

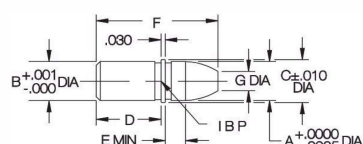
## BULLET-NOSE DOWELS

1144 STEEL, HEAT TREATED RC 50-55, BLACK OXIDE FINISH



Dowel Pin

Bushing



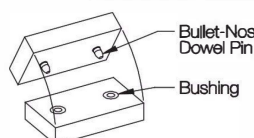
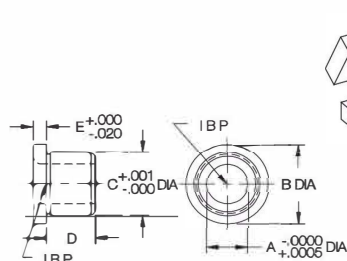
Precision locating pin often used with a matching bushing to align two pieces of a fixture. The pin's head and shank diameters are concentric to within .0005 TIR. The bushing's ID and OD are concentric to within .0003 TIR.

### DOWEL PINS (INCH)

| PART NO. | A HEAD DIA NOMINAL | A HEAD DIA ACTUAL | B SHANK DIA NOMINAL | B SHANK DIA ACTUAL | C DIA | D   | E   | F    | G DIA |
|----------|--------------------|-------------------|---------------------|--------------------|-------|-----|-----|------|-------|
| CL-1-BND | 1/4                | .2499             | 1/4                 | .2510              | .280  | 1/2 | .12 | .90  | 1/8   |
| CL-2-BND | 5/16               | .3124             | 5/16                | .3135              | .344  |     | .15 | .94  | 5/32  |
| CL-3-BND | 3/8                | .3749             | 3/8                 | .3760              | .407  |     | .18 | 1.03 | 3/16  |
| CL-4-BND | 1/2                | .4999             | 1/2                 | .5010              | .532  |     | .18 | 1.09 | 1/4   |

### DOWEL PINS (METRIC)

|             |      |        |      |        |      |      |     |      |     |
|-------------|------|--------|------|--------|------|------|-----|------|-----|
| CLM-60-BND  | 6mm  | 5.997  | 6mm  | 6.025  | 7mm  | 12mm | 3mm | 22mm | 3mm |
| CLM-80-BND  | 8mm  | 7.997  | 8mm  | 8.025  | 9mm  |      | 4mm | 23mm | 4mm |
| CLM-100-BND | 10mm | 9.997  | 10mm | 10.025 | 11mm |      | 5mm | 25mm | 5mm |
| CLM-120-BND | 12mm | 11.997 | 12mm | 12.025 | 13mm |      |     | 27mm | 6mm |



### BUSHINGS (INCH)

| PART NO.  | A DIA NOMINAL | A DIA ACTUAL | B DIA | C SHANK DIA NOMINAL | C SHANK DIA ACTUAL | D   | E    |
|-----------|---------------|--------------|-------|---------------------|--------------------|-----|------|
| CL-B-1000 | 1/4           | .2501        | .625  | 1/2                 | .5002              | 3/8 | .100 |
| CL-B-2000 | 5/16          | .3126        | .750  | 5/8                 | .6253              | 1/2 |      |
| CL-B-3000 | 3/8           | .3751        | .875  | 3/4                 | .7504              | 5/8 |      |
| CL-B-4000 | 1/2           | .5001        |       |                     |                    |     |      |

### BUSHINGS (METRIC)

|           |      |        |      |      |        |    |   |
|-----------|------|--------|------|------|--------|----|---|
| CLM-60-B  | 6mm  | 6.002  | 13mm | 10mm | 10.005 | 7  | 3 |
| CLM-80-B  | 8mm  | 8.002  | 15mm | 12mm | 12.005 | 7  | 3 |
| CLM-100-B | 10mm | 10.002 | 18mm | 15mm | 15.008 | 9  | 3 |
| CLM-120-B | 12mm | 12.002 | 22mm | 18mm | 18.011 | 12 | 4 |

## CONE LOCATOR PINS

1215 STEEL, CASE HARDENED, BLACK OXIDE FINISH



Pin

Bushing

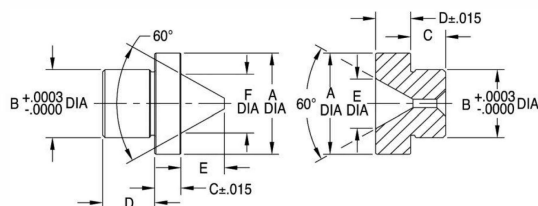
Medium-accuracy tapered locating pin used with the mating bushing. These pins can be used for quick assembly of two fixture pieces, because they compensate for considerable misalignment. The pin's shank diameter and the bushing's OD are exactly the same size, to allow boring the installation hole in both fixture pieces at the same time for greater accuracy.

### PIN (INCH)

| PART NO. | A DIA | B DIA NOMINAL | B DIA ACTUAL | C    | D    | E    | F DIA |
|----------|-------|---------------|--------------|------|------|------|-------|
| CL-5-CLP | 3/4   | 1/2           | .5014        | 3/16 | 3/8  | 5/16 | .438  |
| CL-7-CLP | 1     | 3/4           | .7515        | 3/16 | 9/16 | 1/2  | .676  |

### PIN (METRIC)

|           |     |      |        |      |      |      |      |
|-----------|-----|------|--------|------|------|------|------|
| CLM-5-CLP | 3/4 | 12mm | 12.035 | 4.76 | 9.5  | 7.9  | 11.1 |
| CLM-7-CLP | 1   | 20mm | 20.038 | 4.76 | 14.5 | 12.7 | 17.2 |



### BUSHING (INCH)

| PART NO. | A DIA | B DIA NOMINAL | B DIA ACTUAL | C   | D   | E    | GAP BETWEEN PIN & BUSHING HEAD WHEN ASSEMBLED |
|----------|-------|---------------|--------------|-----|-----|------|---|
| CL-5-CLB | 3/4   | 1/2           | .5014        | 1/4 | 1/4 | .370 | .050-.068                                     |
| CL-7-CLB | 1     | 3/4           | .7515        | 3/8 | 3/8 | .616 | .043-.061                                     |

### BUSHING (METRIC)

|           |     |      |        |     |      |       |           |
|-----------|-----|------|--------|-----|------|-------|-----------|
| CLM-5-CLB | 3/4 | 12mm | 12.035 | 6.4 | 6.35 | 9.40  | 1.27-1.73 |
| CLM-7-CLB | 1   | 20mm | 20.038 | 9.5 | 9.52 | 15.65 | 1.09-1.55 |