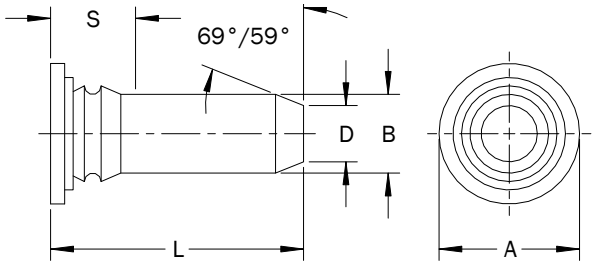
# Self-Clinching Pilot Pins

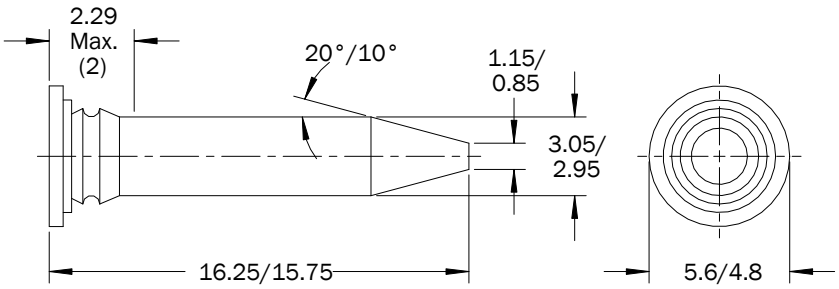
## FEATURES

- Satisfy a wide variety of alignment, location and pivot applications.
- Self-clinching design installs easily and permanently with a flush appearance on the back of thin panels and sheets.
- Available in an assortment of RoHS-compliant materials and finishes.

## PART DESCRIPTION EXAMPLE

| GTSS | — | .125 | — | .375 | — | P |
|---|---|---|---|---|---|---|
| Material Code | | Pin Size | | Length | | Finish Code |




*The ATCA-style pilot pin meets the ATCA PICMG 3.0 specification and features a 15° tapered point to engage easily with the mating hole. To order use part description:*

*GTSS-M3-16-P-ATCA*

(1) All dimensions in millimeters
(2) Pin diameter may exceed max. in this region



 © PENCOM 2026

## GENERAL

All dimensions in inches

| | Pin Size | Sheet | | | B ±.002 | D ±.006 | A ±.015 | S Max. (1) |
|---|---|---|---|---|---|---|---|---|
| | | Minimum Thickness | Hole Size +.003 -.000 | Minimum Distance Hole Center to Edge | | | | |
| INCH | .125 | .040 | .144 | .250 | .125 | .090 | .205 | .090 |
| | .187 | .040 | .205 | .280 | .187 | .132 | .270 | .090 |
| | .250 | .040 | .272 | .310 | .250 | .177 | .335 | .090 |

All dimensions in millimeters

| | Pin Size | Sheet | | | B ±0.05 | D ±0.15 | A ±0.4 | S Max. (1) |
|---|---|---|---|---|---|---|---|---|
| | | Minimum Thickness | Hole Size +0.08 -0.00 | Minimum Distance Hole Center to Edge | | | | |
| METRIC | M3 | 1.00 | 3.50 | 6.4 | 3.00 | 2.11 | 5.20 | 2.29 |
| | M4 | 1.00 | 4.50 | 7.1 | 4.00 | 2.82 | 6.12 | 2.29 |
| | M5 | 1.00 | 5.50 | 7.6 | 5.00 | 3.53 | 7.19 | 2.29 |
| | M6 | 1.00 | 6.50 | 7.9 | 6.00 | 4.24 | 8.13 | 2.29 |

(1) Pin diameter may exceed max. in this region.

## MATERIAL AND FINISH

| Material Code | Material Description | Finish Code | Finish Description | For Use in Sheet Hardness | |
|---|---|---|---|---|---|
| | | | | HRB 70 Max. | HRB 92 Max. |
| ST | Heat Treated Carbon Steel | Z | Zinc (SCI) with Type III clear chromate per ASTM B633 | • | |
| SS | 300-Series Stainless Steel | P | Passivated and/or tested per ASTM A967 | • | |
| S4 | Heat Treated 400-Series Stainless Steel | P | Passivated and/or tested per ASTM A967 | | • |




© PENCOM 2026

## LENGTH

All dimensions in inches

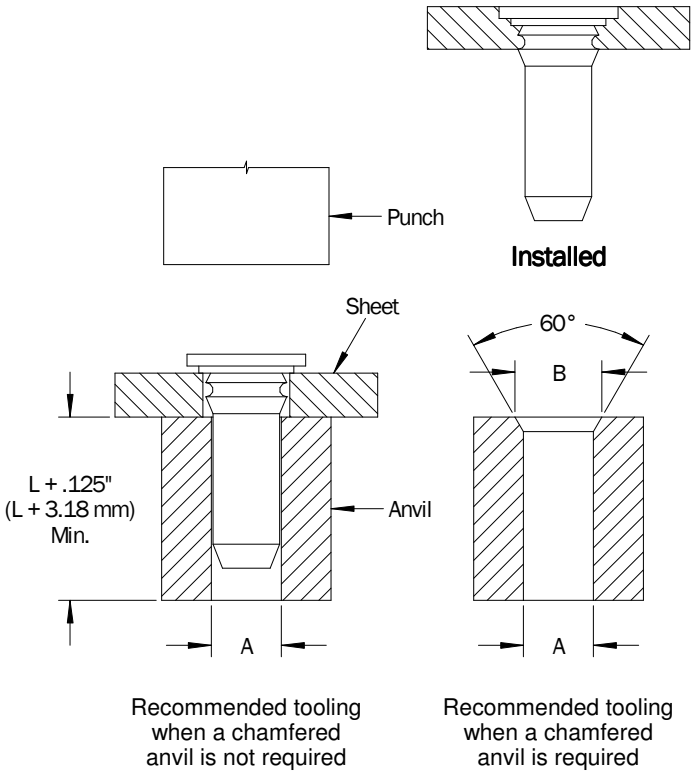
| | Pin Size | L (Length) ±.015 | | | | |
|---|---|---|---|---|---|---|
| INCH | .125 | .375 | .500 | .625 | .750 | – |
| | .187 | .375 | .500 | .625 | .750 | 1.000 |
| | .250 | – | .500 | .625 | .750 | 1.000 |

All dimensions in millimeters

| | Pin Size | L (Length) ±0.40 | | | | |
|---|---|---|---|---|---|---|
| METRIC | M3 | 8 | 10 | 12 | 16 | – |
| | M4 | 8 | 10 | 12 | 16 | – |
| | M5 | – | 10 | 12 | 16 | 20 |
| | M6 | – | – | 12 | 16 | 20 |

## INSTALLATION

1. Prepare correct sized mounting hole in sheet. Do not deburr edges.
2. Insert pilot pin through hole in sheet and into the anvil as shown.
3. Squeeze the sheet and pilot pin head between parallel anvil and punch surfaces. Use only enough pressure to seat the pin head flush with the sheet. Anvil and punch should be made from hardened tool steel.
4. A chamfered anvil is required for sheets .060in (1.7 mm) thick or less only.




GT Self-Clinching Pilot Pins


© PENCOM 2026

## INSTALLATION (Continued)

| | Pin Size | Sheet Thickness | Anvil Dimensions | |
|---|---|---|---|---|
| | | | A ±.002 | B ±.002 |
| INCH | .125 | .040-.060 | .130 | .160 |
| | | Over .060 | | (1) |
| | .187 | .040-.065 | .192 | .220 |
| | | Over .065 | | (1) |
| | .250 | .040-.075 | .255 | .285 |
| | | Over .075 | | (1) |

| | Pin Size | Sheet Thickness | Anvil Dimensions | |
|---|---|---|---|---|
| | | | A ±0.05 | B ±0.05 |
| METRIC | M3 | 1.0-1.7 | 3.11 | 3.88 |
| | | Over 1.7 | | (1) |
| | M4 | 1.0-1.7 | 4.11 | 4.88 |
| | | Over 1.7 | | (1) |
| | M5 | 1.0-1.8 | 5.13 | 5.89 |
| | | Over 1.8 | | (1) |
| | M6 | 1.0-1.9 | 6.12 | 6.89 |
| | | Over 1.9 | | (1) |

(1) A chamfered anvil is not required.

## PERFORMANCE - MATERIAL CODES SS AND ST

| | Pin Size | Test Sheet Material | Installation (lbs) | Push-out (lbs) |
|---|---|---|---|---|
| INCH | .125 | Aluminum | 3830-5180 | 130-175 |
| | | Cold-rolled Steel | 5530-7470 | 215-290 |
| | .187 | Aluminum | 5530-7470 | 195-265 |
| | | Cold-rolled Steel | 6800-9200 | 340-460 |
| | .250 | Aluminum | 5950-8050 | 230-310 |
| | | Cold-rolled Steel | 7650-10400 | 425-575 |




© PENCOM 2026

| | Pin Size | Test Sheet Material | Installation (kN) | Push-out (kN) |
|---|---|---|---|---|
| METRIC | M3 | Aluminum | 10.2-13.8 | 0.48-0.64 |
| | | Cold-rolled Steel | 18.7-25.3 | 0.83-1.1 |
| | M4 | Aluminum | 18.7-25.3 | 0.76-1.0 |
| | | Cold-rolled Steel | 22.4-30.4 | 1.3-1.8 |
| | M5 | Aluminum | 24.3-32.9 | 0.86-1.2 |
| | | Cold-rolled Steel | 29.9-40.5 | 1.5-2.0 |
| | M6 | Aluminum | 26.2-35.4 | 0.94-1.3 |
| | | Cold-rolled Steel | 33.7-45.5 | 1.8-2.4 |

(1) Performance data are shown in ranges and should be used for general estimating purposes only as actual results may be affected by variations in installation and panel preparation equipment and procedures; and panel hardness, hole size, material and thickness. PENCOM strongly recommends testing in each application to determine actual loads.

## PERFORMANCE - MATERIAL CODE S4

| | Pin Size | Test Sheet Material | Installation (lbs) | Push-out (lbs) |
|---|---|---|---|---|
| INCH | .125 | 300-Series Stainless Steel | 6800-9200 | 300-400 |
| | .187 | 300-Series Stainless Steel | 10200-13800 | 485-655 |
| | .250 | 300-Series Stainless Steel | 11900-16100 | 555-745 |

| | Pin Size | Test Sheet Material | Installation (kN) | Push-out (N) |
|---|---|---|---|---|
| METRIC | M3 | 300-Series Stainless Steel | 29.8-40.3 | 1320-1790 |
| | M4 | 300-Series Stainless Steel | 38.3-51.7 | 1980-2690 |
| | M5 | 300-Series Stainless Steel | 45.9-62.1 | 2150-2920 |
| | M6 | 300-Series Stainless Steel | 51.0-69.0 | 2460-3320 |

(1) Performance data are shown in ranges and should be used for general estimating purposes only as actual results may be affected by variations in installation and panel preparation equipment and procedures; and panel hardness, hole size, material and thickness. PENCOM strongly recommends testing in each application to determine actual loads.



 © PENCOM 2026