | 20F            | 70F,72F                                         |            |

| MODEL   | Keyway<br>Size | Bushing DIA<br>BORE SIZE                    | ORDER<br># |
|---------|----------------|---------------------------------------------|------------|
| No.110A | 2A             | 6A, 8A, 10A                                 | 5100-0111  |
|         | 3A             |                                             |            |
|         | 4B             | 12B, 14B, 15B, 16B                          |            |
|         | 5B             |                                             |            |
|         | 6C             | 18C, 19C, 20C, 22C, 24C, 25C, 26C, 28C, 30C |            |
|         | 8C             |                                             |            |
|         | 10D            | 32D, 34D, 35D, 36D, 38D, 40D, 42D, 44D, 45D |            |
|         | 14D            | 46D, 48D, 50D                               |            |
|         | 16E            | 52E, 54E, 55E, 56E, 58E, 60E, 62E, 65E      |            |
|         | 18E            |                                             |            |

## Inch Keyway Broaches Sets

英制套装键槽推刀



No.00#

### No.00# Precision Set

The most common keyway combinations for keyways and bores

|        | Keyway<br>Size | Bushing DIA<br>BORE SIZE Collared Only | ORDER<br># |
|--------|----------------|----------------------------------------|------------|
| No.00# | 1/16-A         |                                        |            |
|        | 3/32-A         | 1/4, 5/16, 3/8, 7/16, 1/2              | 5100-0001  |
|        | 1/8-A          |                                        |            |

### No.10# Standard Set

|        | Keyway<br>Size | Bushing DIA<br>BORE SIZE Collared Only | ORDER<br># |
|--------|----------------|----------------------------------------|------------|
| No.10# | 1/8-B          | 1/2, 5/8, 3/4, 7/8                     |            |
|        | 3/16-B         |                                        | 5100-0010  |
|        | 1/4-C          | 1, 1-1/8, 1-1/4                        |            |
|        | 3/8-C          | 1-3/8, 1-1/2                           |            |

### No.10A Standard Set

Same No.10 Set, but for sixteenth-sized bores.

|        | Keyway<br>Size | Bushing DIA<br>BORE SIZE Collared Only | ORDER<br># |
|--------|----------------|----------------------------------------|------------|
| No.10A | 1/8-B          |                                        |            |
|        | 3/16-B         | 9/16, 11/16, 13/16                     | 5100-0012  |
|        | 1/4-C          | 15/16, 1, 1-1/16, 1-3/16               |            |
|        | 3/8-C          | 1-5/16, 1-7/16, 1-9/16                 |            |

### No.10-10A Combination Set

Combines 10 and 10A sets.

|           | Keyway<br>Size | Bushing DIA<br>BORE SIZE Collared Only                                       | ORDER<br># |
|-----------|----------------|------------------------------------------------------------------------------|------------|
| No.10-10A | 1/8-B          | 1/2, 5/8, 3/4, 7/8                                                           |            |
|           | 3/16-B         | 9/16, 11/16, 13/16                                                           | 5100-0014  |
|           | 1/4-C          | 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-9/16 |            |
|           | 3/8-C          |                                                                              |            |

### No.20# Combination Set

Same No.10-10A combination set, but adds a 5/16 keyway for 11 extra combinations.

|        | Keyway<br>Size | Bushing DIA<br>BORE SIZE Collared Only              | ORDER<br># |
|--------|----------------|-----------------------------------------------------|------------|
| No.20# | 1/8-B          | 1/2, 9/16, 5/8, 11/16, 3/16-B                       |            |
|        | 3/16-B         | 3/4, 13/16, 7/8                                     | 5100-0020  |
|        | 1/4-C          | 15/16, 1, 1-1/16, 1-1/8, 5/16-C                     |            |
|        | 3/8-C          | 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, 1-1/2, 1-9/16 |            |

### No.40# Set

Same No.40A Set, but for sixteenth-sized bores.

|        | Keyway<br>Size | Bushing DIA<br>BORE SIZE Plain Only | ORDER<br># |
|--------|----------------|-------------------------------------|------------|
| No.40# | 5/16-D         | 1-7/16, 1-9/16, 1-11/16             |            |
|        | 3/8-D          | 1-13/16, 1-15/16, 2-3/16            | 5100-0040  |
|        | 7/16-D         | 2-7/16, 2-15/16                     |            |
|        | 1/2-D          |                                     |            |

### No.40A Set

The most common keyway combinations for keyways and bores

|        | Keyway<br>Size | Bushing DIA<br>BORE SIZE Plain Only | ORDER<br># |
|--------|----------------|-------------------------------------|------------|
| No.40A | 5/16-D         | 1-1/2, 1-5/8, 1-3/4,                |            |
|        | 3/8-D          | 1-7/8, 2, 2-1/8, 2-1/4,             | 5100-0042  |
|        | 7/16-D         | 2-1/2                               |            |
|        | 1/2-D          |                                     |            |

### No.40½A Heavy Duty Set

The most common keyway combinations for large keyway

|         | Keyway<br>Size | Bushing DIA<br>BORE SIZE Plain Only | ORDER<br># |
|---------|----------------|-------------------------------------|------------|
| No.40½A | 5/8-E          | 2-3/8, 2-1/2, 2-5/8                 |            |
|         | 3/4-E          | 2-3/4, 2-7/8, 3                     | 5100-0046  |

### No.40½ Heavy Duty Set

Same No.40½ A Set, but for sixteenth-sized bores.

|        | Keyway<br>Size | Bushing DIA<br>BORE SIZE Plain Only | ORDER<br># |
|--------|----------------|-------------------------------------|------------|
| No.40½ | 5/8-E          | 2-5/16, 2-7/16, 2-9/16,             |            |
|        | 3/4-E          | 2-11/16, 2-13/16, 2-15/16           | 5100-0044  |

### No.50# Heavy Duty Set

|        | Keyway<br>Size | Bushing DIA<br>BORE SIZE Collared Only | ORDER<br># |
|--------|----------------|----------------------------------------|------------|
| No.50# | 1/2-D          | 2, 2-1/16, 2-1/8, 2-3/16, 2-1/4        |            |
|        |                | 2-5/16, 2-3/8, 2-7/16,                 | 5100-0050  |
|        | 5/8-E          | 2-1/2, 2-9/16, 2-5/8,                  |            |
|        | 3/4-E          | 2-11/16, 2-3/4, 2-7/8, 2-15/16, 3      |            |

### No.100# Heavy Duty Combination Set

Includes all popular combinations without duplication.

Furnished in a handsome varnished wood box for convenient handling and storage, with broaches, slotted bushing, and shims.

**Collared Bushings for B & C Style Broaches**  
**Plain Bushings for D & E Style Broaches**

|         | Keyway<br>Size | Bushing DIA<br>BORE SIZE                                | ORDER<br># |
|---------|----------------|---------------------------------------------------------|------------|
| No.100# | 1/8-B          | 1/2, 9/16, 5/8, 11/16,                                  |            |
|         | 3/16-B         | 3/4, 13/16, 7/8                                         |            |
|         |                | 15/16, 1, 1-1/16, 1-1/8,                                |            |
|         | 1/4-C          | 1-3/16, 1-1/4, 1-5/16,                                  |            |
|         | 5/16-C         | 1-3/8, 1-7/16, 1-1/2,                                   |            |
|         |                | 1-9/16                                                  |            |
|         |                | 1-7/16, 1-1/2, 1-9/16,                                  | 5100-0100  |
|         | 3/8-D          | 1-5/8, 1-11/16, 1-3/4,                                  |            |
|         | 7/16-D         | 1-13/16, 1-7/8, 1-15/16,                                |            |
|         | 1/2-D          | 2, 2-1/16, 2-1/8, 2-3/16, 2-1/4                         |            |
|         | 5/8-E          | 2-5/16, 2-3/8, 2-7/16,                                  |            |
|         | 3/4-E          | 2-1/2, 2-9/16, 2-5/8, 2-11/16, 2-3/4, 2-7/8, 2-15/16, 3 |            |