



KEYLOCKING THREADED INSERTS



MS/NAS Style

Industrial Style

Inch

Metric

Blind End Style

Floating Style

Cast-In Style

Kits

General Information



Acme Keylocking Threaded Inserts are used to quickly repair stripped, damaged or worn out threads with new stronger threads or for use in original equipment. Acme Inserts are easy to install and easy to remove. No special drills, taps or pre-winder tools are required. The Keys are driven down into the threads of the surrounding base material, locking the insert in place.



Acme can manufacture Keylocking Threaded Inserts to meet your special requirements. Some of our capabilities are listed below:

Materials (Inserts) -

303 Stainless
304 Stainless
316 Stainless
17-4 PH Stainless
A286 Stainless
Nitronic 60 Stainless
4140 Alloy
Inconel 718
Carbon Steel

Materials (Keys) -

302 Stainless
420 Stainless (Self-Broaching)

Finishes -

Zinc Phosphate
Passivate
Cadmium
Dry-Film Lube
Silver
Nickel

Features:

- Solid, one-piece insert construction provides a high degree of pull-out strength
- Keys supply a positive mechanical lock against rotation
- Easy installation and removal
- Installed with standard drills and taps
- No pre-winder tool required
- No tang to break-off
- May be used in many types of material
- MS/NAS Style inserts are produced to the following standards:

| | | |
|---------|---------|--------|
| MS51830 | NAS1395 | NA0149 |
| MS51831 | NA0146 | NA0150 |
| MS51832 | NA0147 | NA0151 |
| NAS1394 | NA0148 | |
- Miniature, Lightweight, Heavy Duty, and Extra Heavy Duty types with Non-locking and Self-locking internal threads
- Full range of Inch and Metric sizes in coarse or fine pitch threads
- Inserts for specific uses are available in floating, blind end, solid, and cast-in configurations
- Industrial Style inserts can be purchased in bulk quantities or kits

Acme Industrial Company's manufacturing facility is certified to ISO: 9001:2008

NOTICE: Acme reserves the right to make changes without notice to our products and the information published about them. The material presented here is for guidance only. The user assumes full responsibility for determining the suitability of our products for a particular application. Requests for more information are welcome.

DISCLAIMER: SELLER MAKES NO OTHER WARRANTY WHATSOEVER, EXPRESSED OR IMPLIED AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED AND EXCLUDED FROM ALL TRANSACTIONS AND SHALL NOT APPLY TO THE GOODS SOLD.

REMEDY: Our obligation is limited to the repair or replacement of defective parts or, at our option, the refund of the purchase price. IN NO EVENT SHALL THE SELLER BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES IN THE NATURE OF PENALTIES.



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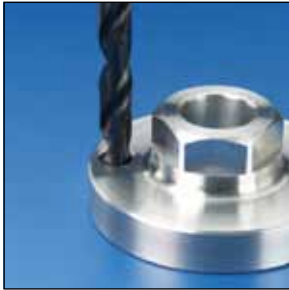
Keylocking Threaded Inserts

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Installation & Removal Keylocking Threaded Inserts



Installation:



1) Drill with a standard tap drill and countersink with a standard 82° - 100° countersink (90° for Miniature Inserts). Note: Drill is oversize, see charts for proper dimensions.



2) Tap new threads with a standard tap. Note: See charts for proper size and depth.



3) Screw in the insert until it is .010-.030 (.005-.015 for Miniature Inserts) below the surface. Keys locate the proper depth.



4) Drive keys down with several hammer taps on the proper installation tool.



5) Properly installed insert.

Removal:

If necessary, Acme Keylocking Inserts can be removed without damage to the parent material:

- 1)** Drill out material between keys and internal thread with a standard drill to specified depth (refer to charts for proper size and depth).
- 2)** Bend the keys inward and break off.
- 3)** Remove the old insert using a screw extractor or similar device.
- 4)** Install a replacement insert into the original tapped hole and drive keys down.



MS/NAS Style - 303 CRES Keylocking Threaded Inserts

Cross Reference - Inch

| MINIATURE & LIGHTWEIGHT | | | HEAVY DUTY | | | EXTRA HEAVY DUTY | | |
|-------------------------|---------|-----------|------------|---------|-----------|------------------|-----|-----------|
| MS51830 | NAS1394 | ACME P/N* | MS51831 | NAS1395 | ACME P/N* | MS51832 | NAS | ACME P/N* |
| -101 | | 76283 | | C08 | 76300 | -101 | | 76333 |
| -101L | | 77283 | | C08L | 77300 | -101L | | 77333 |
| -102 | | 76284 | -101 | | 76301 | -102 | | 76334 |
| -102L | | 77284 | -101L | | 77301 | -102L | | 77334 |
| -103 | | 76285 | -102 | | 76302 | -103 | | 76335 |
| -103L | | 77285 | -102L | | 77302 | -103L | | 77335 |
| -104 | | 76286 | -103 | | 76303 | -104 | | 76336 |
| -104L | | 77286 | -103L | | 77303 | -104L | | 77336 |
| -105 | | 76321 | -104 | | 76304 | -105 | | 76337 |
| -105L | | 77321 | -104L | | 77304 | -105L | | 77337 |
| -106 | | 76322 | -105 | | 76305 | -106 | | 76338 |
| -106L | | 77322 | -105L | | 77305 | -106L | | 77338 |
| -107 | | 76323 | -106 | | 76306 | -107 | | 76339 |
| -107L | | 77323 | -106L | | 77306 | -107L | | 77339 |
| -108 | | 76324 | -107 | | 76307 | -108 | | 76340 |
| -108L | | 77324 | -107L | | 77307 | -108L | | 77340 |
| -109 | | 76325 | -108 | | 76308 | -109 | | 76341 |
| -109L | | 77325 | -108L | | 77308 | -109L | | 77341 |
| -110 | | 76326 | -109 | | 76309 | -110 | | 76342 |
| -110L | | 77326 | -109L | | 77309 | -110L | | 77342 |
| -201 | C3 | 76521 | -110 | | 76310 | -111 | | 76343 |
| -201L | C3L | 77521 | -110L | | 77310 | -111L | | 77343 |
| -202 | C4 | 76522 | -111 | | 76311 | -201 | | 76533 |
| -202L | C4L | 77522 | -111L | | 77311 | -201L | | 77533 |
| -203 | C5 | 76523 | -201 | C3 | 76501 | -202 | | 76534 |
| -203L | C5L | 77523 | -201L | C3L | 77501 | -202L | | 77534 |
| -204 | C6 | 76524 | -202 | C4 | 76502 | -203 | | 76535 |
| -204L | C6L | 77524 | -202L | C4L | 77502 | -203L | | 77535 |
| -205 | C7 | 76525 | -203 | C5 | 76503 | -204 | | 76536 |
| -205L | C7L | 77525 | -203L | C5L | 77503 | -204L | | 77536 |
| -206 | C8 | 76526 | -204 | C6 | 76504 | -205 | | 76537 |
| -206L | C8L | 77526 | -204L | C6L | 77504 | -205L | | 77537 |
| | | | -205 | C7 | 76505 | -206 | | 76538 |
| | | | -205L | C7L | 77505 | -206L | | 77538 |
| | | | -206 | C8 | 76506 | -207 | | 76539 |
| | | | -206L | C8L | 77506 | -207L | | 77539 |
| | | | -207 | C9 | 76507 | -208 | | 76540 |
| | | | -207L | C9L | 77507 | -208L | | 77540 |
| | | | -208 | C10 | 76508 | -209 | | 76541 |
| | | | -208L | C10L | 77508 | -209L | | 77541 |
| | | | -209 | | 76509 | -210 | | 76542 |
| | | | -209L | | 77509 | -210L | | 77542 |
| | | | -210 | | 76510 | -211 | | 76543 |
| | | | -210L | | 77510 | -211L | | 77543 |
| | | | -211 | | 76511 | | | |
| | | | -211L | | 77511 | | | |

* To complete the abbreviated Acme part numbers in the table above use the prefix "217-0"

For inserts with the following options, add the letter code shown below to the end of the Acme part number:

S - Silver Plate per AMS 2410

SN - Silver Plate Only, No Dry Film Lube (Self-Locking Inserts Only)

DFL - Dry Film Lube (Non-Locking Inserts Only)

K - Self Broaching Keys

See pages 7 - 9 for detailed specifications on Acme part numbers listed above.

MS/NAS Style - A286 CRES Keylocking Threaded Inserts



Cross Reference - Inch

| MINIATURE & LIGHTWEIGHT | | | HEAVY DUTY | | | EXTRA HEAVY DUTY | | |
|-------------------------|---------|-----------|------------|---------|-----------|------------------|-----|-----------|
| MS51830 | NAS1394 | ACME P/N* | MS51831 | NAS1395 | ACME P/N* | MS51832 | NAS | ACME P/N* |
| CA101 | | 78283 | | CA08 | 78300 | CA101 | | 78333 |
| CA101L | | 79283 | | CA08L | 79300 | CA101L | | 79333 |
| CA102 | | 78284 | CA101 | | 78301 | CA102 | | 78334 |
| CA102L | | 79284 | CA101L | | 79301 | CA102L | | 79334 |
| CA103 | | 78285 | CA102 | | 78302 | CA103 | | 78335 |
| CA103L | | 79285 | CA102L | | 79302 | CA103L | | 79335 |
| CA104 | | 78286 | CA103 | | 78303 | CA104 | | 78336 |
| CA104L | | 79286 | CA103L | | 79303 | CA104L | | 79336 |
| CA105 | | 78321 | CA104 | | 78304 | CA105 | | 78337 |
| CA105L | | 79321 | CA104L | | 79304 | CA105L | | 79337 |
| CA106 | | 78322 | CA105 | | 78305 | CA106 | | 78338 |
| CA106L | | 79322 | CA105L | | 79305 | CA106L | | 79338 |
| CA107 | | 78323 | CA106 | | 78306 | CA107 | | 78339 |
| CA107L | | 79323 | CA106L | | 79306 | CA107L | | 79339 |
| CA108 | | 78324 | CA107 | | 78307 | CA108 | | 78340 |
| CA108L | | 79324 | CA107L | | 79307 | CA108L | | 79340 |
| CA109 | | 78325 | CA108 | | 78308 | CA109 | | 78341 |
| CA109L | | 79325 | CA108L | | 79308 | CA109L | | 79341 |
| CA110 | | 78326 | CA109 | | 78309 | CA110 | | 78342 |
| CA110L | | 79326 | CA109L | | 79309 | CA110L | | 79342 |
| CA201 | CA3 | 78521 | CA110 | | 78310 | CA111 | | 78343 |
| CA201L | CA3L | 79521 | CA110L | | 79310 | CA111L | | 79343 |
| CA202 | CA4 | 78522 | CA111 | | 78311 | CA201 | | 78533 |
| CA202L | CA4L | 79522 | CA111L | | 79311 | CA201L | | 79533 |
| CA203 | CA5 | 78523 | CA201 | CA3 | 78501 | CA202 | | 78534 |
| CA203L | CA5L | 79523 | CA201L | CA3L | 79501 | CA202L | | 79534 |
| CA204 | CA6 | 78524 | CA202 | CA4 | 78502 | CA203 | | 78535 |
| CA204L | CA6L | 79524 | CA202L | CA4L | 79502 | CA203L | | 79535 |
| CA205 | CA7 | 78525 | CA203 | CA5 | 78503 | CA204 | | 78536 |
| CA205L | CA7L | 79525 | CA203L | CA5L | 79503 | CA204L | | 79536 |
| CA206 | CA8 | 78526 | CA204 | CA6 | 78504 | CA205 | | 78537 |
| CA206L | CA8L | 79526 | CA204L | CA6L | 79504 | CA205L | | 79537 |
| | | | CA205 | CA7 | 78505 | CA206 | | 78538 |
| | | | CA205L | CA7L | 79505 | CA206L | | 79538 |
| | | | CA206 | CA8 | 78506 | CA207 | | 78539 |
| | | | CA206L | CA8L | 79506 | CA207L | | 79539 |
| | | | CA207 | CA9 | 78507 | CA208 | | 78540 |
| | | | CA207L | CA9L | 79507 | CA208L | | 79540 |
| | | | CA208 | CA10 | 78508 | CA209 | | 78541 |
| | | | CA208L | CA10L | 79508 | CA209L | | 79541 |
| | | | CA209 | | 78509 | CA210 | | 78542 |
| | | | CA209L | | 79509 | CA210L | | 79542 |
| | | | CA210 | | 78510 | CA211 | | 78543 |
| | | | CA210L | | 79510 | CA211L | | 79543 |
| | | | CA211 | | 78511 | | | |
| | | | CA211L | | 79511 | | | |

* To complete the abbreviated Acme part numbers in the table above use the prefix "217-0"

For inserts with the following options, add the letter code shown below to the end of the Acme part number:

S - Silver Plate per AMS 2410

SN - Silver Plate Only, No Dry Film Lube (Self-Locking Inserts Only)

DFL - Dry Film Lube (Non-Locking Inserts Only)

K - Self Broaching Keys

See pages 10 - 12 for detailed specifications on Acme part numbers listed above.



MS/NAS Style - 4140 Alloy Steel Keylocking Threaded Inserts

Cross Reference - Inch

| MINIATURE & LIGHTWEIGHT | | | HEAVY DUTY | | | EXTRA HEAVY DUTY | | |
|-------------------------|---------|-----------|------------|---------|-----------|------------------|-----|-----------|
| MS51830 | NAS1394 | ACME P/N* | MS51831 | NAS1395 | ACME P/N* | MS51832 | NAS | ACME P/N* |
| A101 | | 80283 | | -08 | 80300 | A101 | | 80333 |
| A101L | | 81283 | | -08L | 81300 | A101L | | 81333 |
| A102 | | 80284 | A101 | | 80301 | A102 | | 80334 |
| A102L | | 81284 | A101L | | 81301 | A102L | | 81334 |
| A103 | | 80285 | A102 | | 80302 | A103 | | 80335 |
| A103L | | 81285 | A102L | | 81302 | A103L | | 81335 |
| A104 | | 80286 | A103 | | 80303 | A104 | | 80336 |
| A104L | | 81286 | A103L | | 81303 | A104L | | 81336 |
| A105 | | 80321 | A104 | | 80304 | A105 | | 80337 |
| A105L | | 81321 | A104L | | 81304 | A105L | | 81337 |
| A106 | | 80322 | A105 | | 80305 | A106 | | 80338 |
| A106L | | 81322 | A105L | | 81305 | A106L | | 81338 |
| A107 | | 80323 | A106 | | 80306 | A107 | | 80339 |
| A107L | | 81323 | A106L | | 81306 | A107L | | 81339 |
| A108 | | 80324 | A107 | | 80307 | A108 | | 80340 |
| A108L | | 81324 | A107L | | 81307 | A108L | | 81340 |
| A109 | | 80325 | A108 | | 80308 | A109 | | 80341 |
| A109L | | 81325 | A108L | | 81308 | A109L | | 81341 |
| A110 | | 80326 | A109 | | 80309 | A110 | | 80342 |
| A110L | | 81326 | A109L | | 81309 | A110L | | 81342 |
| A201 | -3 | 80521 | A110 | | 80310 | A111 | | 80343 |
| A201L | -3L | 81521 | A110L | | 81310 | A111L | | 81343 |
| A202 | -4 | 80522 | A111 | | 80311 | A201 | | 80533 |
| A202L | -4L | 81522 | A111L | | 81311 | A201L | | 81533 |
| A203 | -5 | 80523 | A201 | -3 | 80501 | A202 | | 80534 |
| A203L | -5L | 81523 | A201L | -3L | 81501 | A202L | | 81534 |
| A204 | -6 | 80524 | A202 | -4 | 80502 | A203 | | 80535 |
| A204L | -6L | 81524 | A202L | -4L | 81502 | A203L | | 81535 |
| A205 | -7 | 80525 | A203 | -5 | 80503 | A204 | | 80536 |
| A205L | -7L | 81525 | A203L | -5L | 81503 | A204L | | 81536 |
| A206 | -8 | 80526 | A204 | -6 | 80504 | A205 | | 80537 |
| A206L | -8L | 81526 | A204L | -6L | 81504 | A205L | | 81537 |
| | | | A205 | -7 | 80505 | A206 | | 80538 |
| | | | A205L | -7L | 81505 | A206L | | 81538 |
| | | | A206 | -8 | 80506 | A207 | | 80539 |
| | | | A206L | -8L | 81506 | A207L | | 81539 |
| | | | A207 | -9 | 80507 | A208 | | 80540 |
| | | | A207L | -9L | 81507 | A208L | | 81540 |
| | | | A208 | -10 | 80508 | A209 | | 80541 |
| | | | A208L | -10L | 81508 | A209L | | 81541 |
| | | | A209 | | 80509 | A210 | | 80542 |
| | | | A209L | | 81509 | A210L | | 81542 |
| | | | A210 | | 80510 | A211 | | 80543 |
| | | | A210L | | 81510 | A211L | | 81543 |
| | | | A211 | | 80511 | | | |
| | | | A211L | | 81511 | | | |

* To complete the abbreviated Acme part numbers in the table above use the prefix "217-0"

Note: The Acme Part Numbers in the chart above are Cadmium Plated to QQ-P-416 Type II, Class 2.

This meets the requirements for both the MS and NAS specifications.

See pages 13 - 15 for detailed specifications on Acme part numbers listed above.

MS/NAS Style - Metric Keylocking Threaded Inserts



Cross Reference A286 CRES - Metric

| MINIATURE | | | LIGHTWEIGHT | | | HEAVY DUTY | | |
|-----------------|--------|-----------|-----------------|--------|-----------|-----------------|--------|-----------|
| Internal Thread | NA0147 | ACME P/N* | Internal Thread | NA0149 | ACME P/N* | Internal Thread | NA0151 | ACME P/N* |
| MJ 2X0.4 | -020 | 78382 | MJ 5X0.8 | -050 | 78351 | MJ 4x0.7 | -040 | 78363 |
| MJ 2.5X0.45 | -025 | 78383 | MJ 6X1.0 | -060 | 78352 | MJ 5X0.8 | -050 | 78364 |
| MJ 3X0.5 | -030 | 78384 | MJ 8X1.0 | -080 | 78553 | MJ 6X1.0 | -060 | 78365 |
| MJ 4X0.7 | -040 | 78386 | MJ 10X1.25 | -100 | 78555 | MJ 8X1.0 | -080 | 78566 |
| MJ 3X0.5 | E030 | 79384 | MJ 12X1.25 | -120 | 78556 | MJ 10X1.25 | -100 | 78567 |
| MJ 4X0.7 | E040 | 79386 | MJ 5X0.8 | E050 | 79351 | MJ 12X1.25 | -120 | 78569 |
| | | | MJ 6X1.0 | E060 | 79352 | MJ 14X1.5 | -140 | 78570 |
| | | | MJ 8X1.0 | E080 | 79553 | MJ 16X1.5 | -160 | 78571 |
| | | | MJ 10X1.25 | E100 | 79555 | MJ 18X1.5 | -180 | 78572 |
| | | | MJ 12X1.25 | E120 | 79556 | MJ 20X1.5 | -200 | 78573 |
| | | | | | | MJ 22X1.5 | -220 | 78574 |
| | | | | | | MJ 24X2.0 | -240 | 78575 |
| | | | | | | MJ 4X0.7 | E040 | 79363 |
| | | | | | | MJ 5X0.8 | E050 | 79364 |
| | | | | | | MJ 6X1.0 | E060 | 79365 |
| | | | | | | MJ 8X1.0 | E080 | 79566 |
| | | | | | | MJ 10X1.25 | E100 | 79567 |
| | | | | | | MJ 12X1.25 | E120 | 79569 |
| | | | | | | MJ 14X1.5 | E140 | 79570 |
| | | | | | | MJ 16X1.5 | E160 | 79571 |
| | | | | | | MJ 18X1.5 | E180 | 79572 |
| | | | | | | MJ 20X1.5 | E200 | 79573 |
| | | | | | | MJ 22X1.5 | E220 | 79574 |
| | | | | | | MJ 24X2.0 | E240 | 79575 |

* To complete the abbreviated Acme part numbers in the table above use the prefix "217-0"

See pages 18 & 19 for detailed specifications on Acme part numbers listed above.

Cross Reference 4140 Alloy Steel - Metric

| MINIATURE | | | LIGHTWEIGHT | | | HEAVY DUTY | | |
|-----------------|--------|-----------|-----------------|--------|-----------|-----------------|--------|-----------|
| Internal Thread | NA0146 | ACME P/N* | Internal Thread | NA0148 | ACME P/N* | Internal Thread | NA0150 | ACME P/N* |
| MJ 2X0.4 | -020 | 80382 | MJ 5X0.8 | -050 | 80351 | MJ 4x0.7 | -040 | 80363 |
| MJ 2.5X0.45 | -025 | 80383 | MJ 6X1.0 | -060 | 80352 | MJ 5X0.8 | -050 | 80364 |
| MJ 3X0.5 | -030 | 80384 | MJ 8X1.0 | -080 | 80553 | MJ 6X1.0 | -060 | 80365 |
| MJ 4X0.7 | -040 | 80386 | MJ 10X1.25 | -100 | 80555 | MJ 8X1.0 | -080 | 80566 |
| MJ 3X0.5 | E030 | 81384 | MJ 12X1.25 | -120 | 80556 | MJ 10X1.25 | -100 | 80567 |
| MJ 4X0.7 | E040 | 81386 | MJ 5X0.8 | E050 | 81351 | MJ 12X1.25 | -120 | 80569 |
| | | | MJ 6X1.0 | E060 | 81352 | MJ 14X1.5 | -140 | 80570 |
| | | | MJ 8X1.0 | E080 | 81553 | MJ 16X1.5 | -160 | 80571 |
| | | | MJ 10X1.25 | E100 | 81555 | MJ 18X1.5 | -180 | 80572 |
| | | | MJ 12X1.25 | E120 | 81556 | MJ 20X1.5 | -200 | 80573 |
| | | | | | | MJ 22X1.5 | -220 | 80574 |
| | | | | | | MJ 24X2.0 | -240 | 80575 |
| | | | | | | MJ 4X0.7 | E040 | 81363 |
| | | | | | | MJ 5X0.8 | E050 | 81364 |
| | | | | | | MJ 6X1.0 | E060 | 81365 |
| | | | | | | MJ 8X1.0 | E080 | 81566 |
| | | | | | | MJ 10X1.25 | E100 | 81567 |
| | | | | | | MJ 12X1.25 | E120 | 81569 |
| | | | | | | MJ 14X1.5 | E140 | 81570 |
| | | | | | | MJ 16X1.5 | E160 | 81571 |
| | | | | | | MJ 18X1.5 | E180 | 81572 |
| | | | | | | MJ 20X1.5 | E200 | 81573 |
| | | | | | | MJ 22X1.5 | E220 | 81574 |
| | | | | | | MJ 24X2.0 | E240 | 81575 |

* To complete the abbreviated Acme part numbers in the table above use the prefix "217-0"

See pages 20 - 21 for detailed specifications on Acme part numbers listed above.



MS/NAS Style - 303 CRES Keylocking Threaded Inserts

Material: Inserts - 303 CRES
Keys - 302 CRES

Finish: Passivated

Tolerances: ± 0.010 inch unless specified otherwise

Internal Threads: Per SAE AS8879

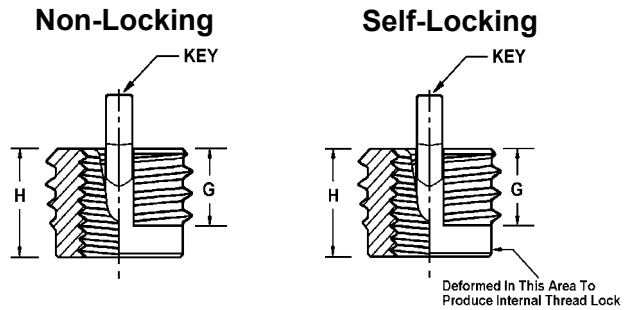
Dimensions: All dimensions below are in inches

Keys: Miniature Inserts are furnished with 2 locking keys

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51830)



Miniature - Inch (See Page 3 for MS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|--------------------------|--------------------------|-----------------|----------|------------------------|--------------------------------|-------------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread Class 2A | G Thread Length | H Length | Install Tool Part No.* | Tap Drill Size $+0.03$ -0.01 | C'Sink Dia. $+0.010$ -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 76283 | 77283 | 2 - 56 | 8 - 32 | .090 | .120 | 72552 | .134 | .166 | 8 - 32 | .140 | #33 | 1/16 |
| 76284 | 77284 | 4 - 40 | 10 - 32 | .125 | .170 | 72554 | .161 | .194 | 10 - 32 | .160 | #29 | 3/32 |
| 76285 | 77285 | 6 - 32 | 12 - 28 | .125 | .170 | 72556 | .187 | .220 | 12 - 28 | .160 | #21 | 3/32 |
| 76286 | 77286 | 8 - 32 | 1/4 - 28† | .175 | .220 | 72558 | .228 | .255 | 1/4 - 28 | .210 | #8 | 1/8 |

* To complete the abbreviated part number in the table above use the prefix "217-0"

† Modified Minor Diameter

Material: Inserts - 303 CRES
Keys - 302 CRES

Finish: Passivated

Tolerances: ± 0.010 inch unless specified otherwise.

Internal Threads: Per SAE AS8879

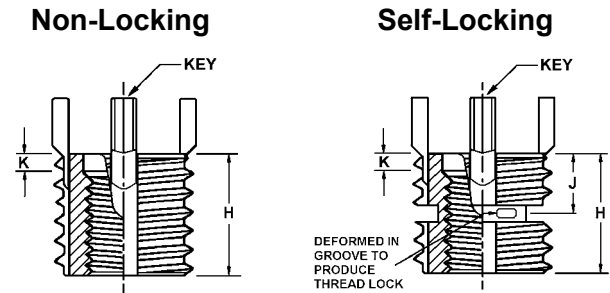
Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 5/16 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51830 & NAS1394)



Lightweight - Inch (See Page 3 for MS/NAS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|--------------------------|---------------------------------|----------|--------------|----------------|------------------------|-----------------------------|-------------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread (Mod.) Class 2A | H Length | J $\pm .030$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+0.010$ -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 76321 | 77321 | 10 - 24 | 5/16 - 18 | .312 | .22 | .07 | 72568 | .272 | .323 | 5/16 - 18 | .37 | 7/32 | 5/32 |
| 76521 | 77521 | 10 - 32 | | | | | 72569 | | | | | | |
| 76322 | 77322 | 1/4 - 20 | 3/8 - 16 | .375 | .22 | .07 | 72570 | .332 | .385 | 3/8 - 16 | .43 | 9/32 | 3/16 |
| 76522 | 77522 | 1/4 - 28 | | | | | 72571 | | | | | | |
| 76323 | 77323 | 5/16 - 18 | 7/16 - 14 | .437 | .22 | .07 | 72572 | .397 | .447 | 7/16 - 14 | .50 | 11/32 | 3/16 |
| 76523 | 77523 | 5/16 - 24 | | | | | 72573 | | | | | | |
| 76324 | 77324 | 3/8 - 16 | 1/2 - 13 | .500 | .24 | .07 | 72574 | .453 | .510 | 1/2 - 13 | .56 | 13/32 | 3/16 |
| 76524 | 77524 | 3/8 - 24 | | | | | 72575 | | | | | | |
| 76325 | 77325 | 7/16 - 14 | 9/16 - 12 | .562 | .27 | .07 | 72576 | .516 | .572 | 9/16 - 12 | .62 | 15/32 | 3/16 |
| 76525 | 77525 | 7/16 - 20 | | | | | 72577 | | | | | | |
| 76326 | 77326 | 1/2 - 13 | 5/8 - 11 | .625 | .28 | .07 | 72578 | .578 | .635 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| 76526 | 77526 | 1/2 - 20 | | | | | 72579 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "217-0"

¹ Tap Drill Hole Tolerance: .234 to .500 = $+0.004/-0.001$
Over .500 = $+0.005/-0.001$

MS/NAS Style - 303 CRES Keylocking Threaded Inserts



Material: Inserts - 303 CRES
Keys - 302 CRES

Finish: Passivated

Tolerances: ±.010 inch unless specified otherwise.

Internal Threads: Per SAE AS8879

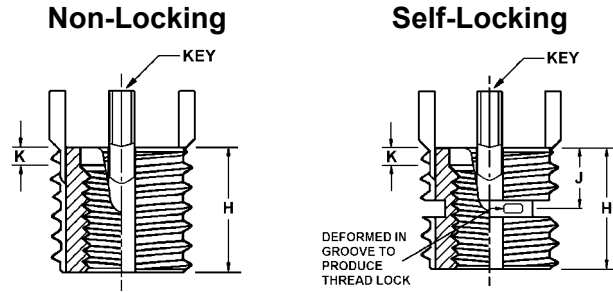
Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 5/16 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51831 & NAS1395)



Heavy Duty - Inch (See Page 3 for MS/NAS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|--------------------------|---------------------------------|----------|---------|----------------|------------------------|-----------------------------|--------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread (Mod.) Class 2A | H Length | J ±.030 | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. +.010 -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 76300 | 77300 | 8 - 32 | 5/16 - 18 | .312 | .22 | .04 | 72590 | .272 | .323 | 5/16 - 18 | .37 | 7/32 | 1/8 |
| 76301 | 77301 | 10 - 24 | 3/8 - 16 | .312 | .22 | .07 | 72591 | .332 | .385 | 3/8 - 16 | .37 | 9/32 | 1/8 |
| 76501 | 77501 | 10 - 32 | | | | | 72592 | | | | | | |
| 76302 | 77302 | 1/4 - 20 | 7/16 - 14 | .375 | .22 | .07 | 72593 | .397 | .447 | 7/16 - 14 | .43 | 11/32 | 3/16 |
| 76502 | 77502 | 1/4 - 28 | | | | | 72594 | | | | | | |
| 76303 | 77303 | 5/16 - 18 | 1/2 - 13 | .437 | .22 | .07 | 72595 | .453 | .510 | 1/2 - 13 | .50 | 13/32 | 3/16 |
| 76503 | 77503 | 5/16 - 24 | | | | | 72596 | | | | | | |
| 76304 | 77304 | 3/8 - 16 | 9/16 - 12 | .500 | .25 | .07 | 72597 | .516 | .572 | 9/16 - 12 | .56 | 15/32 | 3/16 |
| 76504 | 77504 | 3/8 - 24 | | | | | 72598 | | | | | | |
| 76305 | 77305 | 7/16 - 14 | 5/8 - 11 | .625 | .28 | .10 | 72599 | .578 | .635 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| 76505 | 77505 | 7/16 - 20 | | | | | 72600 | | | | | | |
| 76306 | 77306 | 1/2 - 13 | 11/16-11 NS | .688 | .28 | .10 | 72601 | .641 | .700 | 11/16-11 NS | .75 | 19/32 | 3/16 |
| 76506 | 77506 | 1/2 - 20 | | | | | 72602 | | | | | | |
| 76307 | 77307 | 9/16 - 12 | 13/16 - 16 | .812 | .32 | .10 | 72603 | .766 | .822 | 13/16-16 | .94 | 23/32 | 3/16 |
| 76507 | 77507 | 9/16 - 18 | | | | | 72604 | | | | | | |
| 76308 | 77308 | 5/8 - 11 | 7/8 - 14 | .875 | .33 | .10 | 72605 | .828 | .885 | 7/8 - 14 | 1.00 | 25/32 | 3/16 |
| 76508 | 77508 | 5/8 - 18 | | | | | 72606 | | | | | | |
| 76309 | - | 3/4 - 10 | 1-1/8 - 12 | 1.125 | - | .10 | 72607 | 1.062 | 1.145 | 1-1/8 - 12 | 1.31 | 31/32 | 5/16 |
| 76509 | - | 3/4 - 16 | | | | | 72608 | | | | | | |
| - | 77309 | 3/4 - 10 | | | | | 72607 | | | | | | |
| - | 77509 | 3/4 - 16 | | | | | 72608 | | | | | | |
| 76310 | - | 7/8 - 9 | 1-1/4 - 12 | 1.250 | - | .10 | 72609 | 1.187 | 1.270 | 1-1/4 - 12 | 1.44 | 1-3/32 | 5/16 |
| 76510 | - | 7/8 - 14 | | | | | 72610 | | | | | | |
| - | 77310 | 7/8 - 9 | | | | | 72609 | | | | | | |
| - | 77510 | 7/8 - 14 | | | | | 72610 | | | | | | |
| 76311 | - | 1" - 8 | 1-3/8 - 12 | 1.375 | - | .10 | 72611 | 1.312 | 1.395 | 1-3/8 - 12 | 1.56 | 1-7/32 | 5/16 |
| 76511 | - | 1" - 12 | | | | | 72612 | | | | | | |
| - | 77311 | 1" - 8 | | | | | 72611 | | | | | | |
| - | 77511 | 1" - 12 | | | | | 72612 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "217-0"

¹ Tap Drill Hole Tolerance:
.234 to .500 = +.004/-0.001
Over .500 = +.005/-0.001



MS/NAS Style - 303 CRES Keylocking Threaded Inserts

Material: Inserts - 303 CRES
Keys - 302 CRES

Finish: Passivated

Tolerances: ± 0.010 inch unless specified otherwise.

Internal Threads: Per SAE AS8879

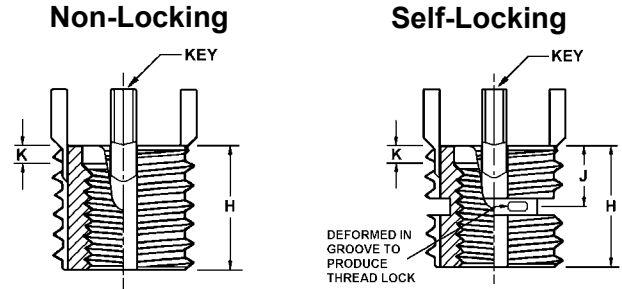
Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 1/4 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51832)



Extra Heavy Duty - Inch (See Page 3 for MS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | REMOVAL | | |
|--------------|--------------|--------------------------|---------------------------------|----------|--------------|----------------|------------------------|-----------------------------|-------------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread (Mod.) Class 2A | H Length | J $\pm .030$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+0.010$ -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 76333 | 77333 | 10 - 24 | 7/16 - 14 | .312 | .22 | .07 | 72628 | .397 | .447 | 7/16 - 14 | .37 | 11/32 | 3/16 |
| 76533 | 77533 | 10 - 32 | | | | | 72629 | | | | | | |
| 76334 | 77334 | 1/4 - 20 | 1/2 - 13 | .375 | .22 | .07 | 72630 | .453 | .510 | 1/2 - 13 | .44 | 13/32 | 3/16 |
| 76534 | 77534 | 1/4 - 28 | | | | | 72631 | | | | | | |
| 76335 | 77335 | 5/16 - 18 | 9/16 - 12 | .437 | .22 | .07 | 72632 | .516 | .572 | 9/16 - 12 | .50 | 15/32 | 3/16 |
| 76535 | 77535 | 5/16 - 24 | | | | | 72633 | | | | | | |
| 76336 | 77336 | 3/8 - 16 | 5/8 - 11 | .500 | .25 | .07 | 72634 | .578 | .635 | 5/8 - 11 | .56 | 17/32 | 3/16 |
| 76536 | 77536 | 3/8 - 24 | | | | | 72635 | | | | | | |
| 76337 | 77337 | 7/16 - 14 | 11/16-11 NS | .625 | .28 | .10 | 72636 | .641 | .700 | 11/16-11 NS | .68 | 19/32 | 3/16 |
| 76537 | 77537 | 7/16 - 20 | | | | | 72637 | | | | | | |
| 76338 | 77338 | 1/2 - 13 | 13/16 - 16 | .688 | .28 | .10 | 72638 | .766 | .822 | 13/16-16 | .75 | 23/32 | 3/16 |
| 76538 | 77538 | 1/2 - 20 | | | | | 72639 | | | | | | |
| 76339 | 77339 | 9/16 - 12 | 7/8 - 14 | .812 | .32 | .10 | 72640 | .828 | .885 | 7/8 - 14 | .94 | 25/32 | 3/16 |
| 76539 | 77539 | 9/16 - 18 | | | | | 72641 | | | | | | |
| 76340 | 77340 | 5/8 - 11 | 1" - 12 | .875 | .33 | .10 | 72642 | .937 | 1.020 | 1" - 12 | 1.00 | 27/32 | 5/16 |
| 76540 | 77540 | 5/8 - 18 | | | | | 72643 | | | | | | |
| 76341 | - | 3/4 - 10 | 1-1/4 - 12 | 1.125 | - | .10 | 72644 | 1.187 | 1.270 | 1-1/4 - 12 | 1.31 | 1-3/32 | 5/16 |
| 76541 | - | 3/4 - 16 | | | | | 72645 | | | | | | |
| - | 77341 | 3/4 - 10 | | | | | 72644 | | | | | | |
| - | 77541 | 3/4 - 16 | | | | | 72645 | | | | | | |
| 76342 | - | 7/8 - 9 | 1-3/8 - 12 | 1.250 | - | .10 | 72646 | 1.312 | 1.395 | 1-3/8 - 12 | 1.44 | 1-7/32 | 5/16 |
| 76542 | - | 7/8 - 14 | | | | | 72647 | | | | | | |
| - | 77342 | 7/8 - 9 | | | | | 72646 | | | | | | |
| - | 77542 | 7/8 - 14 | | | | | 72647 | | | | | | |
| 76343 | - | 1" - 8 | 1-1/2 - 12 | 1.375 | - | .10 | 72648 | 1.437 | 1.520 | 1-1/2 - 12 | 1.56 | 1-11/32 | 5/16 |
| 76543 | - | 1" - 12 | | | | | 72649 | | | | | | |
| - | 77343 | 1" - 8 | | | | | 72648 | | | | | | |
| - | 77543 | 1" - 12 | | | | | 72649 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "217-0"

¹ Tap Drill Hole Tolerance:
.234 to .500 = $+0.004/-0.001$
Over .500 = $+0.005/-0.001$

MS/NAS Style - A286 CRES Keylocking Threaded Inserts



Material: Inserts - A286 CRES (140 KSI Min)
Keys - 302 CRES

Finish: Passivated

Tolerances: ±.010 inch unless specified otherwise

Internal Threads: Per SAE AS8879

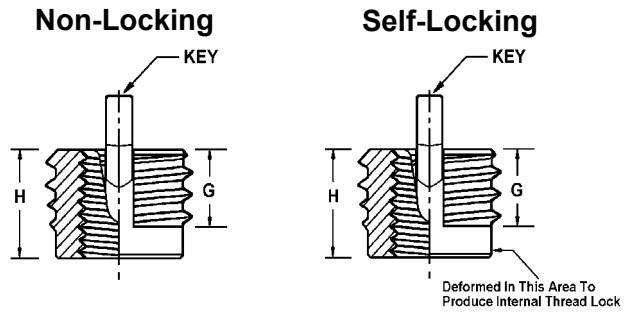
Dimensions: All dimensions below are in inches

Keys: Miniature Inserts are furnished with 2 locking keys

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51830)



Miniature - Inch (See Page 4 for MS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | INSTALLATION | | | | REMOVAL | | |
|--------------|--------------|--------------------------|--------------------------|-----------------|----------|------------------------|----------------------------------|-------------------------------|---------------|------------|-------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread Class 2A | G Thread Length | H Length | Install Tool Part No.* | Tap Drill Size $+0.003$ -0.001 | C'Sink Dia. $+0.010$ -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 78283 | 79283 | 2 - 56 | 8 - 32 | .090 | .120 | 72552 | .134 | .166 | 8 - 32 | .140 | #33 | 1/16 |
| 78284 | 79284 | 4 - 40 | 10 - 32 | .125 | .170 | 72554 | .161 | .194 | 10 - 32 | .160 | #29 | 3/32 |
| 78285 | 79285 | 6 - 32 | 12 - 28 | .125 | .170 | 72556 | .187 | .220 | 12 - 28 | .160 | #21 | 3/32 |
| 78286 | 79286 | 8 - 32 | 1/4 - 28† | .175 | .220 | 72558 | .228 | .255 | 1/4 - 28 | .210 | #8 | 1/8 |

* To complete the abbreviated part number in the table above use the prefix "217-0"

† Modified Minor Diameter

Material: Inserts - A286 CRES (140 KSI Min)
Keys - 302 CRES

Finish: Passivated

Tolerances: ±.010 inch unless specified otherwise.

Internal Threads: Per SAE AS8879

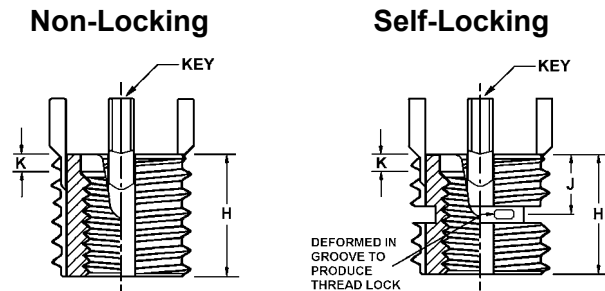
Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 5/16 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: One line on top of Insert

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51830 & NAS1394)



Lightweight - Inch (See Page 4 for MS/NAS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | REMOVAL | | |
|--------------|--------------|--------------------------|---------------------------------|----------|----------|----------------|------------------------|-----------------------------|-------------------------------|---------------|------------|-------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread (Mod.) Class 2A | H Length | J ± .030 | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+0.010$ -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 78321 | 79321 | 10 - 24 | 5/16 - 18 | .312 | .22 | .07 | 72568 | .272 | .323 | 5/16 - 18 | .37 | 7/32 | 5/32 |
| 78521 | 79521 | 10 - 32 | | | | | 72569 | | | | | | |
| 78322 | 79322 | 1/4 - 20 | 3/8 - 16 | .375 | .22 | .07 | 72570 | .332 | .385 | 3/8 - 16 | .43 | 9/32 | 3/16 |
| 78522 | 79522 | 1/4 - 28 | | | | | 72571 | | | | | | |
| 78323 | 79323 | 5/16 - 18 | 7/16 - 14 | .437 | .22 | .07 | 72572 | .397 | .447 | 7/16 - 14 | .50 | 11/32 | 3/16 |
| 78523 | 79523 | 5/16 - 24 | | | | | 72573 | | | | | | |
| 78324 | 79324 | 3/8 - 16 | 1/2 - 13 | .500 | .24 | .07 | 72574 | .453 | .510 | 1/2 - 13 | .56 | 13/32 | 3/16 |
| 78524 | 79524 | 3/8 - 24 | | | | | 72575 | | | | | | |
| 78325 | 79325 | 7/16 - 14 | 9/16 - 12 | .562 | .27 | .07 | 72576 | .516 | .572 | 9/16 - 12 | .62 | 15/32 | 3/16 |
| 78525 | 79525 | 7/16 - 20 | | | | | 72577 | | | | | | |
| 78326 | 79326 | 1/2 - 13 | 5/8 - 11 | .625 | .28 | .07 | 72578 | .578 | .635 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| 78526 | 79526 | 1/2 - 20 | | | | | 72579 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "217-0"

¹ Tap Drill Hole Tolerance: .234 to .500 = +.004/- .001
Over .500 = +.005/- .001



MS/NAS Style - A286 CRES Keylocking Threaded Inserts

Material: Inserts - A286 CRES (140 KSI Min)
Keys - 302 CRES

Finish: Passivated

Tolerances: ±.010 inch unless specified otherwise.

Internal Threads: Per SAE AS8879

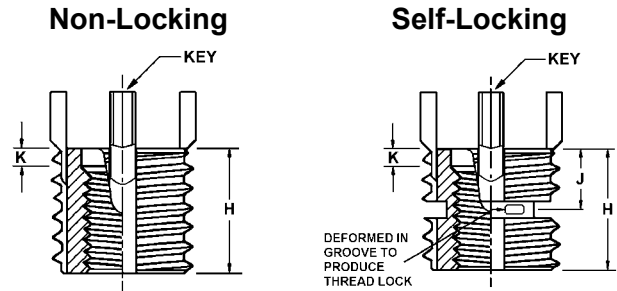
Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 5/16 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: One line on top of Insert

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51831 & NAS1395)



Heavy Duty - Inch (See Page 4 for MS/NAS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | REMOVAL | | |
|--------------|--------------|--------------------------|---------------------------------|----------|----------|----------------|-------------------------|-----------------------------|--------------------------|---------------|------------|--------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread (Mod.) Class 2A | H Length | J ± .030 | K C'Bore Depth | Install Tool Part No. * | Tap Drill Size ¹ | C'Sink Dia. +.010 -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 78300 | 79300 | 8 - 32 | 5/16 - 18 | .312 | .22 | .04 | 72590 | .272 | .323 | 5/16 - 18 | .37 | 7/32 | 1/8 |
| 78301 | 79301 | 10 - 24 | 3/8 - 16 | .312 | .22 | .07 | 72591 | .332 | .385 | 3/8 - 16 | .37 | 9/32 | 1/8 |
| 78501 | 79501 | 10 - 32 | | | | | 72592 | | | | | | |
| 78302 | 79302 | 1/4 - 20 | 7/16 - 14 | .375 | .22 | .07 | 72593 | .397 | .447 | 7/16 - 14 | .43 | 11/32 | 3/16 |
| 78502 | 79502 | 1/4 - 28 | | | | | 72594 | | | | | | |
| 78303 | 79303 | 5/16 - 18 | 1/2 - 13 | .437 | .22 | .07 | 72595 | .453 | .510 | 1/2 - 13 | .50 | 13/32 | 3/16 |
| 78503 | 79503 | 5/16 - 24 | | | | | 72596 | | | | | | |
| 78304 | 79304 | 3/8 - 16 | 9/16 - 12 | .500 | .25 | .07 | 72597 | .516 | .572 | 9/16 - 12 | .56 | 15/32 | 3/16 |
| 78504 | 79504 | 3/8 - 24 | | | | | 72598 | | | | | | |
| 78305 | 79305 | 7/16 - 14 | 5/8 - 11 | .625 | .28 | .10 | 72599 | .578 | .635 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| 78505 | 79505 | 7/16 - 20 | | | | | 72600 | | | | | | |
| 78306 | 79306 | 1/2 - 13 | 11/16-11 NS | .688 | .28 | .10 | 72601 | .641 | .700 | 11/16-11 NS | .75 | 19/32 | 3/16 |
| 78506 | 79506 | 1/2 - 20 | | | | | 72602 | | | | | | |
| 78307 | 79307 | 9/16 - 12 | 13/16 - 16 | .812 | .32 | .10 | 72603 | .766 | .822 | 13/16-16 | .94 | 23/32 | 3/16 |
| 78507 | 79507 | 9/16 - 18 | | | | | 72604 | | | | | | |
| 78308 | 79308 | 5/8 - 11 | 7/8 - 14 | .875 | .33 | .10 | 72605 | .828 | .885 | 7/8 - 14 | 1.00 | 25/32 | 3/16 |
| 78508 | 79508 | 5/8 - 18 | | | | | 72606 | | | | | | |
| 78309 | - | 3/4 - 10 | 1-1/8 - 12 | 1.125 | - | .10 | 72607 | 1.062 | 1.145 | 1-1/8 - 12 | 1.31 | 31/32 | 5/16 |
| 78509 | - | 3/4 - 16 | | | | | 72608 | | | | | | |
| - | 79309 | 3/4 - 10 | | | | | 72607 | | | | | | |
| - | 79509 | 3/4 - 16 | | | | | 72608 | | | | | | |
| 78310 | - | 7/8 - 9 | 1-1/4 - 12 | 1.250 | - | .10 | 72609 | 1.187 | 1.270 | 1-1/4 - 12 | 1.44 | 1-3/32 | 5/16 |
| 78510 | - | 7/8 - 14 | | | | | 72610 | | | | | | |
| - | 79310 | 7/8 - 9 | | | | | 72609 | | | | | | |
| - | 79510 | 7/8 - 14 | | | | | 72610 | | | | | | |
| 78311 | - | 1" - 8 | 1-3/8 - 12 | 1.375 | - | .10 | 72611 | 1.312 | 1.395 | 1-3/8 - 12 | 1.56 | 1-7/32 | 5/16 |
| 78511 | - | 1" - 12 | | | | | 72612 | | | | | | |
| - | 79311 | 1" - 8 | | | | | 72611 | | | | | | |
| - | 79511 | 1" - 12 | | | | | 72612 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "217-0"

¹ Tap Drill Hole Tolerance:
.234 to .500 = +.004/-0.001
Over .500 = +.005/-0.001

MS/NAS Style - A286 CRES Keylocking Threaded Inserts



Material: Inserts - A286 CRES (140 KSI Min)
Keys - 302 CRES

Finish: Passivated

Tolerances: ±.010 inch unless specified otherwise.

Internal Threads: Per SAE AS8879

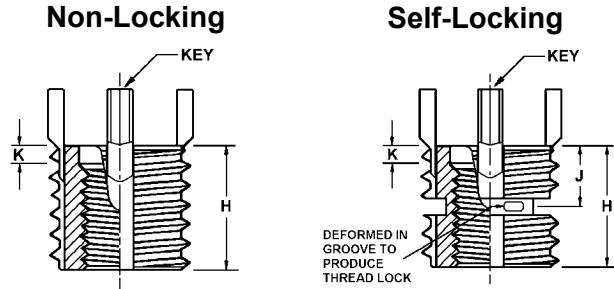
Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 1/4 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: One line on top of Insert

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51832)



Extra Heavy Duty - Inch (See Page 4 for MS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|--------------------------|---------------------------------|----------|---------|----------------|------------------------|-----------------------------|----------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread (Mod.) Class 2A | H Length | J ±.030 | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. +.010 -.000 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 78333 | 79333 | 10 - 24 | 7/16 - 14 | .312 | .22 | .07 | 72628 | .397 | .447 | 7/16 - 14 | .37 | 11/32 | 3/16 |
| 78533 | 79533 | 10 - 32 | | | | | 72629 | | | | | | |
| 78334 | 79334 | 1/4 - 20 | 1/2 - 13 | .375 | .22 | .07 | 72630 | .453 | .510 | 1/2 - 13 | .44 | 13/32 | 3/16 |
| 78534 | 79534 | 1/4 - 28 | | | | | 72631 | | | | | | |
| 78335 | 79335 | 5/16 - 18 | 9/16 - 12 | .437 | .22 | .07 | 72632 | .516 | .572 | 9/16 - 12 | .50 | 15/32 | 3/16 |
| 78535 | 79535 | 5/16 - 24 | | | | | 72633 | | | | | | |
| 78336 | 79336 | 3/8 - 16 | 5/8 - 11 | .500 | .25 | .07 | 72634 | .578 | .635 | 5/8 - 11 | .56 | 17/32 | 3/16 |
| 78536 | 79536 | 3/8 - 24 | | | | | 72635 | | | | | | |
| 78337 | 79337 | 7/16 - 14 | 11/16-11 NS | .625 | .28 | .10 | 72636 | .641 | .700 | 11/16-11 NS | .68 | 19/32 | 3/16 |
| 78537 | 79537 | 7/16 - 20 | | | | | 72637 | | | | | | |
| 78338 | 79338 | 1/2 - 13 | 13/16 - 16 | .688 | .28 | .10 | 72638 | .766 | .822 | 13/16-16 | .75 | 23/32 | 3/16 |
| 78538 | 79538 | 1/2 - 20 | | | | | 72639 | | | | | | |
| 78339 | 79339 | 9/16 - 12 | 7/8 - 14 | .812 | .32 | .10 | 72640 | .828 | .885 | 7/8 - 14 | .94 | 25/32 | 3/16 |
| 78539 | 79539 | 9/16 - 18 | | | | | 72641 | | | | | | |
| 78340 | 79340 | 5/8 - 11 | 1" - 12 | .875 | .33 | .10 | 72642 | .937 | 1.020 | 1" - 12 | 1.00 | 27/32 | 5/16 |
| 78540 | 79540 | 5/8 - 18 | | | | | 72643 | | | | | | |
| 78341 | - | 3/4 - 10 | 1-1/4 - 12 | 1.125 | - | .10 | 72644 | 1.187 | 1.270 | 1-1/4 - 12 | 1.31 | 1-3/32 | 5/16 |
| 78541 | - | 3/4 - 16 | | | | | 72645 | | | | | | |
| - | 79341 | 3/4 - 10 | | | | | 72644 | | | | | | |
| - | 79541 | 3/4 - 16 | | | | | 72645 | | | | | | |
| 78342 | - | 7/8 - 9 | 1-3/8 - 12 | 1.250 | - | .10 | 72646 | 1.312 | 1.395 | 1-3/8 - 12 | 1.44 | 1-7/32 | 5/16 |
| 78542 | - | 7/8 - 14 | | | | | 72647 | | | | | | |
| - | 79342 | 7/8 - 9 | | | | | 72646 | | | | | | |
| - | 79542 | 7/8 - 14 | | | | | 72647 | | | | | | |
| 78343 | - | 1" - 8 | 1-1/2 - 12 | 1.375 | - | .10 | 72648 | 1.437 | 1.520 | 1-1/2 - 12 | 1.56 | 1-11/32 | 5/16 |
| 78543 | - | 1" - 12 | | | | | 72649 | | | | | | |
| - | 79343 | 1" - 8 | | | | | 72648 | | | | | | |
| - | 79543 | 1" - 12 | | | | | 72649 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "217-0"

¹ Tap Drill Hole Tolerance:
.234 to .500 = +.004/- .001
Over .500 = +.005/- .001



MS/NAS Style - 4140 Alloy Steel Keylocking Threaded Inserts

Material: Inserts - 4140 Alloy Steel (160 KSI Min)
Keys - 302 CRES

Finish: Cadmium Plate (QQ-P-416 Type II, Cl. 2)

Tolerances: ±.010 inch unless specified otherwise

Internal Threads: Per SAE AS8879

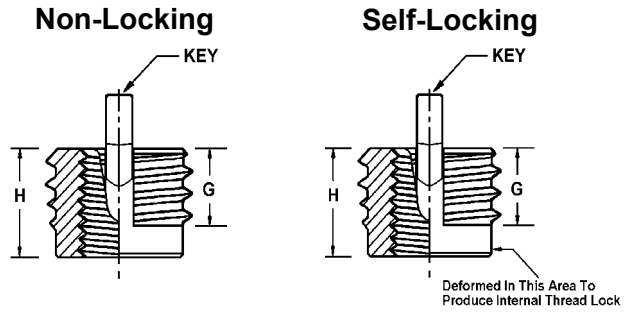
Dimensions: All dimensions below are in inches

Keys: Miniature Inserts are furnished with 2 locking keys

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51830)



Miniature - Inch (See Page 5 for MS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|--------------------------|--------------------------|-----------------|----------|------------------------|-------------------------------------|----------------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread Class 2A | G Thread Length | H Length | Install Tool Part No.* | Tap Drill Size $+0.003$ -0.001 | C'Sink Dia. $+0.010$ -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 80283 | 81283 | 2 - 56 | 8 - 32 | .090 | .120 | 72552 | .134 | .166 | 8 - 32 | .140 | #33 | 1/16 |
| 80284 | 81284 | 4 - 40 | 10 - 32 | .125 | .170 | 72554 | .161 | .194 | 10 - 32 | .160 | #29 | 3/32 |
| 80285 | 81285 | 6 - 32 | 12 - 28 | .125 | .170 | 72556 | .187 | .220 | 12 - 28 | .160 | #21 | 3/32 |
| 80286 | 81286 | 8 - 32 | 1/4 - 28† | .175 | .220 | 72558 | .228 | .255 | 1/4 - 28 | .210 | #8 | 1/8 |

* To complete the abbreviated part number in the table above use the prefix "217-0"

† Modified Minor Diameter

Material: Inserts - 4140 Alloy Steel (160 KSI Min)
Keys - 302 CRES

Finish: Cadmium Plate (QQ-P-416 Type II, Cl. 2)

Tolerances: ±.010 inch unless specified otherwise.

Internal Threads: Per SAE AS8879

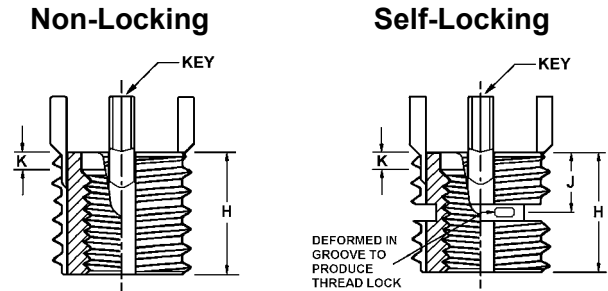
Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 5/16 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: Two lines on top of Insert

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51830 & NAS1394)



Lightweight - Inch (See Page 5 for MS/NAS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|--------------------------|---------------------------------|----------|---------|----------------|------------------------|-----------------------------|----------------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread (Mod.) Class 2A | H Length | J ±.030 | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+0.010$ -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 80321 | 81321 | 10 - 24 | 5/16 - 18 | .312 | .22 | .07 | 72568 | .272 | .323 | 5/16 - 18 | .37 | 7/32 | 5/32 |
| 80521 | 81521 | 10 - 32 | | | | | 72569 | | | | | | |
| 80322 | 81322 | 1/4 - 20 | 3/8 - 16 | .375 | .22 | .07 | 72570 | .332 | .385 | 3/8 - 16 | .43 | 9/32 | 3/16 |
| 80522 | 81522 | 1/4 - 28 | | | | | 72571 | | | | | | |
| 80323 | 81323 | 5/16 - 18 | 7/16 - 14 | .437 | .22 | .07 | 72572 | .397 | .447 | 7/16 - 14 | .50 | 11/32 | 3/16 |
| 80523 | 81523 | 5/16 - 24 | | | | | 72573 | | | | | | |
| 80324 | 81324 | 3/8 - 16 | 1/2 - 13 | .500 | .24 | .07 | 72574 | .453 | .510 | 1/2 - 13 | .56 | 13/32 | 3/16 |
| 80524 | 81524 | 3/8 - 24 | | | | | 72575 | | | | | | |
| 80325 | 81325 | 7/16 - 14 | 9/16 - 12 | .562 | .27 | .07 | 72576 | .516 | .572 | 9/16 - 12 | .62 | 15/32 | 3/16 |
| 80525 | 81525 | 7/16 - 20 | | | | | 72577 | | | | | | |
| 80326 | 81326 | 1/2 - 13 | 5/8 - 11 | .625 | .28 | .07 | 72578 | .578 | .635 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| 80526 | 81526 | 1/2 - 20 | | | | | 72579 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "217-0"

¹ Tap Drill Hole Tolerance: .234 to .500 = +.004/- .001
Over .500 = +.005/- .001

MS/NAS Style - 4140 Alloy Steel Keylocking Threaded Inserts



Material: Inserts - 4140 Alloy Steel (160 KSI Min)
Keys - 302 CRES

Finish: Cadmium Plate (QQ-P-416 Type II, Cl. 2)

Tolerances: ±.010 inch unless specified otherwise.

Internal Threads: Per SAE AS8879

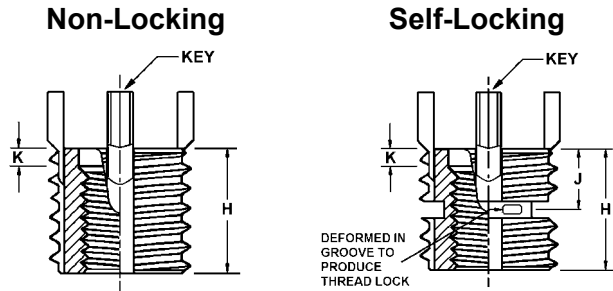
Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 5/16 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: Two lines on top of Insert

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51831 & NAS1395)



Heavy Duty - Inch (See Page 5 for MS/NAS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|--------------------------|---------------------------------|----------|---------|----------------|------------------------|-----------------------------|--------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread (Mod.) Class 2A | H Length | J ±.030 | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. +.010 -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 80300 | 81300 | 8 - 32 | 5/16 - 18 | .312 | .22 | .04 | 72590 | .272 | .323 | 5/16 - 18 | .37 | 7/32 | 1/8 |
| 80301 | 81301 | 10 - 24 | 3/8 - 16 | .312 | .22 | .07 | 72591 | .332 | .385 | 3/8 - 16 | .37 | 9/32 | 1/8 |
| 80501 | 81501 | 10 - 32 | | | | | 72592 | | | | | | |
| 80302 | 81302 | 1/4 - 20 | 7/16 - 14 | .375 | .22 | .07 | 72593 | .397 | .447 | 7/16 - 14 | .43 | 11/32 | 3/16 |
| 80502 | 81502 | 1/4 - 28 | | | | | 72594 | | | | | | |
| 80303 | 81303 | 5/16 - 18 | 1/2 - 13 | .437 | .22 | .07 | 72595 | .453 | .510 | 1/2 - 13 | .50 | 13/32 | 3/16 |
| 80503 | 81503 | 5/16 - 24 | | | | | 72596 | | | | | | |
| 80304 | 81304 | 3/8 - 16 | 9/16 - 12 | .500 | .25 | .07 | 72597 | .516 | .572 | 9/16 - 12 | .56 | 15/32 | 3/16 |
| 80504 | 81504 | 3/8 - 24 | | | | | 72598 | | | | | | |
| 80305 | 81305 | 7/16 - 14 | 5/8 - 11 | .625 | .28 | .10 | 72599 | .578 | .635 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| 80505 | 81505 | 7/16 - 20 | | | | | 72600 | | | | | | |
| 80306 | 81306 | 1/2 - 13 | 11/16-11 NS | .688 | .28 | .10 | 72601 | .641 | .700 | 11/16-11 NS | .75 | 19/32 | 3/16 |
| 80506 | 81506 | 1/2 - 20 | | | | | 72602 | | | | | | |
| 80307 | 81307 | 9/16 - 12 | 13/16 - 16 | .812 | .32 | .10 | 72603 | .766 | .822 | 13/16-16 | .94 | 23/32 | 3/16 |
| 80507 | 81507 | 9/16 - 18 | | | | | 72604 | | | | | | |
| 80308 | 81308 | 5/8 - 11 | 7/8 - 14 | .875 | .33 | .10 | 72605 | .828 | .885 | 7/8 - 14 | 1.00 | 25/32 | 3/16 |
| 80508 | 81508 | 5/8 - 18 | | | | | 72606 | | | | | | |
| 80309 | - | 3/4 - 10 | 1-1/8 - 12 | 1.125 | - | .10 | 72607 | 1.062 | 1.145 | 1-1/8 - 12 | 1.31 | 31/32 | 5/16 |
| 80509 | - | 3/4 - 16 | | | | | 72608 | | | | | | |
| - | 81309 | 3/4 - 10 | | | | | 72607 | | | | 1.44 | | |
| - | 81509 | 3/4 - 16 | | | | | 72608 | | | | | | |
| 80310 | - | 7/8 - 9 | 1-1/4 - 12 | 1.250 | - | .10 | 72609 | 1.187 | 1.270 | 1-1/4 - 12 | 1.44 | 1-3/32 | 5/16 |
| 80510 | - | 7/8 - 14 | | | | | 72610 | | | | | | |
| - | 81310 | 7/8 - 9 | | | | | 72609 | | | | 1.56 | | |
| - | 81510 | 7/8 - 14 | | | | | 72610 | | | | | | |
| 80311 | - | 1" - 8 | 1-3/8 - 12 | 1.375 | - | .10 | 72611 | 1.312 | 1.395 | 1-3/8 - 12 | 1.56 | 1-7/32 | 5/16 |
| 80511 | - | 1" - 12 | | | | | 72612 | | | | | | |
| - | 81311 | 1" - 8 | | | | | 72611 | | | | 1.68 | | |
| - | 81511 | 1" - 12 | | | | | 72612 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "217-0"

¹ Tap Drill Hole Tolerance:
.234 to .500 = +.004/-0.01
Over .500 = +.005/-0.01



MS/NAS Style - 4140 Alloy Steel Keylocking Threaded Inserts

Material: Inserts - 4140 Alloy Steel (160 KSI Min)
Keys - 302 CRES

Finish: Cadmium Plate (QQ-P-416 Type II, Cl. 2)

Tolerances: ± 0.010 inch unless specified otherwise.

Internal Threads: Per SAE AS8879

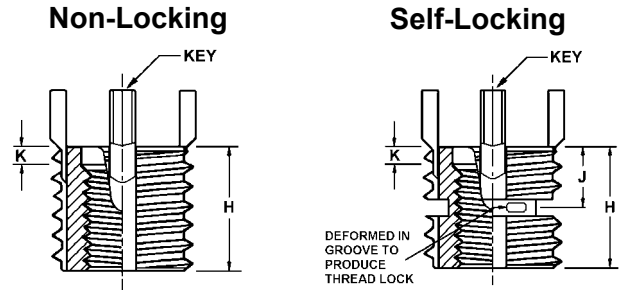
Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 1/4 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: Two lines on top of Insert

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A (MS51832)



Extra Heavy Duty - Inch (See Page 5 for MS Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | REMOVAL | | |
|--------------|--------------|--------------------------|---------------------------------|----------|--------------|----------------|------------------------|-----------------------------|-------------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 3B | External Thread (Mod.) Class 2A | H Length | J $\pm .030$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+0.010$ -.000 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 80333 | 81333 | 10 - 24 | 7/16 - 14 | .312 | .22 | .07 | 72628 | .397 | .447 | 7/16 - 14 | .37 | 11/32 | 3/16 |
| 80533 | 81533 | 10 - 32 | | | | | 72629 | | | | | | |
| 80334 | 81334 | 1/4 - 20 | 1/2 - 13 | .375 | .22 | .07 | 72630 | .453 | .510 | 1/2 - 13 | .44 | 13/32 | 3/16 |
| 80534 | 81534 | 1/4 - 28 | | | | | 72631 | | | | | | |
| 80335 | 81335 | 5/16 - 18 | 9/16 - 12 | .437 | .22 | .07 | 72632 | .516 | .572 | 9/16 - 12 | .50 | 15/32 | 3/16 |
| 80535 | 81535 | 5/16 - 24 | | | | | 72633 | | | | | | |
| 80336 | 81336 | 3/8 - 16 | 5/8 - 11 | .500 | .25 | .07 | 72634 | .578 | .635 | 5/8 - 11 | .56 | 17/32 | 3/16 |
| 80536 | 81536 | 3/8 - 24 | | | | | 72635 | | | | | | |
| 80337 | 81337 | 7/16 - 14 | 11/16-11 NS | .625 | .28 | .10 | 72636 | .641 | .700 | 11/16-11 NS | .68 | 19/32 | 3/16 |
| 80537 | 81537 | 7/16 - 20 | | | | | 72637 | | | | | | |
| 80338 | 81338 | 1/2 - 13 | 13/16 - 16 | .688 | .28 | .10 | 72638 | .766 | .822 | 13/16-16 | .75 | 23/32 | 3/16 |
| 80538 | 81538 | 1/2 - 20 | | | | | 72639 | | | | | | |
| 80339 | 81339 | 9/16 - 12 | 7/8 - 14 | .812 | .32 | .10 | 72640 | .828 | .885 | 7/8 - 14 | .94 | 25/32 | 3/16 |
| 80539 | 81539 | 9/16 - 18 | | | | | 72641 | | | | | | |
| 80340 | 81340 | 5/8 - 11 | 1" - 12 | .875 | .33 | .10 | 72642 | .937 | 1.020 | 1" - 12 | 1.00 | 27/32 | 5/16 |
| 80540 | 81540 | 5/8 - 18 | | | | | 72643 | | | | | | |
| 80341 | - | 3/4 - 10 | 1-1/4 - 12 | 1.125 | - | .10 | 72644 | 1.187 | 1.270 | 1-1/4 - 12 | 1.31 | 1-3/32 | 5/16 |
| 80541 | - | 3/4 - 16 | | | | | 72645 | | | | | | |
| - | 81341 | 3/4 - 10 | | | | | 72644 | | | | | | |
| - | 81541 | 3/4 - 16 | | | | | 72645 | | | | | | |
| 80342 | - | 7/8 - 9 | 1-3/8 - 12 | 1.250 | - | .10 | 72646 | 1.312 | 1.395 | 1-3/8 - 12 | 1.44 | 1-7/32 | 5/16 |
| 80542 | - | 7/8 - 14 | | | | | 72647 | | | | | | |
| - | 81342 | 7/8 - 9 | | | | | 72646 | | | | | | |
| - | 81542 | 7/8 - 14 | | | | | 72647 | | | | | | |
| 80343 | - | 1" - 8 | 1-1/2 - 12 | 1.375 | - | .10 | 72648 | 1.437 | 1.520 | 1-1/2 - 12 | 1.56 | 1-11/32 | 5/16 |
| 80543 | - | 1" - 12 | | | | | 72649 | | | | | | |
| - | 81343 | 1" - 8 | | | | | 72648 | | | | | | |
| - | 81543 | 1" - 12 | | | | | 72649 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "217-0"

¹ Tap Drill Hole Tolerance:
.234 to .500 = $+0.004/-0.001$
Over .500 = $+0.005/-0.001$

MS/NAS Style - 303 CRES Keylocking Threaded Inserts



Material: Inserts - 303 CRES
Keys - 302 CRES

Finish: Passivated

Tolerances: $\pm .25$ mm unless specified otherwise

Internal Threads: Per Fed Std H28/21, MJ Form

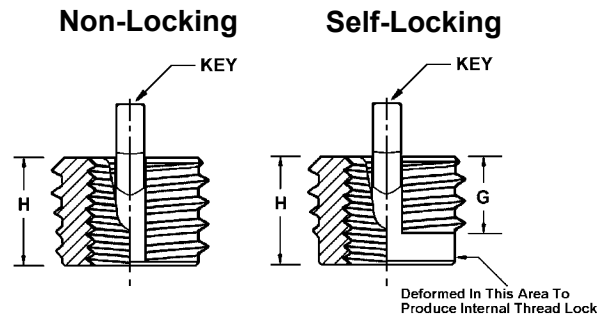
Dimensions: All dimensions below are in millimeters

Keys: Miniature Inserts are furnished with 2 locking keys

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: See note on the bottom of page 17



Miniature - Metric

| PART NUMBER* | | INSERT | | | | INSTALLATION | | | | | | REMOVAL | |
|--------------|--------------|----------------------------|--------------------------|-----------------|----------|------------------------|-------------------------------------|--------------------------------|---------------|------------|-------|---------|--|
| Non-Locking | Self-Locking | Internal Thread Class 4H6H | External Thread Class 4h | G Thread Length | H Length | Install Tool Part No.* | Tap Drill Size $+0.080$ -0.025 | C'Sink Dia. $+0.25$ -0.00 | Thread Tap | | Drill | | |
| | | | | | | | | | Size Class 6H | Min. Depth | Size | Depth | |
| 76382 | 77382 | M 2x0.4 | M 4x0.7 | 2.20 | 3.00 | 72682 | 3.4 | 4.1 | M 4x0.7 | 4.0 | 2.8 | 2.00 | |
| 76383 | 77383 | M 2.5x0.45 | M 4.5x0.75 | 2.70 | 3.81 | 72683 | 3.9 | 4.6 | M 4.5x0.75 | 5.0 | 3.0 | 2.00 | |
| 76384 | 77384 | M 3x0.5 | M 5x0.8 | 3.10 | 4.25 | 72684 | 4.4 | 5.1 | M 5x0.8 | 5.5 | 3.5 | 2.25 | |
| 76386 | 77386 | M 4x0.7 | M 6x0.75 | 4.11 | 5.25 | 72686 | 5.5 | 6.1 | M 6x0.75 | 6.5 | 4.6 | 2.50 | |

* To complete the abbreviated part numbers in the table above use the prefix "217-0"

Material: Inserts - 303 CRES
Keys - 302 CRES

Finish: Passivated

Tolerances: $\pm .25$ mm unless specified otherwise.

Internal Threads: Per Fed Std H28/21, MJ Form

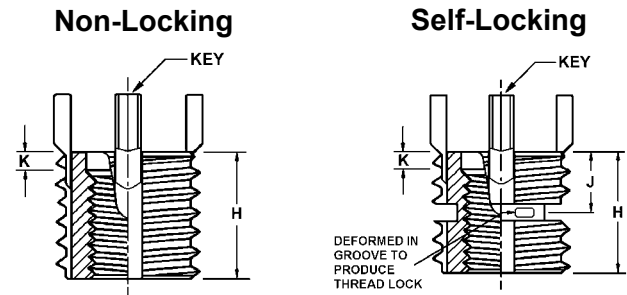
Dimensions: All dimensions below are in millimeters

Keys: Inserts with an internal thread size of M 6 and smaller are furnished with 2 locking keys. Larger sizes have 4 locking keys.

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: See note on the bottom of page 17



Lightweight - Metric

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | | | REMOVAL | |
|--------------|--------------|---|--------------------------|----------|-------------|----------------|------------------------|-----------------------------|--------------------------------|---------------|------------|-------|---------|--|
| Non-Locking | Self-Locking | Internal Thread ¹ Class 4H5H | External Thread Class 4h | H Length | J $\pm .76$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ² | C'Sink Dia. $+0.25$ -0.00 | Thread Tap | | Drill | | |
| | | | | | | | | | | Size Class 6H | Min. Depth | Size | Depth | |
| 76351 | 77351 | M 5x0.8 | M 8x1.25 | 8.0 | 3.73 | 1.27 | 72651 | 6.90 | 8.25 | M 8x1.25 | 9.5 | 5.50 | 4.00 | |
| 76551 | 77551 | M 5x0.5 | | | | | | | | | | | | |
| 76352 | 77352 | M 6x1.0 | M 10x1.25 | 10.0 | 6.02 | 1.78 | 72652 | 8.80 | 10.25 | M 10x1.25 | 11.5 | 7.50 | 4.75 | |
| 76552 | 77552 | M 6x0.75 | | | | | | | | | | | | |
| 76353 | 77353 | M 8x1.25 | M 12x1.25 | 12.0 | 6.28 | 1.78 | 72653 | 10.80 | 12.25 | M 12x1.25 | 13.5 | 9.50 | 4.75 | |
| 76553 | 77553 | M 8x1.0 | | | | | | | | | | | | |
| 76355 | 77355 | M 10x1.5 | M 14x1.5 | 14.0 | 6.46 | 2.29 | 72655 | 12.80 | 14.25 | M 14x1.5 | 15.5 | 11.50 | 4.75 | |
| 76555 | 77555 | M 10x1.25 | | | | | | | | | | | | |
| 76356 | 77356 | M 12x1.75 | M 16x1.5 | 16.0 | 6.46 | 2.29 | 72656 | 14.75 | 16.25 | M 16x1.5 | 17.5 | 13.50 | 4.75 | |
| 76556 | 77556 | M 12x1.25 | | | | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "217-0"

¹ Thread Class on M 5 Internal Thread is 4H6H

² Tap Drill Hole Tolerance: 6.90 to 10.80 = $+0.100/-0.025$
Over 12.80 = $+0.130/-0.025$



MS/NAS Style - 303 CRES Keylocking Threaded Inserts

Material: Inserts - 303 CRES
Keys - 302 CRES

Finish: Passivated

Tolerances: $\pm .25$ mm unless specified otherwise.

Internal Threads: Per Fed Std H28/21, MJ Form

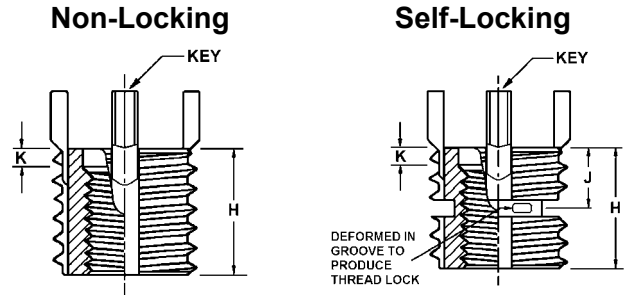
Dimensions: All dimensions below are in millimeters

Keys: Inserts with an internal thread size of M 6 and smaller are furnished with 2 locking keys. Larger sizes have 4 locking keys.

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: See note on the bottom of this page



Heavy Duty - Metric

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|--|-----------------------------|-------------|----------------|----------------------|------------------------------|-----------------------------------|--------------------------------------|------------------|---------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread ¹ Class 4H5H | External Thread Class 4h | H Length | J $\pm .76$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ² | C'Sink Dia. $+ .25$ $- .00$ | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 6H | Min. Depth | Size | Depth |
| 76363 | 77363 | M 4x0.7 | M 8x1.25 | 8.0 | 5.00 | 1.27 | 72663 | 6.90 | 8.25 | M 8x1.25 | 9.5 | 5.50 | 4.00 |
| 76364 | 77364 | M 5x0.8 | M 10x1.25 | 10.0 | 5.50 | 1.27 | 72664 | 8.80 | 10.25 | M 10x1.25 | 12.5 | 7.50 | 4.75 |
| 76365 | 77365 | M 6x1.0 | M 12x1.25 | 12.0 | 6.46 | 1.78 | 72665 | 10.80 | 12.25 | M 12x1.25 | 14.5 | 9.50 | 4.75 |
| 76366 | 77366 | M 8x1.25 | M 14x1.5 | 14.0 | 6.46 | 1.78 | 72666 | 12.80 | 14.25 | M 14x1.5 | 16.5 | 11.50 | 4.75 |
| 76566 | 77566 | M 8x1.0 | | | | | | | | | | | |
| 76367 | 77367 | M 10x1.5 | M 16x1.5 | 16.0 | 6.46 | 2.29 | 72667 | 14.75 | 16.25 | M 16x1.5 | 18.5 | 13.50 | 4.75 |
| 76567 | 77567 | M 10x1.25 | | | | | | | | | | | |
| 76369 | 77369 | M 12x1.75 | M 18x1.5 | 18.0 | 7.23 | 2.29 | 72669 | 16.75 | 18.25 | M 18x1.5 | 20.5 | 15.50 | 4.75 |
| 76569 | 77569 | M 12x1.25 | | | | | | | | | | | |
| 76370 | 77370 | M 14x2.0 | M 20x1.5 | 20.0 | 7.73 | 2.79 | 72670 | 18.75 | 20.25 | M 20x1.5 | 22.5 | 17.50 | 4.75 |
| 76570 | 77570 | M 14x1.5 | | | | | | | | | | | |
| 76371 | 77371 | M 16x2.0 | M 22x1.5 | 22.0 | 8.50 | 2.79 | 72671 | 20.50 | 22.25 | M 22x1.5 | 24.5 | 17.75 | 6.35 |
| 76571 | 77571 | M 16x1.5 | | | | | | | | | | | |
| 76572 | 77572 | M 18x1.5 | M 24x2.0 | 24.0 | 9.25 | 2.79 | 72672 | 22.50 | 24.25 | M 24x2.0 | 28.5 | 19.75 | 6.35 |
| 76373 | 77373 | M 20x2.5 | | | | | | | | | | | |
| 76573 | 77573 | M 20x1.5 | M 30x2.0 | 30.0 | 12.51 | 2.79 | 72673 | 28.00 | 30.25 | M 30x2.0 | 34.5 | 25.75 | 6.35 |
| 76574 | 77574 | M 22x1.5 | | | | | | | | | | | |
| 76375 | 77375 | M 24x3.0 | M 33x2.0 | 33.0 | 13.97 | 3.81 | 72675 | 31.00 | 33.25 | M 33x2.0 | 37.5 | 28.75 | 6.35 |
| 76575 | 77575 | M 24x2.0 | | | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "217-0"

¹ Thread Class on M 4 and M 5 Internal Thread is 4H6H

² Tap Drill Hole Tolerance: 6.90 to 10.80 = $+0.100/-0.025$
Over 12.80 = $+0.130/-0.025$

Note: There is no National Aerospace Standard for Metric Keylocking Inserts manufactured from 303 CRES. The inserts shown on pages 16 and 17 are compliant with the other requirements of NA0147, NA0149, and NA0151 except for any references to the type of material or performance related to the material.

MS/NAS Style - A286 CRES Keylocking Threaded Inserts



Material: Inserts - A286 CRES (140 KSI Min)
Keys - 302 CRES

Finish: Passivated

Tolerances: $\pm .25$ mm unless specified otherwise

Internal Threads: Per Fed Std H28/21, MJ Form

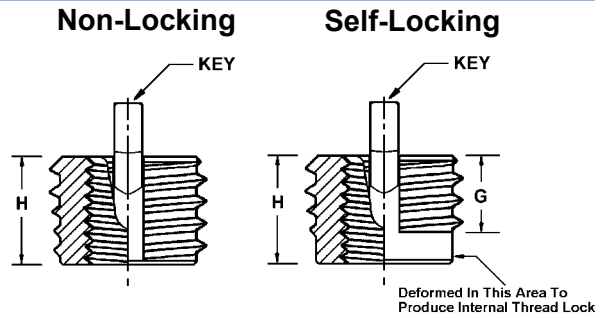
Dimensions: All dimensions below are in millimeters

Keys: Miniature Inserts are furnished with 2 locking keys

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: NA0147



Miniature - Metric (See Top of Page 6 for NA Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|----------------------------|--------------------------|-----------------|----------|------------------------|------------------------------------|--------------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 4H6H | External Thread Class 4h | G Thread Length | H Length | Install Tool Part No.* | Tap Drill Size $+0.080$ -0.25 | C'Sink Dia. $+0.25$ -0.00 | Thread Tap | | Drill | |
| | | | | | | | | | Size Class 6H | Min. Depth | Size | Depth |
| 78382 | 79382 | M 2x0.4 | M 4x0.7 | 2.20 | 3.00 | 72682 | 3.4 | 4.1 | M 4x0.7 | 4.0 | 2.8 | 2.00 |
| 78383 | 79383 | M 2.5x0.45 | M 4.5x0.75 | 2.70 | 3.81 | 72683 | 3.9 | 4.6 | M 4.5x0.75 | 5.0 | 3.0 | 2.00 |
| 78384 | 79384 | M 3x0.5 | M 5x0.8 | 3.10 | 4.25 | 72684 | 4.4 | 5.1 | M 5x0.8 | 5.5 | 3.5 | 2.25 |
| 78386 | 79386 | M 4x0.7 | M 6x0.75 | 4.11 | 5.25 | 72686 | 5.5 | 6.1 | M 6x0.75 | 6.5 | 4.6 | 2.50 |

* To complete the abbreviated part numbers in the table above use the prefix "217-0"

Material: Inserts - A286 CRES (140 KSI Min)
Keys - 302 CRES

Finish: Passivated

Tolerances: $\pm .25$ mm unless specified otherwise.

Internal Threads: Per Fed Std H28/21, MJ Form

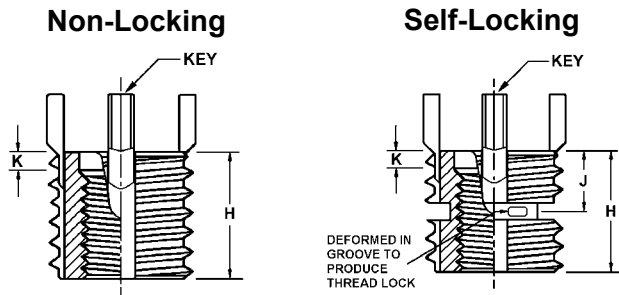
Dimensions: All dimensions below are in millimeters

Keys: Inserts with an internal thread size of M 6 and smaller are furnished with 2 locking keys. Larger sizes have 4 locking keys.

Material Identification Mark: One line on top of Insert

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: NA0149



Lightweight - Metric (See Top of Page 6 for NA Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|---|--------------------------|----------|-------------|----------------|------------------------|-----------------------------|--------------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread ¹ Class 4H5H | External Thread Class 4h | H Length | J $\pm .76$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ² | C'Sink Dia. $+0.25$ -0.00 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 6H | Min. Depth | Size | Depth |
| 78351 | 79351 | M 5x0.8 | M 8x1.25 | 8.0 | 3.73 | 1.27 | 72651 | 6.90 | 8.25 | M 8x1.25 | 9.5 | 5.50 | 4.00 |
| 78551 | 79551 | M 5x0.5 | | | | | | | | | | | |
| 78352 | 79352 | M 6x1.0 | M 10x1.25 | 10.0 | 6.02 | 1.78 | 72652 | 8.80 | 10.25 | M 10x1.25 | 11.5 | 7.50 | 4.75 |
| 78552 | 79552 | M 6x0.75 | | | | | | | | | | | |
| 78353 | 79353 | M 8x1.25 | M 12x1.25 | 12.0 | 6.28 | 1.78 | 72653 | 10.80 | 12.25 | M 12x1.25 | 13.5 | 9.50 | 4.75 |
| 78553 | 79553 | M 8x1.0 | | | | | | | | | | | |
| 78355 | 79355 | M 10x1.5 | M 14x1.5 | 14.0 | 6.46 | 2.29 | 72655 | 12.80 | 14.25 | M 14x1.5 | 15.5 | 11.50 | 4.75 |
| 78555 | 79555 | M 10x1.25 | | | | | | | | | | | |
| 78356 | 79356 | M 12x1.75 | M 16x1.5 | 16.0 | 6.46 | 2.29 | 72656 | 14.75 | 16.25 | M 16x1.5 | 17.5 | 13.50 | 4.75 |
| 78556 | 79556 | M 12x1.25 | | | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "217-0"

¹ Thread Class on M 5 Internal Thread is 4H6H

² Tap Drill Hole Tolerance: 6.90 to 10.80 = $+0.100/-0.025$
Over 12.80 = $+0.130/-0.025$



MS/NAS Style - A286 CRES Keylocking Threaded Inserts

Material: Inserts - A286 CRES (140 KSI Min)
Keys - 302 CRES

Finish: Passivated

Tolerances: $\pm .25$ mm unless specified otherwise.

Internal Threads: Per Fed Std H28/21, MJ Form

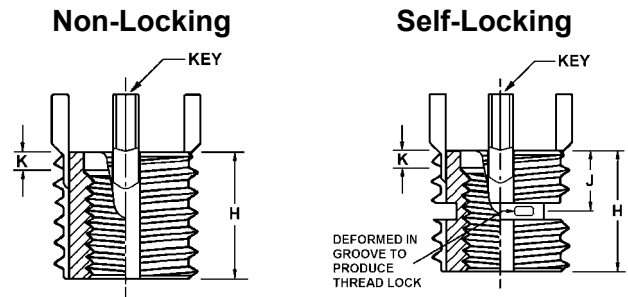
Dimensions: All dimensions below are in millimeters

Keys: Inserts with an internal thread size of M 6 and smaller are furnished with 2 locking keys. Larger sizes have 4 locking keys.

Material Identification Mark: One line on top of Insert

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: NA0151



Heavy Duty - Metric (See Top of Page 6 for NA Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | REMOVAL | | |
|--------------|--------------|--|-----------------------------|-------------|----------------|----------------------|------------------------------|-----------------------------------|--------------------------------------|------------------|---------------|-------|-------|
| Non-Locking | Self-Locking | Internal Thread ¹ Class 4H5H | External Thread Class 4h | H Length | J $\pm .76$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ² | C'Sink Dia. $+ .25$ $- .00$ | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 6H | Min. Depth | Size | Depth |
| 78363 | 79363 | M 4x0.7 | M 8x1.25 | 8.0 | 5.00 | 1.27 | 72663 | 6.90 | 8.25 | M 8x1.25 | 9.5 | 5.50 | 4.00 |
| 78364 | 79364 | M 5x0.8 | M 10x1.25 | 10.0 | 5.50 | 1.27 | 72664 | 8.80 | 10.25 | M 10x1.25 | 12.5 | 7.50 | 4.75 |
| 78365 | 79365 | M 6x1.0 | M 12x1.25 | 12.0 | 6.46 | 1.78 | 72665 | 10.80 | 12.25 | M 12x1.25 | 14.5 | 9.50 | 4.75 |
| 78366 | 79366 | M 8x1.25 | M 14x1.5 | 14.0 | 6.46 | 1.78 | 72666 | 12.80 | 14.25 | M 14x1.5 | 16.5 | 11.50 | 4.75 |
| 78566 | 79566 | M 8x1.0 | | | | | | | | | | | |
| 78367 | 79367 | M 10x1.5 | M 16x1.5 | 16.0 | 6.46 | 2.29 | 72667 | 14.75 | 16.25 | M 16x1.5 | 18.5 | 13.50 | 4.75 |
| 78567 | 79567 | M 10x1.25 | | | | | | | | | | | |
| 78369 | 79369 | M 12x1.75 | M 18x1.5 | 18.0 | 7.23 | 2.29 | 72669 | 16.75 | 18.25 | M 18x1.5 | 20.5 | 15.50 | 4.75 |
| 78569 | 79569 | M 12x1.25 | | | | | | | | | | | |
| 78370 | 79370 | M 14x2.0 | M 20x1.5 | 20.0 | 7.73 | 2.79 | 72670 | 18.75 | 20.25 | M 20x1.5 | 22.5 | 17.50 | 4.75 |
| 78570 | 79570 | M 14x1.5 | | | | | | | | | | | |
| 78371 | 79371 | M 16x2.0 | M 22x1.5 | 22.0 | 8.50 | 2.79 | 72671 | 20.50 | 22.25 | M 22x1.5 | 24.5 | 17.75 | 6.35 |
| 78571 | 79571 | M 16x1.5 | | | | | | | | | | | |
| 78572 | 79572 | M 18x1.5 | M 24x2.0 | 24.0 | 9.25 | 2.79 | 72672 | 22.50 | 24.25 | M 24x2.0 | 28.5 | 19.75 | 6.35 |
| 78373 | 79373 | M 20x2.5 | M 30x2.0 | 30.0 | 12.51 | 2.79 | 72673 | 28.00 | 30.25 | M 30x2.0 | 34.5 | 25.75 | 6.35 |
| 78573 | 79573 | M 20x1.5 | | | | | | | | | | | |
| 78574 | 79574 | M 22x1.5 | M 32x2.0 | 32.0 | 12.51 | 2.79 | 72674 | 30.00 | 32.25 | M 32x2.0 | 36.5 | 27.75 | 6.35 |
| 78375 | 79375 | M 24x3.0 | M 33x2.0 | 33.0 | 13.97 | 3.81 | 72675 | 31.00 | 33.25 | M 33x2.0 | 37.5 | 28.75 | 6.35 |
| 78575 | 79575 | M 24x2.0 | | | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "217-0"

¹ Thread Class on M 4 and M 5 Internal Thread is 4H6H

² Tap Drill Hole Tolerance: 6.90 to 10.80 = $+0.100/-0.025$
Over 12.80 = $+0.130/-0.025$

MS/NAS Style - 4140 Alloy Steel Keylocking Threaded Inserts



Material: Inserts - 4140 Alloy Steel (160 KSI Min)
Keys - 302 CRES

Finish: Cadmium Plate (QQ-P-416 Type II, Cl. 2)

Tolerances: $\pm .25$ mm unless specified otherwise

Internal Threads: Per Fed Std H28/21, MJ Form

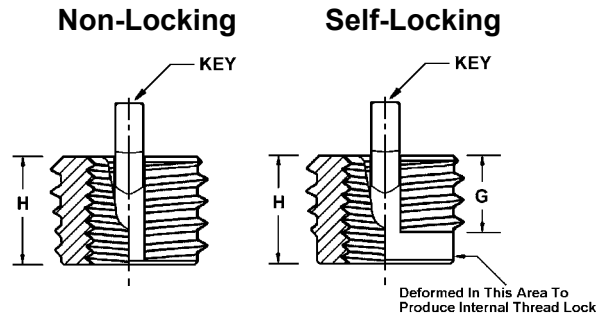
Dimensions: All dimensions below are in millimeters

Keys: Miniature Inserts are furnished with 2 locking keys

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: NA0146



Miniature - Metric (See Bottom of Page 6 for NA Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|----------------------------|--------------------------|-----------------|----------|------------------------|-------------------------------------|--------------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread Class 4H6H | External Thread Class 4h | G Thread Length | H Length | Install Tool Part No.* | Tap Drill Size $+0.080$ -0.025 | C'Sink Dia. $+0.25$ -0.00 | Thread Tap | | Drill | |
| | | | | | | | | | Size Class 6H | Min. Depth | Size | Depth |
| 80382 | 81382 | M 2x0.4 | M 4x0.7 | 2.20 | 3.00 | 72682 | 3.4 | 4.1 | M 4x0.7 | 4.0 | 2.8 | 2.00 |
| 80383 | 81383 | M 2.5x0.45 | M 4.5x0.75 | 2.70 | 3.81 | 72683 | 3.9 | 4.6 | M 4.5x0.75 | 5.0 | 3.0 | 2.00 |
| 80384 | 81384 | M 3x0.5 | M 5x0.8 | 3.10 | 4.25 | 72684 | 4.4 | 5.1 | M 5x0.8 | 5.5 | 3.5 | 2.25 |
| 80386 | 81386 | M 4x0.7 | M 6x0.75 | 4.11 | 5.25 | 72686 | 5.5 | 6.1 | M 6x0.75 | 6.5 | 4.6 | 2.50 |

* To complete the abbreviated part numbers in the table above use the prefix "217-0"

Material: Inserts - 4140 Alloy Steel (160 KSI Min)
Keys - 302 CRES

Finish: Cadmium Plate (QQ-P-416 Type II, Cl. 2)

Tolerances: $\pm .25$ mm unless specified otherwise.

Internal Threads: Per Fed Std H28/21, MJ Form

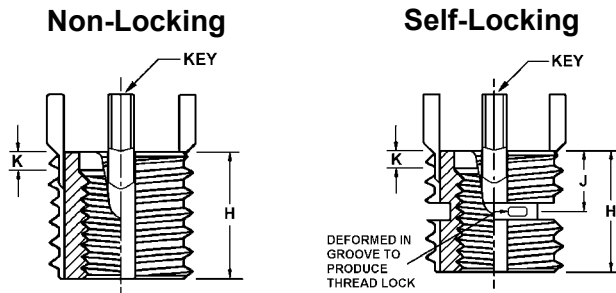
Dimensions: All dimensions below are in millimeters

Keys: Inserts with an internal thread size of M 6 and smaller are furnished with 2 locking keys. Larger sizes have 4 locking keys.

Material Identification Mark: Two lines on top of Insert

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: NA0148



Lightweight - Metric (See Bottom of Page 6 for NA Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|---|--------------------------|----------|-------------|----------------|------------------------|-----------------------------|--------------------------------|---------------|------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread ¹ Class 4H5H | External Thread Class 4h | H Length | J $\pm .76$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ² | C'Sink Dia. $+0.25$ -0.00 | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 6H | Min. Depth | Size | Depth |
| 80351 | 81351 | M 5x0.8 | M 8x1.25 | 8.0 | 3.73 | 1.27 | 72651 | 6.90 | 8.25 | M 8x1.25 | 9.5 | 5.50 | 4.00 |
| 80551 | 81551 | M 5x0.5 | | | | | | | | | | | |
| 80352 | 81352 | M 6x1.0 | M 10x1.25 | 10.0 | 6.02 | 1.78 | 72652 | 8.80 | 10.25 | M 10x1.25 | 11.5 | 7.50 | 4.75 |
| 80552 | 81552 | M 6x0.75 | | | | | | | | | | | |
| 80353 | 81353 | M 8x1.25 | M 12x1.25 | 12.0 | 6.28 | 1.78 | 72653 | 10.80 | 12.25 | M 12x1.25 | 13.5 | 9.50 | 4.75 |
| 80553 | 81553 | M 8x1.0 | | | | | | | | | | | |
| 80355 | 81355 | M 10x1.5 | M 14x1.5 | 14.0 | 6.46 | 2.29 | 72655 | 12.80 | 14.25 | M 14x1.5 | 15.5 | 11.50 | 4.75 |
| 80555 | 81555 | M 10x1.25 | | | | | | | | | | | |
| 80356 | 81356 | M 12x1.75 | M 16x1.5 | 16.0 | 6.46 | 2.29 | 72656 | 14.75 | 16.25 | M 16x1.5 | 17.5 | 13.50 | 4.75 |
| 80556 | 81556 | M 12x1.25 | | | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "217-0"

¹ Thread Class on M 5 Internal Thread is 4H6H

² Tap Drill Hole Tolerance: 6.90 to 10.80 = $+0.100/-0.025$
Over 12.80 = $+0.130/-0.025$



MS/NAS Style - 4140 Alloy Steel Keylocking Threaded Inserts

Material: Inserts - 4140 Alloy Steel (160 KSI Min)
Keys - 302 CRES

Finish: Cadmium Plate (QQ-P-416 Type II, Cl. 2)

Tolerances: $\pm .25$ mm unless specified otherwise.

Internal Threads: Per Fed Std H28/21, MJ Form

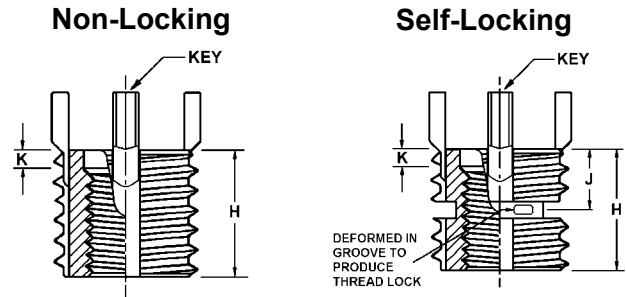
Dimensions: All dimensions below are in millimeters

Keys: Inserts with an internal thread size of M 6 and smaller are furnished with 2 locking keys. Larger sizes have 4 locking keys.

Material Identification Mark: Two lines on top of Insert

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: NA0150



Heavy Duty - Metric (See Bottom of Page 6 for NA Part Number Cross Reference)

| PART NUMBER* | | INSERT | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|--------------|--|-----------------------------|-------------|----------------|----------------------|------------------------------|-----------------------------------|------------------------------------|------------------|---------------|---------|-------|
| Non-Locking | Self-Locking | Internal Thread ¹ Class 4H5H | External Thread Class 4h | H Length | J $\pm .76$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ² | C'Sink Dia. $+.25$ $-.00$ | Thread Tap | | Drill | |
| | | | | | | | | | | Size Class 6H | Min. Depth | Size | Depth |
| 80363 | 81363 | M 4x0.7 | M 8x1.25 | 8.0 | 5.00 | 1.27 | 72663 | 6.90 | 8.25 | M 8x1.25 | 9.5 | 5.50 | 4.00 |
| 80364 | 81364 | M 5x0.8 | M 10x1.25 | 10.0 | 5.50 | 1.27 | 72664 | 8.80 | 10.25 | M 10x1.25 | 12.5 | 7.50 | 4.75 |
| 80365 | 81365 | M 6x1.0 | M 12x1.25 | 12.0 | 6.46 | 1.78 | 72665 | 10.80 | 12.25 | M 12x1.25 | 14.5 | 9.50 | 4.75 |
| 80366 | 81366 | M 8x1.25 | M 14x1.5 | 14.0 | 6.46 | 1.78 | 72666 | 12.80 | 14.25 | M 14x1.5 | 16.5 | 11.50 | 4.75 |
| 80566 | 81566 | M 8x1.0 | | | | | | | | | | | |
| 80367 | 81367 | M 10x1.5 | M 16x1.5 | 16.0 | 6.46 | 2.29 | 72667 | 14.75 | 16.25 | M 16x1.5 | 18.5 | 13.50 | 4.75 |
| 80567 | 81567 | M 10x1.25 | | | | | | | | | | | |
| 80369 | 81369 | M 12x1.75 | M 18x1.5 | 18.0 | 7.23 | 2.29 | 72669 | 16.75 | 18.25 | M 18x1.5 | 20.5 | 15.50 | 4.75 |
| 80569 | 81569 | M 12x1.25 | | | | | | | | | | | |
| 80370 | 81370 | M 14x2.0 | M 20x1.5 | 20.0 | 7.73 | 2.79 | 72670 | 18.75 | 20.25 | M 20x1.5 | 22.5 | 17.50 | 4.75 |
| 80570 | 81570 | M 14x1.5 | | | | | | | | | | | |
| 80371 | 81371 | M 16x2.0 | M 22x1.5 | 22.0 | 8.50 | 2.79 | 72671 | 20.50 | 22.25 | M 22x1.5 | 24.5 | 17.75 | 6.35 |
| 80571 | 81571 | M 16x1.5 | | | | | | | | | | | |
| 80572 | 81572 | M 18x1.5 | M 24x2.0 | 24.0 | 9.25 | 2.79 | 72672 | 22.50 | 24.25 | M 24x2.0 | 28.5 | 19.75 | 6.35 |
| 80373 | 81373 | M 20x2.5 | | | | | | | | | | | |
| 80573 | 81573 | M 20x1.5 | M 30x2.0 | 30.0 | 12.51 | 2.79 | 72673 | 28.00 | 30.25 | M 30x2.0 | 34.5 | 25.75 | 6.35 |
| 80574 | 81574 | M 22x1.5 | | | | | | | | | | | |
| 80375 | 81375 | M 24x3.0 | M 33x2.0 | 33.0 | 13.97 | 3.81 | 72675 | 31.00 | 33.25 | M 33x2.0 | 37.5 | 28.75 | 6.35 |
| 80575 | 81575 | M 24x2.0 | | | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "217-0"

¹ Thread Class on M 4 and M 5 Internal Thread is 4H6H

² Tap Drill Hole Tolerance: 6.90 to 10.80 = $+0.100/-0.025$
Over 12.80 = $+0.130/-0.025$

Specific Use - Blind End Keylocking Threaded Inserts



Material: Inserts - 303 CRES
Keys - 302 CRES

Finish: Passivated

Tolerances: $\pm .010$ inch unless specified otherwise.

Internal Threads: Per SAE AS8879

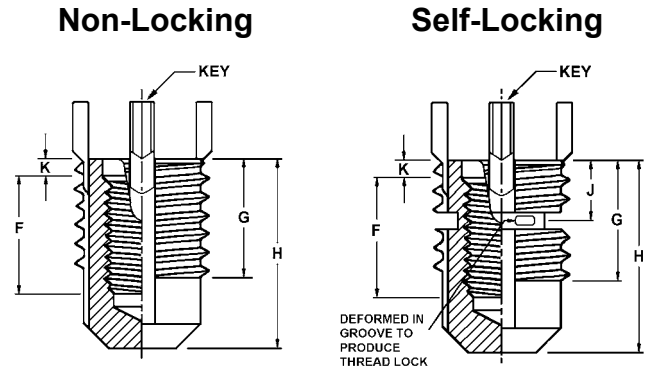
Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 5/16 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: None

Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A



Miniature - Inch

| PART NUMBER* | | INSERT | | | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------|--------------------------|--------------------------|-----------------|-----------|--------|--------------|----------------|------------------------|-----------------------------|-----------------------------|---------------|------------|---------|-------|
| Non-Lock | Self-Lock | Internal Thread Class 3B | External Thread Class 2A | F Int Thd (min) | G Ext Thd | H Lgth | J $\pm .030$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+.010$ $-.000$ | Thread Tap | | Drill | |
| | | | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 83290 | 84290 | 2 - 56 | 8 - 32 | .13 | .18 | .24 | .10 | C'Sink | 72552 | .134 | .166 | 8 - 32 | .24 | #33 | 1/16 |
| 83291 | 84291 | 4 - 40 | 10 - 32 | .17 | .22 | .31 | .12 | C'Sink | 72554 | .161 | .194 | 10 - 32 | .28 | #29 | 3/32 |
| 83292 | 84292 | 6 - 32 | 12 - 28 | .21 | .22 | .39 | .12 | C'Sink | 72556 | .187 | .220 | 12 - 28 | .28 | #21 | 3/32 |
| 83294 | 84294 | 8 - 32 | 1/4 - 28 [†] | .25 | .24 | .43 | .13 | C'Sink | 72558 | .228 | .255 | 1/4 - 28 | .30 | #8 | 3/32 |

* To complete the abbreviated Insert part numbers in the table above use the prefix "218-0". Install Tools use "217-0".

[†] Modified Minor Diameter

¹ Tap Drill Hole Tolerance: .130 to .233 = $+.003$ / $-.001$

Lightweight - Inch

| PART NUMBER* | | INSERT | | | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------|--------------------------|---------------------------------|-----------------|-----------|--------|--------------|----------------|------------------------|-----------------------------|-----------------------------|---------------|------------|---------|-------|
| Non-Lock | Self-Lock | Internal Thread Class 3B | External Thread (Mod.) Class 2A | F Int Thd (min) | G Ext Thd | H Lgth | J $\pm .030$ | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+.010$ $-.000$ | Thread Tap | | Drill | |
| | | | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 83321 | 84321 | 10 - 24 | 5/16 - 18 | .31 | .31 | .50 | .22 | .07 | 72568 | .272 | .323 | 5/16 - 18 | .37 | 7/32 | 5/32 |
| 83521 | 84521 | 10 - 32 | | | | | | | | | | | | | |
| 83322 | 84322 | 1/4 - 20 | 3/8 - 16 | .37 | .37 | .62 | .22 | .07 | 72570 | .332 | .385 | 3/8 - 16 | .43 | 9/32 | 3/16 |
| 83522 | 84522 | 1/4 - 28 | | | | | | | | | | | | | |
| 83323 | 84323 | 5/16 - 18 | 7/16 - 14 | .43 | .43 | .75 | .22 | .07 | 72572 | .397 | .447 | 7/16 - 14 | .50 | 11/32 | 3/16 |
| 83523 | 84523 | 5/16 - 24 | | | | | | | | | | | | | |
| 83324 | 84324 | 3/8 - 16 | 1/2 - 13 | .50 | .50 | .81 | .24 | .07 | 72574 | .453 | .510 | 1/2 - 13 | .56 | 13/32 | 3/16 |
| 83524 | 84524 | 3/8 - 24 | | | | | | | | | | | | | |
| 83325 | 84325 | 7/16 - 14 | 9/16 - 12 | .56 | .56 | .87 | .27 | .07 | 72576 | .516 | .572 | 9/16 - 12 | .62 | 15/32 | 3/16 |
| 83525 | 84525 | 7/16 - 20 | | | | | | | | | | | | | |
| 83326 | 84326 | 1/2 - 13 | 5/8 - 11 | .62 | .62 | 1.06 | .28 | .07 | 72578 | .578 | .635 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| 83526 | 84526 | 1/2 - 20 | | | | | | | | | | | | | |

* To complete the abbreviated Insert part numbers in the table above use the prefix "218-0". Install Tools use "217-0".

¹ Tap Drill Hole Tolerance: .234 to .500 = $+.004$ / $-.001$
Over .500 = $+.005$ / $-.001$



Specific Use - Blind End Keylocking Threaded Inserts

Material: Inserts - 303 CRES
Keys - 302 CRES

Finish: Passivated

Tolerances: ±.010 inch unless specified otherwise.

Internal Threads: Per SAE AS8879

Dimensions: All dimensions below are in inches

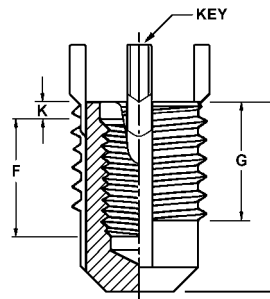
Keys: Inserts with an internal thread size of 5/16 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: None

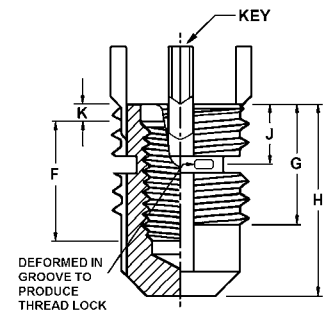
Lubrication: Dry Film Lube on Self-Locking Inserts only

Performance: MIL-I-45914A

Non-Locking



Self-Locking



Heavy Duty - Inch

| PART NUMBER* | | INSERT | | | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------|--------------------------|---------------------------------|-----------------|-----------|--------|---------|----------------|------------------------|-----------------------------|--------------------------|---------------|------------|---------|-------|
| Non-Lock | Self-Lock | Internal Thread Class 3B | External Thread (Mod.) Class 2A | F Int Thd (min) | G Ext Thd | H Lgth | J ±.030 | K C'Bore Depth | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. +.010 -0.000 | Thread Tap | | Drill | |
| | | | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 83300 | 84300 | 8 - 32 | 5/16 - 18 | .31 | .31 | .50 | .22 | .04 | 72590 | .272 | .323 | 5/16 - 18 | .37 | 7/32 | 1/8 |
| 83301 | 84301 | 10 - 24 | 3/8 - 16 | .31 | .31 | .56 | .22 | .07 | 72591 | .332 | .385 | 3/8 - 16 | .37 | 9/32 | 1/8 |
| 83501 | 84501 | 10 - 32 | | | | | | | | | | | | | |
| 83302 | 84302 | 1/4 - 20 | 7/16 - 14 | .37 | .37 | .62 | .22 | .07 | 72593 | .397 | .447 | 7/16 - 14 | .43 | 11/32 | 3/16 |
| 83502 | 84502 | 1/4 - 28 | | | | | | | | | | | | | |
| 83303 | 84303 | 5/16 - 18 | 1/2 - 13 | .43 | .43 | .75 | .22 | .07 | 72595 | .453 | .510 | 1/2 - 13 | .50 | 13/32 | 3/16 |
| 83503 | 84503 | 5/16 - 24 | | | | | | | | | | | | | |
| 83304 | 84304 | 3/8 - 16 | 9/16 - 12 | .50 | .50 | .81 | .25 | .07 | 72597 | .516 | .572 | 9/16 - 12 | .56 | 15/32 | 3/16 |
| 83504 | 84504 | 3/8 - 24 | | | | | | | | | | | | | |
| 83305 | 84305 | 7/16 - 14 | 5/8 - 11 | .62 | .62 | 1.00 | .28 | .10 | 72599 | .578 | .635 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| 83505 | 84505 | 7/16 - 20 | | | | | | | | | | | | | |
| 83306 | 84306 | 1/2 - 13 | 11/16 - 11 NS | .68 | .68 | 1.06 | .28 | .10 | 72601 | .641 | .700 | 11/16 - 11 NS | .75 | 19/32 | 3/16 |
| 83506 | 84506 | 1/2 - 20 | | | | | | | | | | | | | |
| 83307 | 84307 | 9/16 - 12 | 13/16 - 16 | .81 | .81 | 1.25 | .32 | .10 | 72603 | .766 | .822 | 13/16-16 | .94 | 23/32 | 3/16 |
| 83507 | 84507 | 9/16 - 18 | | | | | | | | | | | | | |
| 83308 | 84308 | 5/8 - 11 | 7/8-14 | .87 | .87 | 1.31 | .33 | .10 | 72605 | .828 | .885 | 7/8 - 14 | 1.00 | 25/32 | 3/16 |
| 83508 | 84508 | 5/8 - 18 | | | | | | | | | | | | | |
| 83309 | 84309 | 3/4 - 10 | 1-1/8 - 12 | 1.25 | 1.25 | 1.75 | .49 | .10 | 72607 | 1.062 | 1.145 | 1-1/8 - 12 | 1.44 | 31/32 | 5/16 |
| 83509 | 84509 | 3/4 - 16 | | | | | | | | | | | | | |
| 83310 | 84310 | 7/8 - 9 | 1-1/4 - 12 | 1.37 | 1.37 | 1.94 | .49 | .10 | 72609 | 1.187 | 1.270 | 1-1/4 - 12 | 1.56 | 1-3/32 | 5/16 |
| 83510 | 84510 | 7/8 - 14 | | | | | | | | | | | | | |
| 83311 | 84311 | 1" - 8 | 1-3/8 - 12 | 1.50 | 1.50 | 2.12 | .55 | .10 | 72611 | 1.312 | 1.395 | 1-3/8 - 12 | 1.68 | 1-7/32 | 5/16 |
| 83511 | 84511 | 1" - 12 | | | | | | | | | | | | | |

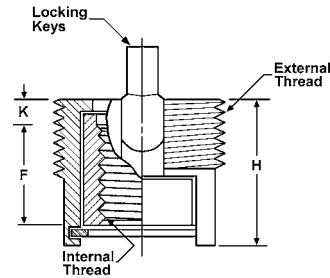
* To complete the abbreviated Insert part numbers in the table above use the prefix "218-0". Install Tools use "217-0".

¹ Tap Drill Hole Tolerance: .234 to .500 = +.004/-0.001
Over .500 = +.005/-0.001

Specific Use - Floating Keylocking Threaded Inserts



Material: Inserts - 303 CRES
 Keys and Retaining Ring - 302 CRES
 Finish: Passivated
 Tolerances: $\pm .010$ inch unless specified otherwise
 Internal Threads: Per SAE AS8879
 Dimensions: All dimensions below are in inches
 Keys: Miniature Inserts are furnished with 2 locking keys
 Material Identification Mark: None
 Lubrication: Dry Film Lube on Self-Locking Inserts only



Miniature - Inch

| PART NUMBER* | | INSERT | | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------|--------------------------|--------------------------|---------------------|-------------------|-----------------------------|------------------|------------------------|-----------------------------|-------------------------------|---------------|------------|---------|-------|
| Non-Lock | Self-Lock | Internal Thread Class 3B | External Thread Class 2A | F Internal Thd Lgth | H Lgth $\pm .015$ | K Dist. to 1st Thd (Approx) | Min. C - C Float | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+ .010$ $- .000$ | Thread Tap | | Drill | |
| | | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 87283 | 87583 | 2 - 56 | 1/4 - 28 [†] | .10 | .19 | .05 | .015 | 82931 | .228 | .250 | 1/4 - 28 | .12 | #8 | 3/32 |
| 87284 | 87584 | 4 - 40 | 5/16 - 24 | .21 | .32 | .07 | .020 | 82932 | .272 | .323 | 5/16 - 24 | .31 | 7/32 | 1/8 |
| 87285 | 87585 | 6 - 32 | 3/8 - 24 | .22 | .36 | .08 | .030 | 82933 | .332 | .385 | 3/8 - 24 | .38 | 9/32 | 1/8 |
| 87286 | 87586 | 8 - 32 | 3/8 - 24 | .22 | .36 | .08 | .030 | 82934 | .332 | .385 | 3/8 - 24 | .38 | 9/32 | 1/8 |

* To complete the abbreviated part numbers in the table above use the prefix "218-0"

[†] Modified Minor Diameter

¹ Tap Drill Hole Tolerance: .130 to .233 = $+ .003$ / $- .001$
 .234 to .500 = $+ .004$ / $- .001$

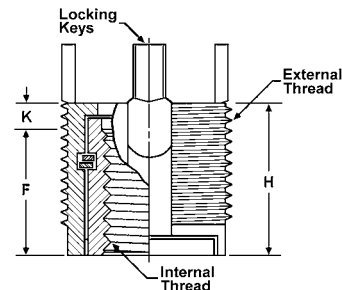
Material: Inserts - 4140 Alloy Steel (160 KSI Min)
 Keys and Retaining Rings - 302 CRES

Finish: Cadmium Plate (QQ-P-416 Type II, Cl. 2)
 Tolerances: $\pm .010$ inch unless specified otherwise.
 Internal Threads: Per SAE AS8879

Dimensions: All dimensions below are in inches

Keys: Inserts with an internal thread size of 5/16 and larger are furnished with 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: Two lines on top of Insert
 Lubrication: Dry Film Lube on Self-Locking Inserts only



Heavy Duty - Inch

| PART NUMBER* | | INSERT | | | | | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------|--------------------------|---------------------------------|---------------------|-------------------|-----------------------------|------------------|------------------------|-----------------------------|-------------------------------|---------------|------------|---------|-------|
| Non-Lock | Self-Lock | Internal Thread Class 3B | External Thread (Mod.) Class 2A | F Internal Thd Lgth | H Lgth $\pm .015$ | K Dist. to 1st Thd (Approx) | Min. C - C Float | Install Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+ .010$ $- .000$ | Thread Tap | | Drill | |
| | | | | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 89301 | 89501 | 10 - 24 | 7/16 - 20 | .25 | .40 | .15 | .040 | 82941 | .406 | .447 | 7/16 - 20 | .39 | 11/32 | 5/32 |
| 89401 | 89601 | 10 - 32 | | | | | | | | | | | | |
| 89302 | 89502 | 1/4 - 20 | 1/2 - 20 | .25 | .40 | .15 | .040 | 82942 | .468 | .510 | 1/2 - 20 | .39 | 13/32 | 5/32 |
| 89402 | 89602 | 1/4 - 28 | | | | | | | | | | | | |
| 89303 | 89503 | 5/16 - 18 | 5/8 - 18 | .39 | .53 | .13 | .040 | 82943 | .578 | .635 | 5/8 - 18 | .50 | 17/32 | 3/16 |
| 89403 | 89603 | 5/16 - 24 | | | | | | | | | | | | |
| 89304 | 89504 | 3/8 - 16 | 3/4 - 16 | .45 | .65 | .20 | .040 | 82944 | .703 | .760 | 3/4 - 16 | .62 | 21/32 | 3/16 |
| 89404 | 89604 | 3/8 - 24 | | | | | | | | | | | | |
| 89305 | 89505 | 7/16 - 14 | 7/8 - 14 | .45 | .67 | .20 | .040 | 82945 | .828 | .885 | 7/8 - 14 | .62 | 25/32 | 3/16 |
| 89405 | 89605 | 7/16 - 20 | | | | | | | | | | | | |
| 89306 | 89506 | 1/2 - 13 | 1" - 12 | .50 | .73 | .23 | .040 | 82946 | .937 | 1.020 | 1" - 12 | .65 | 27/32 | 5/16 |
| 89406 | 89606 | 1/2 - 20 | | | | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "218-0"

¹ Tap Drill Hole Tolerance: .234 to .500 = $+ .004$ / $- .001$
 Over .500 = $+ .005$ / $- .001$



Specific Use - Solid Keylocking Threaded Inserts

Material: Inserts -
 Carbon Steel - C1215 or Equiv.
 Stainless Steel - 303 CRES
 Keys - 302 CRES

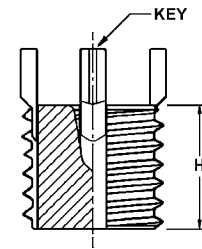
Finish: Carbon Steel - Zinc Phosphate
 Stainless Steel - Passivated

Tolerances: ± 0.010 inch or ± 0.25 mm unless specified otherwise.

Dimensions: Are in inches except metric inserts are in millimeters

Keys: Inserts with an external thread size of 7/16 or M 12 and larger have 4 locking keys. Smaller sizes have 2 locking keys.

Material Identification Mark: None



Solid - Inch

| PART NUMBER* | | INSERT | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------------|---------------------------------|--------|-----------------------------|-----------------------------|----------------------------------|---------------|------------|---------|-------|
| Carbon Steel | Stainless Steel | External Thread (Mod.) Class 2A | Length | Installation Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+0.010$ -0.000 | Thread Tap | | Drill | |
| | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 66001 | 66401 | 5/16 - 18 | .31 | 64801 | .272 | .32 | 5/16 - 18 | .37 | 7/32 | 1/8 |
| 66002 | 66402 | 3/8 - 16 | .31 | 64802 | .332 | .38 | 3/8 - 16 | .37 | 9/32 | 1/8 |
| 66003 | 66403 | 7/16 - 14 | .37 | 64803 | .397 | .44 | 7/16 - 14 | .43 | 11/32 | 3/16 |
| 66004 | 66404 | 1/2 - 13 | .43 | 64804 | .453 | .51 | 1/2 - 13 | .50 | 13/32 | 3/16 |
| 66005 | 66405 | 9/16 - 12 | .50 | 64805 | .516 | .57 | 9/16 - 12 | .56 | 15/32 | 3/16 |
| 66006 | 66406 | 5/8 - 11 | .62 | 64806 | .578 | .63 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| — | 66413 | 11/16 - 11 NS | .68 | 64813 | .641 | .70 | 11/16 - 11 NS | .75 | 19/32 | 3/16 |
| 66007 | 66407 | 3/4 - 16 | .68 | 64807 | .703 | .76 | 3/4 - 16 | .75 | 21/32 | 3/16 |
| — | 66414 | 13/16 - 16 | .81 | 64814 | .766 | .82 | 13/16 - 16 | .94 | 23/32 | 3/16 |
| 66008 | 66408 | 7/8 - 14 | .87 | 64808 | .828 | .88 | 7/8 - 14 | 1.00 | 25/32 | 5/16 |
| 66009 | 66409 | 1" - 12 | .87 | 64809 | .937 | 1.02 | 1" - 12 | 1.00 | 27/32 | 5/16 |
| 66010 | 66410 | 1-1/8 - 12 | 1.12 | 64810 | 1.062 | 1.14 | 1-1/8 - 12 | 1.31 | 31/32 | 5/16 |
| 66011 | 66411 | 1-1/4 - 12 | 1.25 | 64811 | 1.187 | 1.27 | 1-1/4 - 12 | 1.44 | 1-3/32 | 5/16 |
| 66012 | 66412 | 1-3/8 - 12 | 1.37 | 64812 | 1.312 | 1.39 | 1-3/8 - 12 | 1.56 | 1-7/32 | 5/16 |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

¹ Tap Drill Hole Tolerance: .234 to .500 = $+0.004/-0.001$
 over .500 = $+0.005/-0.001$

Solid - Metric

| PART NUMBER* | | INSERT | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------------|--------------------------|--------|-----------------------------|-----------------------------|--------------------------------|---------------|------------|---------|-------|
| Carbon Steel | Stainless Steel | External Thread Class 6g | Length | Installation Tool Part No.* | Tap Drill Size ¹ | C'Sink Dia. $+0.25$ -0.00 | Thread Tap | | Drill | |
| | | | | | | | Size Class 6H | Min. Depth | Size | Depth |
| 66021 | 66421 | M 8x1.25 | 8.0 | 64821 | 6.90 | 8.25 | M 8x1.25 | 9.5 | 5.50 | 4.00 |
| 66022 | 66422 | M 10x1.25 | 10.0 | 64822 | 8.80 | 10.25 | M 10x1.25 | 12.5 | 7.50 | 4.75 |
| 66023 | 66423 | M 12x1.25 | 12.0 | 64823 | 10.80 | 12.25 | M 12x1.25 | 14.5 | 9.50 | 4.75 |
| 66024 | 66424 | M 14x1.5 | 14.0 | 64824 | 12.80 | 14.25 | M 14x1.5 | 16.5 | 11.50 | 4.75 |
| 66025 | 66425 | M 16x1.5 | 16.0 | 64825 | 14.75 | 16.25 | M 16x1.5 | 18.5 | 13.50 | 4.75 |
| 66026 | 66426 | M 18x1.5 | 18.0 | 64826 | 16.75 | 18.25 | M 18x1.5 | 20.5 | 15.50 | 4.75 |
| 66027 | 66427 | M 20x1.5 | 20.0 | 64827 | 18.75 | 20.25 | M 20x1.5 | 22.5 | 17.50 | 4.75 |
| 66028 | 66428 | M 22x1.5 | 22.0 | 64828 | 20.50 | 22.25 | M 22x1.5 | 24.5 | 17.75 | 6.35 |
| 66029 | 66429 | M 24x1.5 | 24.0 | 64829 | 22.50 | 24.25 | M 24x1.5 | 26.5 | 19.75 | 6.35 |
| 66030 | 66430 | M 30x2.0 | 30.0 | 64830 | 28.00 | 30.25 | M 30x2.0 | 34.5 | 25.75 | 6.35 |
| 66031 | 66431 | M 32x2.0 | 32.0 | 64831 | 30.00 | 32.25 | M 32x2.0 | 36.5 | 27.75 | 6.35 |
| 66032 | 66432 | M 33x2.0 | 33.0 | 64832 | 31.00 | 33.25 | M 33x2.0 | 37.5 | 28.75 | 6.35 |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

¹ Tap Drill Hole Tolerance: 6.90 to 10.80 = $+0.100/-0.025$
 over 12.80 = $+0.130/-0.025$

Specific Use - Cast-In Threaded Inserts



Material: Stainless - 303 or equivalent
Brass - 360 or equivalent

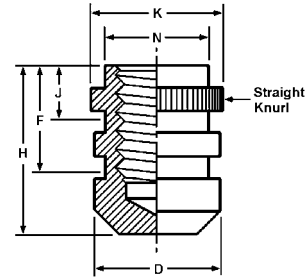
Finish: Stainless steel - Passivated
Brass - None

Dimensions: Are in inches except metric inserts are in millimeters

Tolerances: $\pm .005$ inch or $\pm .13$ mm unless specified otherwise.

Material Identification Mark: None

Lubrication: None



Cast-In Inserts - Inch

| PART NUMBER* | | | DIMENSIONS | | | | | | |
|--------------|------------------------|-------|--------------------------|----------------------|--------------------|------------------|-----------------------|--------------|----------------------|
| Stainless | Stainless Self-Locking | Brass | Internal Thread Class 2B | D Major Outside Dia. | F Min. Full Thread | H Overall Length | J Dist. to Lock (Ref) | K Over Knurl | N Minor Outside Dia. |
| 80002 | 80102 | 80202 | 4 - 40 | 3/16 | .16 | .31 | 3/32 | .200 | .160 |
| 80003 | 80103 | 80203 | 6 - 32 | 1/4 | .19 | .34 | 3/32 | .262 | .200 |
| 80004 | 80104 | 80204 | 8 - 32 | 9/32 | .22 | .37 | 1/8 | .294 | .230 |
| 80005 | 80105 | 80205 | 10 - 24 | 5/16 | .28 | .43 | 5/32 | .324 | .265 |
| 80006 | 80106 | 80206 | 10 - 32 | | | | | | |
| 80007 | 80107 | 80207 | 1/4 - 20 | 3/8 | .37 | .62 | 3/16 | .386 | .345 |
| 80008 | 80108 | 80208 | 1/4 - 28 | | | | | | |
| 80009 | 80109 | 80209 | 5/16 - 18 | 7/16 | .43 | .68 | 3/16 | .451 | .407 |
| 80010 | 80110 | 80210 | 5/16 - 24 | | | | | | |
| 80011 | 80111 | 80211 | 3/8 - 16 | 9/16 | .50 | .75 | 3/16 | .576 | .522 |
| 80012 | 80112 | 80212 | 3/8 - 24 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "216-0"

Cast-In Inserts - Metric

| PART NUMBER* | | | DIMENSIONS | | | | | | |
|--------------|------------------------|-------|--------------------------|----------------------|--------------------|------------------|-----------------------|--------------|----------------------|
| Stainless | Stainless Self-Locking | Brass | Internal Thread Class 6H | D Major Outside Dia. | F Min. Full Thread | H Overall Length | J Dist. to Lock (Ref) | K Over Knurl | N Minor Outside Dia. |
| 80031 | 80131 | 80231 | M 3 X 0.5 | 5.0 | 4.5 | 8.5 | 2.4 | 5.4 | 4.3 |
| 80032 | 80132 | 80232 | M 3.5 X 0.6 | 6.5 | 5.0 | 9.0 | 2.4 | 6.9 | 5.2 |
| 80033 | 80133 | 80233 | M 4 X 0.7 | 7.0 | 5.5 | 9.5 | 3.9 | 7.4 | 5.7 |
| 80034 | 80134 | 80234 | M 5 X 0.8 | 8.0 | 7.5 | 11.5 | 3.9 | 8.4 | 6.8 |
| 80035 | 80135 | 80235 | M 6 X 1.0 | 9.5 | 9.5 | 15.5 | 3.9 | 9.9 | 8.7 |
| 80036 | 80136 | 80236 | M 8 X 1.25 | 11.5 | 11.5 | 18.0 | 4.8 | 11.9 | 10.7 |
| 80037 | 80137 | 80237 | M 8 X 1.0 | | | | | | |
| 80038 | 80138 | 80238 | M 10 X 1.5 | 15.0 | 13.5 | 20.0 | 4.8 | 15.4 | 13.9 |
| 80039 | 80139 | 80239 | M 10 X 1.25 | | | | | | |

* To complete the abbreviated part number in the table above use the prefix "216-0"



Industrial Style - Bulk Packed Keylocking Threaded Inserts

Thinwall - Inch

| PART NUMBER* | | INSERT | | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------------|--------------------------|---------------------------------|--------|-----------------------------|----------------|--|---------------|------------|---------|-------|
| Carbon Steel | Stainless Steel | Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Installation Tool Part No.* | Tap Drill Size | C'Sink Dia. <small>+0.010 -0.000</small> | Thread Tap | | Drill | |
| | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 65921 | 66321 | 10 - 24 | 5/16 - 18 | .31 | 64721 | "I" | .32 | 5/16 - 18 | .37 | 7/32 | 1/8 |
| 66121 | 66521 | 10 - 32 | | | | | | | | | |
| 65922 | 66322 | 1/4 - 20 | 3/8 - 16 | .37 | 64722 | "Q" | .38 | 3/8 - 16 | .43 | 9/32 | 3/16 |
| 66122 | 66522 | 1/4 - 28 | | | | | | | | | |
| 65923 | 66323 | 5/16 - 18 | 7/16 - 14 | .43 | 64723 | "X" | .44 | 7/16 - 14 | .50 | 11/32 | 3/16 |
| 66123 | 66523 | 5/16 - 24 | | | | | | | | | |
| 65924 | 66324 | 3/8 - 16 | 1/2 - 13 | .50 | 64724 | 29/64 | .51 | 1/2 - 13 | .56 | 13/32 | 3/16 |
| 66124 | 66524 | 3/8 - 24 | | | | | | | | | |
| 65925 | 66325 | 7/16 - 14 | 9/16 - 12 | .56 | 64725 | 33/64 | .57 | 9/16 - 12 | .62 | 15/32 | 3/16 |
| 66125 | 66525 | 7/16 - 20 | | | | | | | | | |
| 65926 | 66326 | 1/2 - 13 | 5/8 - 11 | .62 | 64726 | 37/64 | .63 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| 66126 | 66526 | 1/2 - 20 | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

Heavy Duty - Inch

| PART NUMBER* | | INSERT | | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------------|--------------------------|---------------------------------|--------|-----------------------------|----------------|--|---------------|------------|---------|-------|
| Carbon Steel | Stainless Steel | Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Installation Tool Part No.* | Tap Drill Size | C'Sink Dia. <small>+0.010 -0.000</small> | Thread Tap | | Drill | |
| | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 65900 | 66300 | 8 - 32 | 5/16 - 18 | .31 | 64700 | "I" | .32 | 5/16 - 18 | .37 | 7/32 | 1/8 |
| 65901 | 66301 | 10 - 24 | 3/8 - 16 | .31 | 64701 | "Q" | .38 | 3/8 - 16 | .37 | 9/32 | 1/8 |
| 66101 | 66501 | 10 - 32 | | | | | | | | | |
| 65902 | 66302 | 1/4 - 20 | 7/16 - 14 | .37 | 64702 | "X" | .44 | 7/16 - 14 | .43 | 11/32 | 3/16 |
| 66102 | 66502 | 1/4 - 28 | | | | | | | | | |
| 65903 | 66303 | 5/16 - 18 | 1/2 - 13 | .43 | 64703 | 29/64 | .51 | 1/2 - 13 | .50 | 13/32 | 3/16 |
| 66103 | 66503 | 5/16 - 24 | | | | | | | | | |
| 65904 | 66304 | 3/8 - 16 | 9/16 - 12 | .50 | 64704 | 33/64 | .57 | 9/16 - 12 | .56 | 15/32 | 3/16 |
| 66104 | 66504 | 3/8 - 24 | | | | | | | | | |
| 65905 | 66305 | 7/16 - 14 | 5/8 - 11 | .62 | 64705 | 37/64 | .63 | 5/8 - 11 | .68 | 17/32 | 3/16 |
| 66105 | 66505 | 7/16 - 20 | | | | | | | | | |
| 65906 | 66306 | 1/2 - 13 | 3/4 - 16 | .62 | 64706 | 45/64 | .76 | 3/4 - 16 | .68 | 21/32 | 3/16 |
| 66106 | 66506 | 1/2 - 20 | | | | | | | | | |
| 65907 | 66307 | 9/16 - 12 | 3/4 - 16 | .81 | 64707 | 45/64 | .76 | 3/4 - 16 | .94 | 21/32 | 3/16 |
| 66107 | 66507 | 9/16 - 18 | | | | | | | | | |
| 65908 | 66308 | 5/8 - 11 | 7/8 - 14 | .87 | 64708 | 53/64 | .88 | 7/8 - 14 | 1.00 | 25/32 | 5/16 |
| 66108 | 66508 | 5/8 - 18 | | | | | | | | | |
| 65909 | 66309 | 3/4 - 10 | 1-1/8 - 12 | 1.12 | 64709 | 1-1/16 | 1.14 | 1-1/8 - 12 | 1.31 | 31/32 | 5/16 |
| 66109 | 66509 | 3/4 - 16 | | | | | | | | | |
| 65910 | 66310 | 7/8 - 9 | 1-1/4 - 12 | 1.25 | 64710 | 1-3/16 | 1.27 | 1-1/4 - 12 | 1.44 | 1-3/32 | 5/16 |
| 66110 | 66510 | 7/8 - 14 | | | | | | | | | |
| 65911 | 66311 | 1" - 8 | 1-3/8 - 12 | 1.37 | 64711 | 1-5/16 | 1.39 | 1-3/8 - 12 | 1.56 | 1-7/32 | 5/16 |
| 66111 | 66511 | 1" - 12 | | | | | | | | | |
| 66112 | — | 1" - 14 | | | | | | | | | |
| 65913 | — | 1-1/8 - 7 | 1-1/2 - 12 | 1.62 | 64713 | 1-7/16 | 1.52 | 1-1/2 - 12 | 1.84 | 1-11/32 | 5/16 |
| 66113 | — | 1-1/8 - 12 | | | | | | | | | |
| 65914 | — | 1-1/4 - 7 | 1-5/8 - 12 | 1.81 | 64714 | 1-9/16 | 1.64 | 1-5/8 - 12 | 2.06 | 1-15/32 | 5/16 |
| 66114 | — | 1-1/4 - 12 | | | | | | | | | |
| 65916 | — | 1-1/2 - 6 | 1-7/8 - 12 | 2.00 | 64716 | 1-13/16 | 1.89 | 1-7/8 - 12 | 2.28 | 1-23/32 | 5/16 |
| 66116 | — | 1-1/2 - 12 | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

Industrial Style - Bulk Packed Keylocking Threaded Inserts



Extra Heavy Duty - Inch

| PART NUMBER* | | INSERT | | | INSTALLATION | | | | REMOVAL | | |
|--------------|-----------------|--------------------------|---------------------------------|--------|-----------------------------|----------------|--------------------------------|---------------|------------|---------|-------|
| Carbon Steel | Stainless Steel | Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Installation Tool Part No.* | Tap Drill Size | C'Sink Dia. $^{+.010}_{-.000}$ | Thread Tap | | Drill | |
| | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 65931 | 66331 | 6 - 32 | 5/16 - 18 | .31 | 64731 | "I" | .32 | 5/16 - 18 | .37 | 7/32 | 1/8 |
| 65932 | 66332 | 8 - 32 | 3/8 - 16 | .31 | 64732 | "Q" | .38 | 3/8 - 16 | .37 | 9/32 | 1/8 |
| 65933 | 66333 | 10 - 24 | 7/16 - 14 | .31 | 64733 | "X" | .44 | 7/16 - 14 | .37 | 11/32 | 3/16 |
| 66133 | 66533 | 10 - 32 | | | | | | | | | |
| 65934 | 66334 | 1/4 - 20 | 1/2 - 13 | .37 | 64734 | 29/64 | .51 | 1/2 - 13 | .43 | 13/32 | 3/16 |
| 66134 | 66534 | 1/4 - 28 | | | | | | | | | |
| 65935 | 66335 | 5/16 - 18 | 9/16 - 12 | .43 | 64735 | 33/64 | .57 | 9/16 - 12 | .50 | 15/32 | 3/16 |
| 66135 | 66535 | 5/16 - 24 | | | | | | | | | |
| 65936 | 66336 | 3/8 - 16 | 5/8 - 11 | .50 | 64736 | 37/64 | .63 | 5/8 - 11 | .56 | 17/32 | 3/16 |
| 66136 | 66536 | 3/8 - 24 | | | | | | | | | |
| 65937 | 66337 | 7/16 - 14 | 3/4 - 16 | .62 | 64737 | 45/64 | .76 | 3/4 - 16 | .68 | 21/32 | 3/16 |
| 66137 | 66537 | 7/16 - 20 | | | | | | | | | |
| 65938 | 66338 | 1/2 - 13 | 7/8 - 14 | .68 | 64738 | 53/64 | .88 | 7/8 - 14 | .75 | 25/32 | 5/16 |
| 66138 | 66538 | 1/2 - 20 | | | | | | | | | |
| 65939 | 66339 | 9/16 - 12 | 7/8 - 14 | .81 | 64739 | 53/64 | .88 | 7/8 - 14 | .94 | 25/32 | 5/16 |
| 66139 | 66539 | 9/16 - 18 | | | | | | | | | |
| 65940 | 66340 | 5/8 - 11 | 1" - 12 | .87 | 64740 | 15/16 | 1.02 | 1" - 12 | 1.00 | 27/32 | 5/16 |
| 66140 | 66540 | 5/8 - 18 | | | | | | | | | |
| 65941 | 66341 | 3/4 - 10 | 1-1/4 - 12 | 1.12 | 64741 | 1-3/16 | 1.27 | 1-1/4 - 12 | 1.31 | 1-3/32 | 5/16 |
| 66141 | 66541 | 3/4 - 16 | | | | | | | | | |
| 65942 | 66342 | 7/8 - 9 | 1-3/8 - 12 | 1.25 | 64742 | 1-5/16 | 1.39 | 1-3/8 - 12 | 1.44 | 1-7/32 | 5/16 |
| 66142 | 66542 | 7/8 - 14 | | | | | | | | | |
| 65943 | 66343 | 1" - 8 | 1-1/2 - 12 | 1.37 | 64743 | 1-7/16 | 1.52 | 1-1/2 - 12 | 1.56 | 1-11/32 | 5/16 |
| 66143 | 66543 | 1" - 12 | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

General Information For Industrial Style Keylocking Threaded Inserts

Material: Inserts -

Carbon Steel - C1215 or equivalent

Stainless Steel - 303 or equivalent

Keys - 302 CRES or equivalent

Finish: Carbon Steel - Zinc Phosphate

Stainless Steel - Passivated

Tolerances: $\pm .010$ inch or $\pm .25$ mm unless specified otherwise.

Dimensions: Are in inches except metric inserts are in millimeters.

Metric/Inch inserts have a metric internal thread while all other dimensions are in inches.

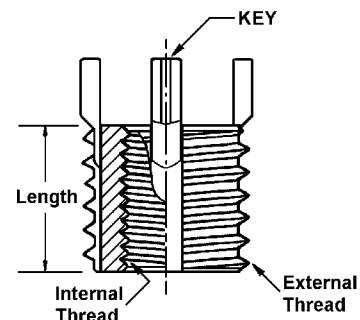
Keys: Inserts with an internal thread size of 5/16 or M7 and larger have 4 locking keys. Smaller sizes have 2 locking keys.

Tap Drill Hole Tolerance: Inch - .234 to .500 = $+.004/-0.001$

Over .500 = $+.005/-0.001$

Metric - 6.90 to 10.80 = $+.100/-0.025$

Over 12.80 = $+.130/-0.025$



See Page 2 for Installation and Removal Instructions



Industrial Style - Bulk Packed Keylocking Threaded Inserts

Thinwall - Metric

| PART NUMBER* | | INSERT | | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------------|--------------------------|--------------------------|--------|-----------------------------|----------------|--------------------------|---------------|------------|---------|-------|
| Carbon Steel | Stainless Steel | Internal Thread Class 6H | External Thread Class 6g | Length | Installation Tool Part No.* | Tap Drill Size | C'Sink Dia. +.25 -.00 | Thread Tap | | Drill | |
| | | | | | | | | Size Class 6H | Min. Depth | Size | Depth |
| 65951 | 66351 | M 5x0.8 | M 8x1.25 | 8.0 | 64751 | 6.9 | 8.25 | M 8x1.25 | 9.5 | 5.50 | 4.00 |
| 65952 | 66352 | M 6x1.0 | M 10x1.25 | 10.0 | 64752 | 8.8 | 10.25 | M 10x1.25 | 11.5 | 7.50 | 4.75 |
| 65953 | 66353 | M 8x1.25 | M 12x1.25 | 12.0 | 64753 | 10.8 | 12.25 | M 12x1.25 | 13.5 | 9.50 | 4.75 |
| 66153 | 66553 | M 8x1.0 | | | | | | | | | |
| 65955 | 66355 | M 10x1.5 | M 14x1.5 | 14.0 | 64755 | 12.8 | 14.25 | M 14x1.5 | 15.5 | 11.50 | 4.75 |
| 66155 | 66555 | M 10x1.25 | | | | | | | | | |
| 65956 | 66356 | M 12x1.75 | M 16x1.5 | 16.0 | 64756 | 14.75 | 16.25 | M 16x1.5 | 17.5 | 13.50 | 4.75 |
| 66156 | 66556 | M 12x1.25 | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

Heavy Duty - Metric

| PART NUMBER* | | INSERT | | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------------|--------------------------|--------------------------|--------|-----------------------------|----------------|--------------------------|---------------|------------|---------|-------|
| Carbon Steel | Stainless Steel | Internal Thread Class 6H | External Thread Class 6g | Length | Installation Tool Part No.* | Tap Drill Size | C'Sink Dia. +.25 -.00 | Thread Tap | | Drill | |
| | | | | | | | | Size Class 6H | Min. Depth | Size | Depth |
| 65963 | 66363 | M 4x0.7 | M 8x1.25 | 8.0 | 64763 | 6.9 | 8.25 | M 8x1.25 | 9.5 | 5.50 | 4.00 |
| 65964 | 66364 | M 5x0.8 | M 10x1.25 | 10.0 | 64764 | 8.8 | 10.25 | M 10x1.25 | 12.5 | 7.50 | 4.75 |
| 65965 | 66365 | M 6x1.0 | M 12x1.25 | 12.0 | 64765 | 10.8 | 12.25 | M 12x1.25 | 14.5 | 9.50 | 4.75 |
| 65966 | 66366 | M 8x1.25 | M 14x1.5 | 14.0 | 64766 | 12.8 | 14.25 | M 14x1.5 | 16.5 | 11.50 | 4.75 |
| 66166 | 66566 | M 8x1.0 | | | | | | | | | |
| 65967 | 66367 | M 10x1.5 | M 16x1.5 | 16.0 | 64767 | 14.75 | 16.25 | M 16x1.5 | 18.5 | 13.50 | 4.75 |
| 66167 | 66567 | M 10x1.25 | | | | | | | | | |
| 65969 | 66369 | M 12x1.75 | M 18x1.5 | 18.0 | 64769 | 16.75 | 18.25 | M 18x1.5 | 20.5 | 15.50 | 4.75 |
| 66169 | 66569 | M 12x1.25 | | | | | | | | | |
| 65970 | 66370 | M 14x2.0 | M 20x1.5 | 20.0 | 64770 | 18.75 | 20.25 | M 20x1.5 | 22.5 | 17.50 | 4.75 |
| 66170 | 66570 | M 14x1.5 | | | | | | | | | |
| 65971 | 66371 | M 16x2.0 | M 22x1.5 | 22.0 | 64771 | 20.5 | 22.25 | M 22x1.5 | 24.5 | 17.75 | 6.35 |
| 66171 | 66571 | M 16x1.5 | | | | | | | | | |
| 66172 | 66572 | M 18x1.5 | M 24x1.5 | 24.0 | 64772 | 22.5 | 24.25 | M 24x1.5 | 26.5 | 19.75 | 6.35 |
| 65973 | 66373 | M 20x2.5 | M 30x2.0 | 30.0 | 64773 | 28.0 | 30.25 | M 30x2.0 | 34.5 | 25.75 | 6.35 |
| 66173 | 66573 | M 20x1.5 | | | | | | | | | |
| 66174 | 66574 | M 22x1.5 | M 32x2.0 | 32.0 | 64774 | 30.0 | 32.25 | M 32x2.0 | 36.5 | 27.75 | 6.35 |
| 65975 | 66375 | M 24x3.0 | M 33x2.0 | 33.0 | 64775 | 31.0 | 33.25 | M 33x2.0 | 37.5 | 28.75 | 6.35 |
| 66175 | 66575 | M 24x2.0 | | | | | | | | | |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

Metric Internal / Inch External

| PART NUMBER* | | INSERT | | | INSTALLATION | | | | | REMOVAL | |
|--------------|-----------------|--------------------------|---------------------------------|--------|----------------------------|----------------|----------------------------|---------------|------------|---------|-------|
| Carbon Steel | Stainless Steel | Internal Thread Class 6H | External Thread (Mod.) Class 2A | Length | Installation Tool Part No. | Tap Drill Size | C'Sink Dia. +.010 -.000 | Thread Tap | | Drill | |
| | | | | | | | | Size Class 2B | Min. Depth | Size | Depth |
| 66243 | 66643 | M 6x1.0 | 3/8 - 16 | .31 | 64843 | "Q" | .38 | 3/8 - 16 | .37 | 9/32 | 1/8 |
| 66244 | 66644 | M 8x1.25 | 1/2 - 13 | .43 | 64844 | 29/64 | .51 | 1/2 - 13 | .50 | 13/32 | 3/16 |
| 66245 | 66645 | M 10x1.5 | 5/8 - 11 | .50 | 64845 | 37/64 | .63 | 5/8 - 11 | .56 | 17/32 | 3/16 |
| 66247 | 66647 | M 12x1.75 | 3/4 - 16 | .62 | 64847 | 45/64 | .76 | 3/4 - 16 | .68 | 21/32 | 3/16 |
| 66248 | 66648 | M 14x2.0 | 7/8 - 14 | .81 | 64848 | 53/64 | .88 | 7/8 - 14 | .94 | 25/32 | 5/16 |
| 66249 | 66649 | M 16x2.0 | 1" - 12 | .87 | 64849 | 15/16 | 1.02 | 1" - 12 | 1.00 | 27/32 | 5/16 |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"
(All dimensions are specified in inches except internal thread is metric.)

Industrial Style - Single Size Kits Keylocking Threaded Inserts



Thinwall - Inch

| PART NUMBER* | | Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Number of Inserts Per Kit |
|--------------|-----------------|--------------------------|---------------------------------|--------|---------------------------|
| Carbon Steel | Stainless Steel | | | | |
| 67921 | 68321 | 10 - 24 | 5/16-18 | .31 | 9 |
| 68121 | 68521 | 10 - 32 | | | |
| 67922 | 68322 | 1/4 - 20 | 3/8 - 16 | .37 | 8 |
| 68122 | 68522 | 1/4 - 28 | | | |
| 67923 | 68323 | 5/16 - 18 | 7/16 - 14 | .43 | 7 |
| 68123 | 68523 | 5/16 - 24 | | | |
| 67924 | 68324 | 3/8 - 16 | 1/2 - 13 | .50 | 6 |
| 68124 | 68524 | 3/8 - 24 | | | |
| 67925 | 68325 | 7/16 - 14 | 9/16 - 12 | .56 | 6 |
| 68125 | 68525 | 7/16 - 20 | | | |
| 67926 | 68326 | 1/2 - 13 | 5/8 - 11 | .62 | 4 |
| 68126 | 68526 | 1/2 - 20 | | | |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

Heavy Duty - Inch

| PART NUMBER* | | Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Number of Inserts Per Kit |
|--------------|-----------------|--------------------------|---------------------------------|--------|---------------------------|
| Carbon Steel | Stainless Steel | | | | |
| 67900 | 68300 | 8 - 32 | 5/16 - 18 | .31 | 9 |
| 67901 | 68301 | 10 - 24 | 3/8 - 16 | .31 | 9 |
| 68101 | 68501 | 10 - 32 | | | |
| 67902 | 68302 | 1/4 - 20 | 7/16 - 14 | .37 | 8 |
| 68102 | 68502 | 1/4 - 28 | | | |
| 67903 | 68303 | 5/16 - 18 | 1/2 - 13 | .43 | 7 |
| 68103 | 68503 | 5/16 - 24 | | | |
| 67904 | 68304 | 3/8 - 16 | 9/16 - 12 | .50 | 6 |
| 68104 | 68504 | 3/8 - 24 | | | |
| 67905 | 68305 | 7/16 - 14 | 5/8 - 11 | .62 | 6 |
| 68105 | 68505 | 7/16 - 20 | | | |
| 67906 | 68306 | 1/2 - 13 | 3/4 - 16 | .62 | 4 |
| 68106 | 68506 | 1/2 - 20 | | | |
| 67907 | 68307 | 9/16 - 12 | 3/4 - 16 | .81 | 3 |
| 68107 | 68507 | 9/16 - 18 | | | |
| 67908 | 68308 | 5/8 - 11 | 7/8 - 14 | .87 | 3 |
| 68108 | 68508 | 5/8 - 18 | | | |
| 67909 | 68309 | 3/4 - 10 | 1-1/8 - 12 | 1.12 | 3 |
| 68109 | 68509 | 3/4 - 16 | | | |
| 67910 | 68310 | 7/8 - 9 | 1-1/4 - 12 | 1.25 | 3 |
| 68110 | 68510 | 7/8 - 14 | | | |
| 67911 | 68311 | 1" - 8 | 1-3/8 - 12 | 1.37 | 2 |
| 68111 | 68511 | 1" - 12 | | | |
| 67913 | — | 1-1/8 - 7 | 1-1/2 - 12 | 1.62 | 2 |
| 68113 | — | 1-1/8 - 12 | | | |
| 67914 | — | 1-1/4 - 7 | 1-5/8 - 12 | 1.81 | 2 |
| 68114 | — | 1-1/4 - 12 | | | |
| 67916 | — | 1-1/2 - 6 | 1-7/8 - 12 | 2.00 | 2 |
| 68116 | — | 1-1/2 - 12 | | | |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"



Single Size Kits contain inserts of one size per box. Each Single Size Kit includes the quantity of inserts shown in the chart, one installation tool, and instructions for installation and removal.



Industrial Style - Single Size Kits Keylocking Threaded Inserts

Thinwall - Metric

| PART NUMBER* | | Internal Thread Class 6H | External Thread Class 6g | Length | Number of Inserts Per Kit |
|--------------|-----------------|--------------------------|--------------------------|--------|---------------------------|
| Carbon Steel | Stainless Steel | | | | |
| 67951 | 68351 | M 5x0.8 | M 8x1.25 | 8.0 | 8 |
| 67952 | 68352 | M 6x1.0 | M 10x1.25 | 10.0 | 8 |
| 67953 | 68353 | M 8x1.25 | M 12x1.25 | 12.0 | 6 |
| 68153 | 68553 | M 8x1.0 | | | |
| 67955 | 68355 | M 10x1.5 | M 14x1.5 | 14.0 | 4 |
| 68155 | 68555 | M 10x1.25 | | | |
| 67956 | 68356 | M 12x1.75 | M 16x1.5 | 16.0 | 3 |
| 68156 | 68556 | M 12x1.25 | | | |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

Heavy Duty - Metric

| PART NUMBER* | | Internal Thread Class 6H | External Thread Class 6g | Length | Number of Inserts Per Kit |
|--------------|-----------------|--------------------------|--------------------------|--------|---------------------------|
| Carbon Steel | Stainless Steel | | | | |
| 67963 | 68363 | M 4x0.7 | M 8x1.25 | 8.0 | 9 |
| 67964 | 68364 | M 5x0.8 | M 10x1.25 | 10.0 | 8 |
| 67965 | 68365 | M 6x1.0 | M 12x1.25 | 12.0 | 8 |
| 67966 | 68366 | M 8x1.25 | M 14x1.5 | 14.0 | 6 |
| 68166 | 68566 | M 8x1.0 | | | |
| 67967 | 68367 | M 10x1.5 | M 16x1.5 | 16.0 | 4 |
| 68167 | 68567 | M 10x1.25 | | | |
| 67969 | 68369 | M 12x1.75 | M 18x1.5 | 18.0 | 3 |
| 68169 | 68569 | M 12x1.25 | | | |
| 67970 | 68370 | M 14x2.0 | M 20x1.5 | 20.0 | 4 |
| 68170 | 68570 | M 14x1.5 | | | |
| 67971 | 68371 | M 16x2.0 | M 22x1.5 | 22.0 | 3 |
| 68171 | 68571 | M 16x1.5 | | | |
| 68172 | 68572 | M 18x1.5 | M 24x1.5 | 24.0 | 2 |
| 67973 | 68373 | M 20x2.5 | M 30x2.0 | 30.0 | 3 |
| 68173 | 68573 | M 20x1.5 | | | |
| 68174 | 68574 | M 22x1.5 | M 32x2.0 | 32.0 | 3 |
| 67975 | 68375 | M 24x3.0 | M 33x2.0 | 33.0 | 2 |
| 68175 | 68575 | M 24x2.0 | | | |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

Metric Internal / Inch External

| PART NUMBER* | | Internal Thread Class 6H | External Thread (Mod.) Class 2A | Length | Number of Inserts Per Kit |
|--------------|-----------------|--------------------------|---------------------------------|--------|---------------------------|
| Carbon Steel | Stainless Steel | | | | |
| 68243 | 68643 | M 6x1.0 | 3/8 - 16 | .31 | 8 |
| 68244 | 68644 | M 8x1.25 | 1/2 - 13 | .43 | 8 |
| 68245 | 68645 | M 10x1.5 | 5/8 - 11 | .50 | 6 |
| 68247 | 68647 | M 12x1.75 | 3/4 - 16 | .62 | 4 |
| 68248 | 68648 | M 14x2.0 | 7/8 - 14 | .81 | 3 |
| 68249 | 68649 | M 16x2.0 | 1" - 12 | .87 | 3 |

* To complete the abbreviated part numbers in the table above use the prefix "215-0"

Industrial Style - Assortment Kits

Keylocking Threaded Inserts



Large Assortments

Thinwall - Inch Coarse Series

| Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Quantity of Inserts per Kit |
|--------------------------|---------------------------------|--------|-----------------------------|
| 10 - 24 | 5/16 - 18 | .31 | 20 |
| 1/4 - 20 | 3/8 - 16 | .37 | 20 |
| 5/16 - 18 | 7/16 - 14 | .43 | 15 |
| 3/8 - 16 | 1/2 - 13 | .50 | 10 |
| 7/16 - 14 | 9/16 - 12 | .56 | 10 |
| 1/2 - 13 | 5/8 - 11 | .62 | 6 |

Carbon Steel Kit Part Number: **215-064943**
 Stainless Steel Kit Part Number: **215-064963**

Thinwall - Inch Fine Series

| Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Quantity of Inserts per Kit |
|--------------------------|---------------------------------|--------|-----------------------------|
| 10 - 32 | 5/16 - 18 | .31 | 20 |
| 1/4 - 28 | 3/8 - 16 | .37 | 20 |
| 5/16 - 24 | 7/16 - 14 | .43 | 15 |
| 3/8 - 24 | 1/2 - 13 | .50 | 10 |
| 7/16 - 20 | 9/16 - 12 | .56 | 10 |
| 1/2 - 20 | 5/8 - 11 | .62 | 6 |

Carbon Steel Kit Part Number: **215-064944**
 Stainless Steel Kit Part Number: **215-064964**

Heavy Duty - Inch Coarse Series

| Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Quantity of Inserts per Kit |
|--------------------------|---------------------------------|--------|-----------------------------|
| 1/4 - 20 | 7/16 - 14 | .37 | 20 |
| 5/16 - 18 | 1/2 - 13 | .43 | 15 |
| 3/8 - 16 | 9/16 - 12 | .50 | 10 |
| 7/16 - 14 | 5/8 - 11 | .62 | 10 |
| 1/2 - 13 | 3/4 - 16 | .62 | 6 |
| 9/16 - 12 | 3/4 - 16 | .81 | 5 |
| 5/8 - 11 | 7/8 - 14 | .87 | 3 |
| 3/4 - 10 | 1-1/8 - 12 | 1.12 | 3 |
| 7/8 - 9 | 1-1/4 - 12 | 1.25 | 3 |
| 1" - 8 | 1-3/8 - 12 | 1.37 | 2 |

Carbon Steel Kit Part Number: **215-064941**
 Stainless Steel Kit Part Number: **215-064966**

Heavy Duty - Inch Fine Series

| Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Quantity of Inserts per Kit |
|--------------------------|---------------------------------|--------|-----------------------------|
| 1/4 - 28 | 7/16 - 14 | .37 | 20 |
| 5/16 - 24 | 1/2 - 13 | .43 | 15 |
| 3/8 - 24 | 9/16 - 12 | .50 | 10 |
| 7/16 - 20 | 5/8 - 11 | .62 | 10 |
| 1/2 - 20 | 3/4 - 16 | .62 | 6 |
| 9/16 - 18 | 3/4 - 16 | .81 | 5 |
| 5/8 - 18 | 7/8 - 14 | .87 | 3 |
| 3/4 - 16 | 1-1/8 - 12 | 1.12 | 3 |
| 7/8 - 14 | 1-1/4 - 12 | 1.25 | 3 |
| 1" - 12 | 1-3/8 - 12 | 1.37 | 2 |

Carbon Steel Kit Part Number: **215-064942**
 Stainless Steel Kit Part Number: **215-064967**

Thinwall - Metric Series

| Internal Thread Class 6H | External Thread Class 6g | Length | Quantity of Inserts per Kit |
|--------------------------|--------------------------|--------|-----------------------------|
| M 6x1.0 | M 10x1.25 | 10.0 | 20 |
| M 8x1.25 | M 12x1.25 | 12.0 | 15 |
| M 8x1.0 | | | 15 |
| M 10x1.5 | M 14x1.5 | 14.0 | 10 |
| M 10x1.25 | | | 10 |
| M 12x1.75 | M 16x1.5 | 16.0 | 6 |
| M 12x1.25 | | | 6 |

Carbon Steel Kit Part Number: **215-064945**
 Stainless Steel Kit Part Number: **215-064965**



Industrial Style - Assortment Kits Keylocking Threaded Inserts

Small Assortments

Heavy Duty - Inch Coarse Series

| Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Quantity of Inserts per Kit |
|--------------------------|---------------------------------|--------|-----------------------------|
| 10 - 24 | 3/8 - 16 | .31 | 5 |
| 1/4 - 20 | 7/16 - 14 | .37 | 10 |
| 5/16 - 18 | 1/2 - 13 | .43 | 10 |
| 3/8 - 16 | 9/16 - 12 | .50 | 10 |
| 1/2 - 13 | 3/4 - 16 | .62 | 10 |
| 5/8 - 11 | 7/8 - 14 | .87 | 10 |
| 3/4 - 10 | 1-1/8 - 12 | 1.12 | 5 |

Carbon Steel Kit Part Number: **215-064951**
Stainless Steel Kit Part Number: **215-064961**

Heavy Duty - Inch Fine Series

| Internal Thread Class 2B | External Thread (Mod.) Class 2A | Length | Quantity of Inserts per Kit |
|--------------------------|---------------------------------|--------|-----------------------------|
| 10 - 32 | 3/8 - 16 | .31 | 5 |
| 1/4 - 28 | 7/16 - 14 | .37 | 10 |
| 5/16 - 24 | 1/2 - 13 | .43 | 10 |
| 3/8 - 24 | 9/16 - 12 | .50 | 10 |
| 1/2 - 20 | 3/4 - 16 | .62 | 10 |
| 5/8 - 18 | 7/8 - 14 | .87 | 10 |
| 3/4 - 16 | 1-1/8 - 12 | 1.12 | 5 |

Carbon Steel Kit Part Number: **215-064952**
Stainless Steel Kit Part Number: **215-064962**

Thinwall - Metric Series

| Internal Thread Class 6H | External Thread Class 6g | Length | Quantity of Inserts per Kit |
|--------------------------|--------------------------|--------|-----------------------------|
| M 5x0.8 | M 8x1.25 | 8.0 | 8 |
| M 6x1.0 | M 10x1.25 | 10.0 | 8 |
| M 8x1.25 | M 12x1.25 | 12.0 | 6 |
| M 8x1.0 | | | 6 |
| M 10x1.5 | M 14x1.5 | 14.0 | 4 |
| M 10x1.25 | | | 4 |
| M 12x1.75 | M 16x1.5 | 16.0 | 3 |
| M 12x1.25 | | | 3 |

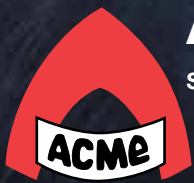
Carbon Steel Kit Part Number: **215-064983**
Stainless Steel Kit Part Number: **215-064993**



Each Assortment Kit contains a selection of various size inserts and the proper installation tools. Instructions for installation and removal are also included. Assortment Kits provide convenient storage and easy access to the various inserts and tools.

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E-Mail: acmemail@acmeindustrial.com

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