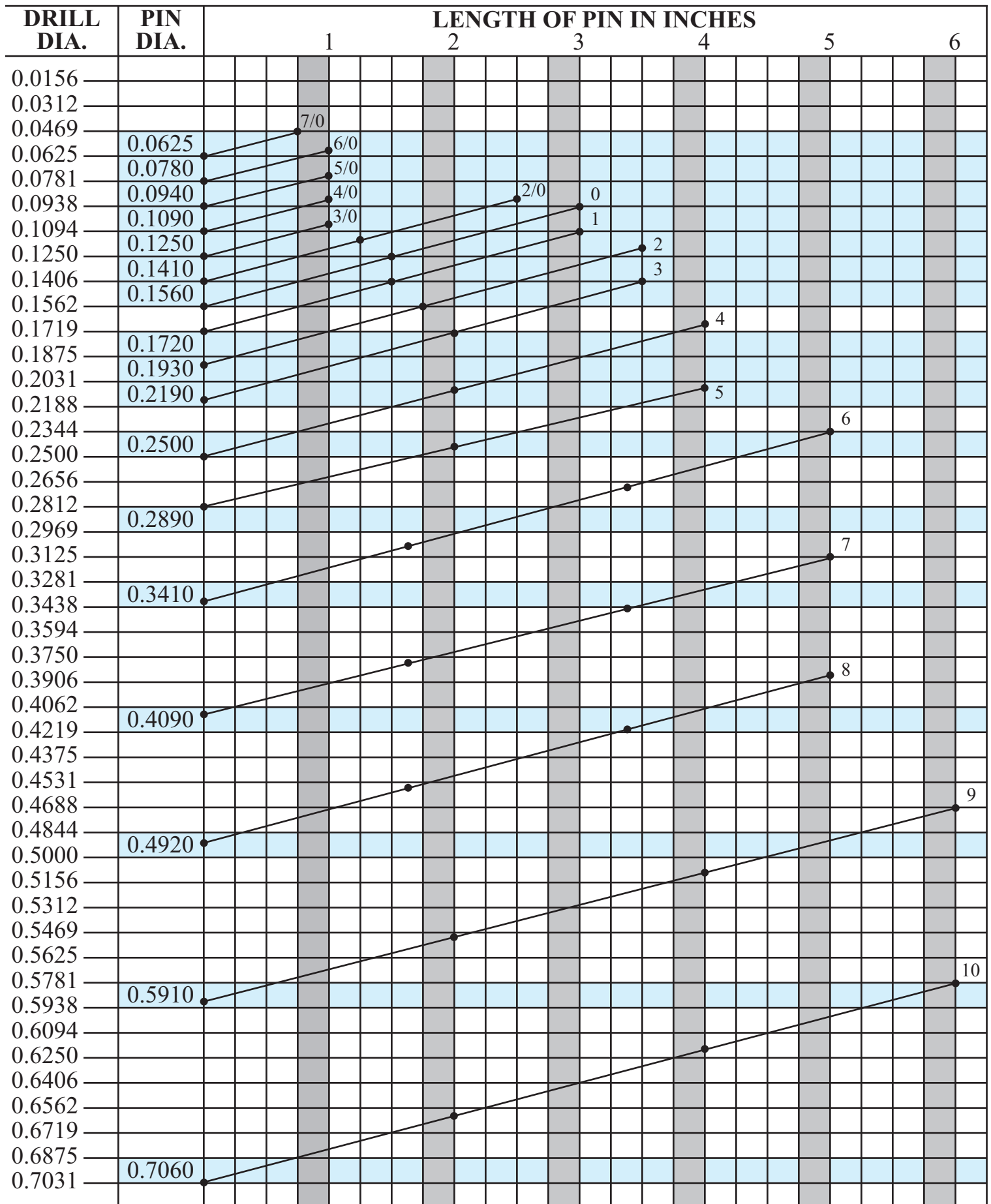


# TAPER PIN REAMERS

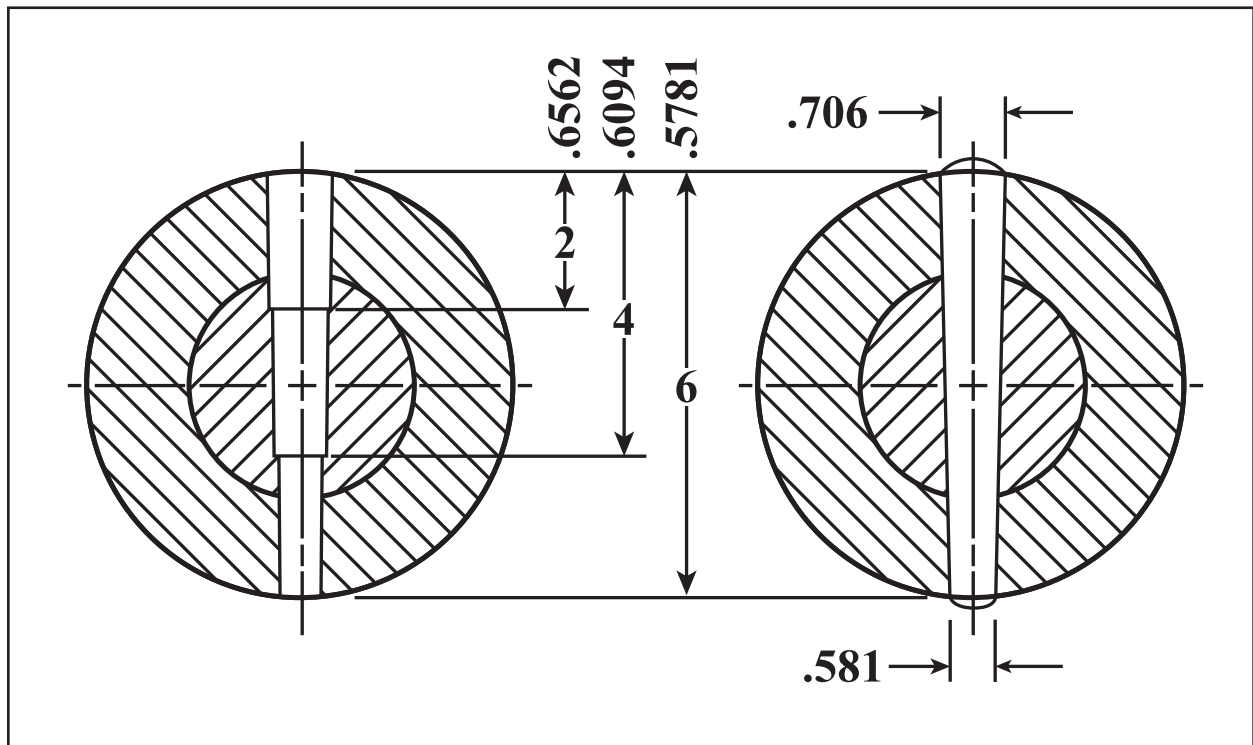
Chart to Select Number and Sizes of Drills  
for Step-Drilling Prior to Taper Reaming



To find the number and sizes of drills to be used to step drill hole(s) prior to reaming taper pin hole to fit standard taper pins, use the chart on page 1 to find the length of pin to be used and follow the taper pin length dot to the drill diameter size to use. Sizes 7/0 to 3/0 will only need 1 size drill. Sizes 2/0 to 5 will need 2 sizes of drills. Sizes 6 to 10 will need 3 sizes of drills to prepare hole for reaming.

For example:

A 10 taper pin 6" long would require 3 drills to prepare the hole for reaming as shown below.



# AMERICAN NATIONAL STANDARD TAPER PINS

(ANSI B18.8.2-1978, R1989)



| Pin Size<br>Number and<br>Basic Pin<br>Diameter <sup>1</sup> |        | Major Diameter (Large End), $A$ |        |                 |         | End Crown<br>Radius, $R$ |       | Range of<br>Lengths, $L$ <sup>2</sup>     |         |
|--------------------------------------------------------------|--------|---------------------------------|--------|-----------------|---------|--------------------------|-------|-------------------------------------------|---------|
|                                                              |        | Commercial Class                |        | Precision Class |         |                          |       | Standard<br>Reamer<br>Avail. <sup>3</sup> | Other   |
|                                                              |        | Max.                            | Min.   | Max.            | Min.    | Max.                     | Min.  |                                           |         |
| 7/0                                                          | 0.0625 | 0.0638                          | 0.0618 | 0.0635          | 0.0625  | 0.072                    | 0.052 | . . . .                                   | ¼ - 1   |
| 6/0                                                          | 0.0780 | 0.0793                          | 0.0773 | 0.0790          | 0.0780  | 0.088                    | 0.068 | . . . .                                   | ¼ - 1½  |
| 5/0                                                          | 0.0940 | 0.0953                          | 0.0933 | 0.0950          | 0.0940  | 0.104                    | 0.084 | ¼ - 1                                     | 1¼, 1½  |
| 4/0                                                          | 0.1090 | 0.1103                          | 0.1083 | 0.1100          | 0.1090  | 0.119                    | 0.099 | ¼ - 1                                     | 1¼ - 2  |
| 3/0                                                          | 0.1250 | 0.1263                          | 0.1243 | 0.1260          | 0.1250  | 0.135                    | 0.115 | ¼ - 1                                     | 1¼ - 2  |
| 2/0                                                          | 0.1410 | 0.1423                          | 0.1403 | 0.1420          | 0.1410  | 0.151                    | 0.131 | ½ - 1¼                                    | 1½ - 2½ |
| 0                                                            | 0.1560 | 0.1573                          | 0.1553 | 0.1570          | 0.1560  | 0.166                    | 0.146 | ½ - 1¼                                    | 1½ - 3  |
| 1                                                            | 0.1720 | 0.1733                          | 0.1713 | 0.1730          | 0.1720  | 0.182                    | 0.162 | ¾ - 1¼                                    | 1½ - 3  |
| 2                                                            | 0.1930 | 0.1943                          | 0.1923 | 0.1940          | 0.1930  | 0.203                    | 0.183 | ¾ - 1½                                    | 1¾ - 3  |
| 3                                                            | 0.2190 | 0.2203                          | 0.2183 | 0.2200          | 0.2190  | 0.229                    | 0.209 | ¾ - 1¾                                    | 2 - 4   |
| 4                                                            | 0.2500 | 0.2513                          | 0.2493 | 0.2510          | 0.2500  | 0.260                    | 0.240 | ¾ - 2                                     | 2¼ - 4  |
| 5                                                            | 0.2890 | 0.2903                          | 0.2883 | 0.2900          | 0.2890  | 0.299                    | 0.279 | 1 - 2½                                    | 2¾ - 6  |
| 6                                                            | 0.3410 | 0.3423                          | 0.3403 | 0.3420          | 0.3410  | 0.351                    | 0.331 | 1¼ - 3                                    | 3¼ - 6  |
| 7                                                            | 0.4090 | 0.4103                          | 0.4083 | 0.4100          | 0.4090  | 0.419                    | 0.399 | 1¼ - 3¾                                   | 4 - 8   |
| 8                                                            | 0.4920 | 0.4933                          | 0.4913 | 0.4930          | 0.4920  | 0.502                    | 0.482 | 1¼ - 4½                                   | 4¾ - 8  |
| 9                                                            | 0.5910 | 0.5923                          | 0.5903 | 0.5920          | 0.5910  | 0.601                    | 0.581 | 1¼ - 5¼                                   | 5½ - 8  |
| 10                                                           | 0.7060 | 0.7073                          | 0.7053 | 0.7070          | 0.7060  | 0.716                    | 0.696 | 1½ - 6                                    | 6¼ - 8  |
| 11                                                           | 0.8600 | 0.8613                          | 0.8593 | . . . .         | . . . . | 0.870                    | 0.850 | . . . .                                   | 2 - 8   |
| 12                                                           | 1.0320 | 1.0333                          | 1.0313 | . . . .         | . . . . | 1.042                    | 1.022 | . . . .                                   | 2 - 9   |
| 13                                                           | 1.2410 | 1.2423                          | 1.2403 | . . . .         | . . . . | 1.251                    | 1.231 | . . . .                                   | 3 - 11  |
| 14                                                           | 1.5210 | 1.5223                          | 1.5203 | . . . .         | . . . . | 1.531                    | 1.511 | . . . .                                   | 3 - 13  |

<sup>1</sup> When specifying nominal pin size in decimals, zeros preceding the decimal and in the fourth decimal place are omitted.

<sup>2</sup> Lengths increase in 1/8 inch steps up to 1 inch and in 1/4 inch steps above 1 inch.

<sup>3</sup> Standard reamers are available for pin lengths in this column.

## Nominal Diameter at Small Ends of Standard Taper Pins

| Pin Length in Inches | Pin Number and Small Ends of Standard Taper Pins |       |       |       |       |       |       |       |       |       |       |
|----------------------|--------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                      | 0                                                | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    |
| 3/4                  | 0.140                                            | 0.156 | 0.177 | 0.203 | 0.235 | 0.273 | 0.325 | 0.393 | 0.476 | 0.575 | 0.690 |
| 1                    | 0.135                                            | 0.151 | 0.172 | 0.198 | 0.230 | 0.268 | 0.320 | 0.388 | 0.471 | 0.570 | 0.685 |
| 1-1/4                | 0.130                                            | 0.146 | 0.167 | 0.192 | 0.224 | 0.263 | 0.315 | 0.382 | 0.466 | 0.565 | 0.680 |
| 1-1/2                | 0.125                                            | 0.141 | 0.162 | 0.187 | 0.219 | 0.258 | 0.310 | 0.377 | 0.460 | 0.560 | 0.675 |
| 1-3/4                | 0.120                                            | 0.136 | 0.157 | 0.182 | 0.214 | 0.252 | 0.305 | 0.372 | 0.455 | 0.554 | 0.669 |
| 2                    | 0.114                                            | 0.130 | 0.151 | 0.177 | 0.209 | 0.247 | 0.299 | 0.367 | 0.450 | 0.549 | 0.664 |
| 2-1/4                | 0.109                                            | 0.125 | 0.146 | 0.172 | 0.204 | 0.242 | 0.294 | 0.362 | 0.445 | 0.544 | 0.659 |
| 2-1/2                | 0.104                                            | 0.120 | 0.141 | 0.166 | 0.198 | 0.237 | 0.289 | 0.356 | 0.440 | 0.539 | 0.654 |
| 2-3/4                | 0.099                                            | 0.115 | 0.136 | 0.161 | 0.193 | 0.232 | 0.284 | 0.351 | 0.434 | 0.534 | 0.649 |
| 3                    | 0.094                                            | 0.110 | 0.131 | 0.156 | 0.188 | 0.227 | 0.279 | 0.346 | 0.429 | 0.528 | 0.643 |
| 3-1/4                | ....                                             | ....  | ....  | 0.151 | 0.182 | 0.221 | 0.273 | 0.340 | 0.424 | 0.523 | 0.638 |
| 3-1/2                | ....                                             | ....  | ....  | 0.146 | 0.177 | 0.216 | 0.268 | 0.335 | 0.419 | 0.518 | 0.633 |
| 3-3/4                | ....                                             | ....  | ....  | 0.141 | 0.172 | 0.211 | 0.263 | 0.330 | 0.414 | 0.513 | 0.628 |
| 4                    | ....                                             | ....  | ....  | 0.136 | 0.167 | 0.206 | 0.258 | 0.326 | 0.409 | 0.508 | 0.623 |
| 4-1/4                | ....                                             | ....  | ....  | 0.131 | 0.162 | 0.201 | 0.253 | 0.321 | 0.403 | 0.502 | 0.617 |
| 4-1/2                | ....                                             | ....  | ....  | 0.125 | 0.156 | 0.195 | 0.247 | 0.315 | 0.398 | 0.497 | 0.612 |
| 5                    | ....                                             | ....  | ....  | ....  | 0.146 | 0.185 | 0.237 | 0.305 | 0.389 | 0.487 | 0.602 |
| 5-1/2                | ....                                             | ....  | ....  | ....  | ....  | ....  | ....  | 0.294 | 0.377 | 0.476 | 0.591 |
| 6                    | ....                                             | ....  | ....  | ....  | ....  | ....  | ....  | 0.284 | 0.367 | 0.466 | 0.581 |



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