

## Ball Lock Pins • single acting - comply with NAS / MS17985 EH 4211.



### Product Description

Ball Lock Pins according to MS17985 / NAS1333-1343 are used for quick fastening, locking, adjusting, changing and securing. Quickly and easily unlockable for frequently repeated connections.

Ball Lock Pins (Quick Release Pins) are produced according to Aviation Norm MS / NAS and tested to NAS 1332.

Surface treatment:

- All stainless steel parts are passivated according AMS2700
- All aluminium parts alloy anodized according MIL-A-8625

Heat treatment:

- Body: Rc. 40 min. (AMS2759, Condition H900)
- Spindle: Rc. 40 min. (AMS2759, Condition H900)
- Ball: Rc. 58-62 min. (AMS2759)

### Material

#### Body

- Stainless steel, precipitation-hardened, passivated - CRES 17-4PH (specification AMS5643)

#### Spindle

- Stainless steel, precipitation-hardened, passivated - CRES 17-4PH (specification AMS5643)

#### Spring

- Stainless steel, passivated - CRES 302 (specification ASTM-A-313)

#### Handle

- Aluminium, black anodised - Alum.Alloy A380 (specification ASTM B85/B85)

#### Attaching ring

- Stainless steel, passivated - CRES 302 (specification ASTM A-313/A313M)

#### Press button

- Stainless steel, passivated - CRES 303 (specification ASTM A484/484M)

#### Ball

- Stainless steel, precipitation-hardened, passivated - CRES 440C (specification AMS5630)

### Operation

Ball lock pins single acting are self-locking and require a push of the button to release the balls.

### More information

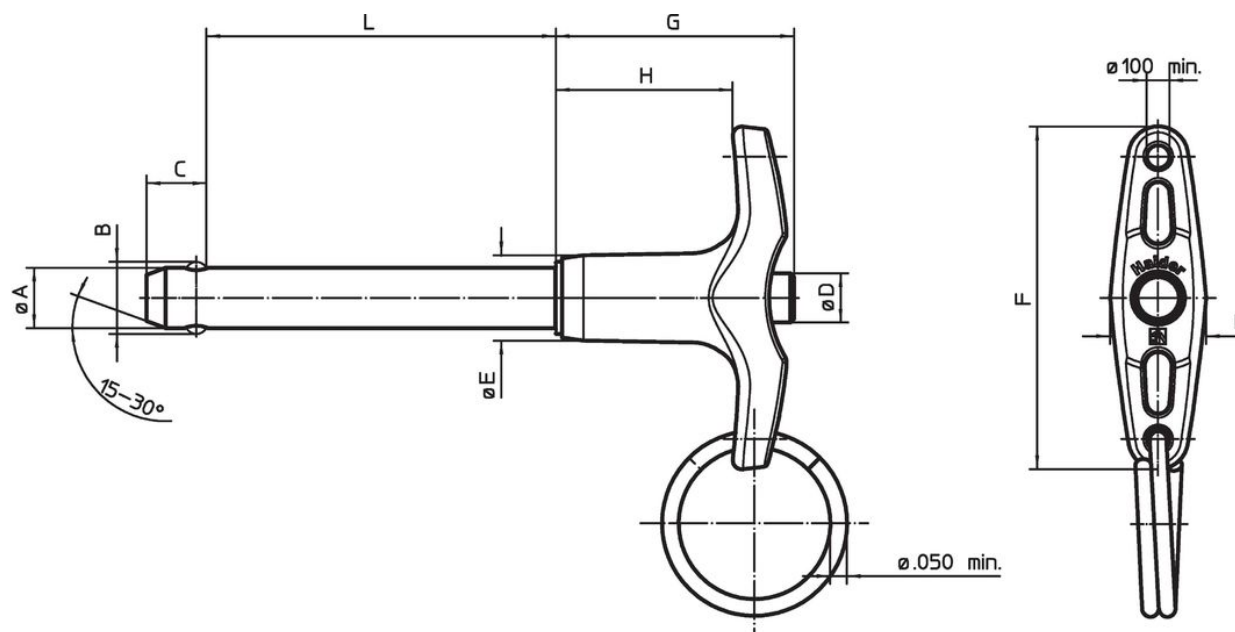
### Notes

All further dimensions are available on request.

Other diameter / length combinations not listed which comply with the standard can be produced at short notice on customer request. Special types on request.

- This product is manufactured in INCH dimensions.

## Drawing



## Order information

| Nominal<br>diameter<br>A | A<br>min. | A<br>max. | Clamping<br>length<br>L<br>+0.02<br>0 | Dimensions  |                 |           |           |           |           |           | Location<br>hole<br>max. | Shearing<br>resistance,<br>two-shear<br>min. | <br>min.      max. |      | <br>[g] | Standard<br>description        | Art. No. |
|--------------------------|-----------|-----------|---------------------------------------|-------------|-----------------|-----------|-----------|-----------|-----------|-----------|--------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------|--------------------------------|----------|
|                          |           |           |                                       | B<br>±0.005 | C<br>0<br>-0.04 | D<br>max. | E<br>max. | F<br>max. | G<br>max. | H<br>min. |                          |                                              |                                                                                                       |      |                                                                                            |                                |          |
|                          | [in]      | [in]      | [in]                                  | [in]        | [in]            |           |           |           |           |           |                          | [in]                                         | [lbf]                                                                                                 | [°F] |                                                                                            |                                |          |
| 3/16                     | 0.1870    | 0.1885    | 0.3                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 18.5                                                                                       | MS17985C303 /<br>NAS1333A2C03D | 4211.A03 |
| 3/16                     | 0.1870    | 0.1885    | 0.4                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 18.8                                                                                       | MS17985C304 /<br>NAS1333A2C04D | 4211.A04 |
| 3/16                     | 0.1870    | 0.1885    | 0.5                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 19.1                                                                                       | MS17985C305 /<br>NAS1333A2C05D | 4211.A05 |
| 3/16                     | 0.1870    | 0.1885    | 0.6                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 19.5                                                                                       | MS17985C306 /<br>NAS1333A2C06D | 4211.A06 |
| 3/16                     | 0.1870    | 0.1885    | 0.7                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 19.8                                                                                       | MS17985C307 /<br>NAS1333A2C07D | 4211.A07 |
| 3/16                     | 0.1870    | 0.1885    | 0.8                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 20.2                                                                                       | MS17985C308 /<br>NAS1333A2C08D | 4211.A08 |
| 3/16                     | 0.1870    | 0.1885    | 1.0                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 20.8                                                                                       | MS17985C310 /<br>NAS1333A2C10D | 4211.A10 |
| 3/16                     | 0.1870    | 0.1885    | 1.1                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 21.2                                                                                       | MS17985C310 /<br>NAS1333A2C11D | 4211.A11 |
| 3/16                     | 0.1870    | 0.1885    | 1.2                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 21.5                                                                                       | MS17985C312 /<br>NAS1333A2C12D | 4211.A12 |
| 3/16                     | 0.1870    | 0.1885    | 1.3                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 21.9                                                                                       | MS17985C313 /<br>NAS1333A2C13D | 4211.A13 |
| 3/16                     | 0.1870    | 0.1885    | 1.4                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 22.2                                                                                       | MS17985C314 /<br>NAS1333A2C14D | 4211.A14 |
| 3/16                     | 0.1870    | 0.1885    | 1.5                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 22.5                                                                                       | MS17985C315 /<br>NAS1333A2C15D | 4211.A15 |
| 3/16                     | 0.1870    | 0.1885    | 2.0                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 24.2                                                                                       | MS17985C320 /<br>NAS1333A2C20D | 4211.A20 |
| 3/16                     | 0.1870    | 0.1885    | 2.1                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 24.6                                                                                       | MS17985C321 /<br>NAS1333A2C21D | 4211.A21 |
| 3/16                     | 0.1870    | 0.1885    | 2.2                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 24.9                                                                                       | MS17985C322 /<br>NAS1333A2C22D | 4211.A22 |
| 3/16                     | 0.1870    | 0.1885    | 2.3                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 25.3                                                                                       | MS17985C323 /<br>NAS1333A2C23D | 4211.A23 |
| 3/16                     | 0.1870    | 0.1885    | 2.5                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 25.9                                                                                       | MS17985C325 /<br>NAS1333A2C25D | 4211.A25 |
| 3/16                     | 0.1870    | 0.1885    | 2.6                                   | 0.220       | 0.260           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.1940                   | 5,150                                        | -65                                                                                                   | 200  | 26.3                                                                                       | MS17985C326 /<br>NAS1333A2C26D | 4211.A26 |

| Nominal<br>diameter<br>A | A<br>min. | A<br>max. | Clamping<br>length<br>L<br>+0.02<br>0 | Dimensions  |                 |           |           |           |           |           | Location<br>hole<br>max. | Shearing<br>resistance,<br>two-shear<br>min. |  |      |  | Standard<br>description        | Art. No. |
|--------------------------|-----------|-----------|---------------------------------------|-------------|-----------------|-----------|-----------|-----------|-----------|-----------|--------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|--------------------------------|----------|
|                          |           |           |                                       | B<br>±0.005 | C<br>0<br>-0.04 | D<br>max. | E<br>max. | F<br>max. | G<br>max. | H<br>min. |                          |                                              | min.                                                                                | max. |                                                                                     |                                |          |
|                          |           |           |                                       | [in]        |                 |           |           |           |           |           | [in]                     | [lbf]                                        | [°F]                                                                                |      | [g]                                                                                 |                                |          |
| 1/4                      | 0.2470    | 0.2485    | 0.5                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 21.5                                                                                | MS17985C405 /<br>NAS1334A2C05D | 4211.B05 |
| 1/4                      | 0.2470    | 0.2485    | 0.6                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 22.1                                                                                | MS17985C406 /<br>NAS1334A2C06D | 4211.B06 |
| 1/4                      | 0.2470    | 0.2485    | 0.7                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 22.7                                                                                | MS17985C407 /<br>NAS1334A2C07D | 4211.B07 |
| 1/4                      | 0.2470    | 0.2485    | 0.8                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 23.3                                                                                | MS17985C408 /<br>NAS1334A2C08D | 4211.B08 |
| 1/4                      | 0.2470    | 0.2485    | 0.9                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 23.9                                                                                | MS17985C409 /<br>NAS1334A2C09D | 4211.B09 |
| 1/4                      | 0.2470    | 0.2485    | 1.0                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 24.5                                                                                | MS17985C410 /<br>NAS1334A2C10D | 4211.B10 |
| 1/4                      | 0.2470    | 0.2485    | 1.1                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 25.2                                                                                | MS17985C411 /<br>NAS1334A2C11D | 4211.B11 |
| 1/4                      | 0.2470    | 0.2485    | 1.2                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 25.8                                                                                | MS17985C412 /<br>NAS1334A2C12D | 4211.B12 |
| 1/4                      | 0.2470    | 0.2485    | 1.3                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 26.4                                                                                | MS17985C413 /<br>NAS1334A2C13D | 4211.B13 |
| 1/4                      | 0.2470    | 0.2485    | 1.4                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 27.0                                                                                | MS17985C414 /<br>NAS1334A2C14D | 4211.B14 |
| 1/4                      | 0.2470    | 0.2485    | 1.5                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 27.6                                                                                | MS17985C415 /<br>NAS1334A2C15D | 4211.B15 |
| 1/4                      | 0.2470    | 0.2485    | 1.6                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 28.2                                                                                | MS17985C416 /<br>NAS1334A2C16D | 4211.B16 |
| 1/4                      | 0.2470    | 0.2485    | 1.7                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 28.8                                                                                | MS17985C417 /<br>NAS1334A2C17D | 4211.B17 |
| 1/4                      | 0.2470    | 0.2485    | 1.8                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 29.5                                                                                | MS17985C418 /<br>NAS1334A2C18D | 4211.B18 |
| 1/4                      | 0.2470    | 0.2485    | 2.0                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 30.7                                                                                | MS17985C420 /<br>NAS1334A2C20D | 4211.B20 |
| 1/4                      | 0.2470    | 0.2485    | 2.1                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 31.3                                                                                | MS17985C421 /<br>NAS1334A2C21D | 4211.B21 |
| 1/4                      | 0.2470    | 0.2485    | 2.3                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 32.5                                                                                | MS17985C423 /<br>NAS1334A2C23D | 4211.B23 |
| 1/4                      | 0.2470    | 0.2485    | 2.4                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 33.1                                                                                | MS17985C424 /<br>NAS1334A2C24D | 4211.B24 |
| 1/4                      | 0.2470    | 0.2485    | 2.5                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 33.8                                                                                | MS17985C425 /<br>NAS1334A2C25D | 4211.B25 |
| 1/4                      | 0.2470    | 0.2485    | 2.6                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 34.4                                                                                | MS17985C426 /<br>NAS1334A2C26D | 4211.B26 |
| 1/4                      | 0.2470    | 0.2485    | 2.7                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 35.0                                                                                | MS17985C427 /<br>NAS1334A2C27D | 4211.B27 |
| 1/4                      | 0.2470    | 0.2485    | 2.8                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 35.6                                                                                | MS17985C428 /<br>NAS1334A2C28D | 4211.B28 |
| 1/4                      | 0.2470    | 0.2485    | 2.9                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 36.2                                                                                | MS17985C429 /<br>NAS1334A2C29D | 4211.B29 |
| 1/4                      | 0.2470    | 0.2485    | 3.0                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 36.8                                                                                | MS17985C430 /<br>NAS1334A2C30D | 4211.B30 |
| 1/4                      | 0.2470    | 0.2485    | 3.1                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 37.4                                                                                | MS17985C431 /<br>NAS1334A2C31D | 4211.B31 |
| 1/4                      | 0.2470    | 0.2485    | 3.2                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 38.1                                                                                | MS17985C432 /<br>NAS1334A2C32D | 4211.B32 |
| 1/4                      | 0.2470    | 0.2485    | 3.3                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 39.0                                                                                | MS17985C433 /<br>NAS1334A2C33D | 4211.B33 |
| 1/4                      | 0.2470    | 0.2485    | 3.5                                   | 0.289       | 0.290           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.2540                   | 9,200                                        | -65                                                                                 | 200  | 39.9                                                                                | MS17985C435 /<br>NAS1334A2C35D | 4211.B35 |
| 5/16                     | 0.3095    | 0.3110    | 0.3                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 23.1                                                                                | MS17985C503 /<br>NAS1335A2C03D | 4211.C03 |
| 5/16                     | 0.3095    | 0.3110    | 0.4                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 24.0                                                                                | MS17985C504 /<br>NAS1335A2C04D | 4211.C04 |
| 5/16                     | 0.3095    | 0.3110    | 0.5                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 25.0                                                                                | MS17985C505 /<br>NAS1335A2C05D | 4211.C05 |
| 5/16                     | 0.3095    | 0.3110    | 0.6                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 26.0                                                                                | MS17985C506 /<br>NAS1335A2C06D | 4211.C06 |

| Nominal<br>diameter<br>A | A<br>min. | A<br>max. | Clamping<br>length<br>L<br>+0.02<br>0 | Dimensions  |                 |           |           |           |           |           | Location<br>hole<br>max. | Shearing<br>resistance,<br>two-shear<br>min. |  |      |  | Standard<br>description        | Art. No. |
|--------------------------|-----------|-----------|---------------------------------------|-------------|-----------------|-----------|-----------|-----------|-----------|-----------|--------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|--------------------------------|----------|
|                          |           |           |                                       | B<br>±0.005 | C<br>0<br>-0.04 | D<br>max. | E<br>max. | F<br>max. | G<br>max. | H<br>min. |                          |                                              | min.                                                                                | max. |                                                                                     |                                |          |
|                          |           |           |                                       | [in]        |                 |           |           |           |           |           | [in]                     | [lbf]                                        | [°F]                                                                                |      | [g]                                                                                 |                                |          |
| 5/16                     | 0.3095    | 0.3110    | 0.8                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 27.8                                                                                | MS17985C508 /<br>NAS1335A2C08D | 4211.C08 |
| 5/16                     | 0.3095    | 0.3110    | 0.9                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 28.8                                                                                | MS17985C509 /<br>NAS1335A2C09D | 4211.C09 |
| 5/16                     | 0.3095    | 0.3110    | 1.0                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 29.7                                                                                | MS17985C510 /<br>NAS1335A2C10D | 4211.C10 |
| 5/16                     | 0.3095    | 0.3110    | 1.1                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 30.7                                                                                | MS17985C511 /<br>NAS1335A2C11D | 4211.C11 |
| 5/16                     | 0.3095    | 0.3110    | 1.2                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 31.6                                                                                | MS17985C512 /<br>NAS1335A2C12D | 4211.C12 |
| 5/16                     | 0.3095    | 0.3110    | 1.3                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 32.6                                                                                | MS17985C513 /<br>NAS1335A2C13D | 4211.C13 |
| 5/16                     | 0.3095    | 0.3110    | 1.5                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 34.5                                                                                | MS17985C515 /<br>NAS1335A2C15D | 4211.C15 |
| 5/16                     | 0.3095    | 0.3110    | 1.6                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 35.4                                                                                | MS17985C516 /<br>NAS1335A2C16D | 4211.C16 |
| 5/16                     | 0.3095    | 0.3110    | 1.8                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 37.3                                                                                | MS17985C518 /<br>NAS1335A2C18D | 4211.C18 |
| 5/16                     | 0.3095    | 0.3110    | 2.0                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 39.2                                                                                | MS17985C520 /<br>NAS1335A2C20D | 4211.C20 |
| 5/16                     | 0.3095    | 0.3110    | 2.2                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 41.1                                                                                | MS17985C522 /<br>NAS1335A2C22D | 4211.C22 |
| 5/16                     | 0.3095    | 0.3110    | 2.3                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 42.0                                                                                | MS17985C523 /<br>NAS1335A2C23D | 4211.C23 |
| 5/16                     | 0.3095    | 0.3110    | 2.4                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 43.0                                                                                | MS17985C524 /<br>NAS1335A2C24D | 4211.C24 |
| 5/16                     | 0.3095    | 0.3110    | 2.6                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 44.9                                                                                | MS17985C526 /<br>NAS1335A2C26D | 4211.C26 |
| 5/16                     | 0.3095    | 0.3110    | 2.7                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 46.0                                                                                | MS17985C527 /<br>NAS1335A2C27D | 4211.C27 |
| 5/16                     | 0.3095    | 0.3110    | 2.8                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 46.8                                                                                | MS17985C528 /<br>NAS1335A2C28D | 4211.C28 |
| 5/16                     | 0.3095    | 0.3110    | 2.9                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 47.7                                                                                | MS17985C529 /<br>NAS1335A2C29D | 4211.C29 |
| 5/16                     | 0.3095    | 0.3110    | 3.0                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 48.7                                                                                | MS17985C530 /<br>NAS1335A2C30D | 4211.C30 |
| 5/16                     | 0.3095    | 0.3110    | 3.2                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 50.6                                                                                | MS17985C532 /<br>NAS1335A2C32D | 4211.C32 |
| 5/16                     | 0.3095    | 0.3110    | 3.3                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 51.5                                                                                | MS17985C533 /<br>NAS1335A2C33D | 4211.C33 |
| 5/16                     | 0.3095    | 0.3110    | 3.4                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 52.4                                                                                | MS17985C534 /<br>NAS1335A2C34D | 4211.C34 |
| 5/16                     | 0.3095    | 0.3110    | 3.5                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 53.4                                                                                | MS17985C535 /<br>NAS1335A2C35D | 4211.C35 |
| 5/16                     | 0.3095    | 0.3110    | 3.8                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 56.2                                                                                | MS17985C538 /<br>NAS1335A2C38D | 4211.C38 |
| 5/16                     | 0.3095    | 0.3110    | 4.0                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 58.1                                                                                | MS17985C540 /<br>NAS1335A2C40D | 4211.C40 |
| 5/16                     | 0.3095    | 0.3110    | 4.1                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 59.1                                                                                | MS17985C541 /<br>NAS1335A2C41D | 4211.C41 |
| 5/16                     | 0.3095    | 0.3110    | 4.2                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 60.0                                                                                | MS17985C542 /<br>NAS1335A2C42D | 4211.C42 |
| 5/16                     | 0.3095    | 0.3110    | 4.3                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 61.0                                                                                | MS17985C543 /<br>NAS1335A2C43D | 4211.C43 |
| 5/16                     | 0.3095    | 0.3110    | 5.0                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 67.6                                                                                | MS17985C550 /<br>NAS1335A2C50D | 4211.C50 |
| 5/16                     | 0.3095    | 0.3110    | 6.0                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 77.1                                                                                | MS17985C560 /<br>NAS1335A2C60D | 4211.C60 |
| 5/16                     | 0.3095    | 0.3110    | 6.4                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 80.8                                                                                | MS17985C564 /<br>NAS1335A2C64D | 4211.C64 |
| 5/16                     | 0.3095    | 0.3110    | 7.0                                   | 0.375       | 0.330           | 0.310     | 0.500     | 1.815     | 1.27      | 0.800     | 0.3165                   | 14,400                                       | -65                                                                                 | 200  | 86.5                                                                                | MS17985C570 /<br>NAS1335A2C70D | 4211.C70 |
| 3/8                      | 0.3720    | 0.3735    | 0.5                                   | 0.440       | 0.365           | 0.390     | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200  | 38.1                                                                                | MS17985C605 /<br>NAS1336A2C05D | 4211.D05 |

| Nominal<br>diameter<br>A | A<br>min. | A<br>max. | Clamping<br>length<br>L<br>+0.02<br>0 | Dimensions  |                 |           |           |           |           |           | Location<br>hole<br>max. | Shearing<br>resistance,<br>two-shear<br>min. |  |       |  | Standard<br>description        | Art. No. |
|--------------------------|-----------|-----------|---------------------------------------|-------------|-----------------|-----------|-----------|-----------|-----------|-----------|--------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|--------------------------------|----------|
|                          |           |           |                                       | B<br>±0.005 | C<br>0<br>-0.04 | D<br>max. | E<br>max. | F<br>max. | G<br>max. | H<br>min. |                          |                                              | min.                                                                                | max.  |                                                                                     |                                |          |
|                          | [in]      | [in]      |                                       | [in]        | [in]            |           |           |           |           |           |                          |                                              | [in]                                                                                | [lbf] |                                                                                     |                                |          |
| 3/8                      | 0.3720    | 0.3735    | 0.7                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 40.8                                                                                | MS17985C607 /<br>NAS1336A2C07D | 4211.D07 |
| 3/8                      | 0.3720    | 0.3735    | 0.8                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 42.2                                                                                | MS17985C608 /<br>NAS1336A2C08D | 4211.D08 |
| 3/8                      | 0.3720    | 0.3735    | 0.9                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 43.5                                                                                | MS17985C609 /<br>NAS1336A2C09D | 4211.D09 |
| 3/8                      | 0.3720    | 0.3735    | 1.0                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 44.9                                                                                | MS17985C610 /<br>NAS1336A2C10D | 4211.D10 |
| 3/8                      | 0.3720    | 0.3735    | 1.1                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 46.3                                                                                | MS17985C611 /<br>NAS1336A2C11D | 4211.D11 |
| 3/8                      | 0.3720    | 0.3735    | 1.2                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 47.6                                                                                | MS17985C612 /<br>NAS1336A2C12D | 4211.D12 |
| 3/8                      | 0.3720    | 0.3735    | 1.3                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 49.0                                                                                | MS17985C613 /<br>NAS1336A2C13D | 4211.D13 |
| 3/8                      | 0.3720    | 0.3735    | 1.4                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 50.3                                                                                | MS17985C614 /<br>NAS1336A2C14D | 4211.D14 |
| 3/8                      | 0.3720    | 0.3735    | 1.5                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 51.7                                                                                | MS17985C615 /<br>NAS1336A2C15D | 4211.D15 |
| 3/8                      | 0.3720    | 0.3735    | 1.6                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 53.1                                                                                | MS17985C616 /<br>NAS1336A2C16D | 4211.D16 |
| 3/8                      | 0.3720    | 0.3735    | 1.7                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 54.4                                                                                | MS17985C617 /<br>NAS1336A2C17D | 4211.D17 |
| 3/8                      | 0.3720    | 0.3735    | 1.8                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 55.8                                                                                | MS17985C618 /<br>NAS1336A2C18D | 4211.D18 |
| 3/8                      | 0.3720    | 0.3735    | 1.9                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 57.1                                                                                | MS17985C619 /<br>NAS1336A2C19D | 4211.D19 |
| 3/8                      | 0.3720    | 0.3735    | 2.0                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 58.5                                                                                | MS17985C620 /<br>NAS1336A2C20D | 4211.D20 |
| 3/8                      | 0.3720    | 0.3735    | 2.1                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 59.9                                                                                | MS17985C621 /<br>NAS1336A2C21D | 4211.D21 |
| 3/8                      | 0.3720    | 0.3735    | 2.2                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 61.2                                                                                | MS17985C622 /<br>NAS1336A2C22D | 4211.D22 |
| 3/8                      | 0.3720    | 0.3735    | 2.3                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 63.0                                                                                | MS17985C623 /<br>NAS1336A2C23D | 4211.D23 |
| 3/8                      | 0.3720    | 0.3735    | 2.4                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 63.9                                                                                | MS17985C624 /<br>NAS1336A2C24D | 4211.D24 |
| 3/8                      | 0.3720    | 0.3735    | 2.5                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 65.3                                                                                | MS17985C625 /<br>NAS1336A2C25D | 4211.D25 |
| 3/8                      | 0.3720    | 0.3735    | 2.6                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 66.7                                                                                | MS17985C626 /<br>NAS1336A2C26D | 4211.D26 |
| 3/8                      | 0.3720    | 0.3735    | 2.7                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 68.0                                                                                | MS17985C627 /<br>NAS1336A2C27D | 4211.D27 |
| 3/8                      | 0.3720    | 0.3735    | 2.8                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 69.4                                                                                | MS17985C628 /<br>NAS1336A2C28D | 4211.D28 |
| 3/8                      | 0.3720    | 0.3735    | 3.0                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 72.1                                                                                | MS17985C630 /<br>NAS1336A2C30D | 4211.D30 |
| 3/8                      | 0.3720    | 0.3735    | 3.1                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 73.5                                                                                | MS17985C631 /<br>NAS1336A2C31D | 4211.D31 |
| 3/8                      | 0.3720    | 0.3735    | 3.2                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 74.8                                                                                | MS17985C632 /<br>NAS1336A2C32D | 4211.D32 |
| 3/8                      | 0.3720    | 0.3735    | 3.4                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 77.5                                                                                | MS17985C634 /<br>NAS1336A2C34D | 4211.D34 |
| 3/8                      | 0.3720    | 0.3735    | 3.5                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 78.9                                                                                | MS17985C635 /<br>NAS1336A2C35D | 4211.D35 |
| 3/8                      | 0.3720    | 0.3735    | 4.0                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 85.7                                                                                | MS17985C640 /<br>NAS1336A2C40D | 4211.D40 |
| 3/8                      | 0.3720    | 0.3735    | 4.2                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 89.0                                                                                | MS17985C642 /<br>NAS1336A2C42D | 4211.D42 |
| 3/8                      | 0.3720    | 0.3735    | 4.5                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 92.5                                                                                | MS17985C645 /<br>NAS1336A2C45D | 4211.D45 |
| 3/8                      | 0.3720    | 0.3735    | 4.8                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 96.6                                                                                | MS17985C648 /<br>NAS1336A2C48D | 4211.D48 |
| 3/8                      | 0.3720    | 0.3735    | 5.0                                   | 0.440       | 0.365           | 0.3900    | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                 | 200   | 99.3                                                                                | MS17985C650 /<br>NAS1336A2C50D | 4211.D50 |

| Nominal<br>diameter<br>A | A<br>min. | A<br>max. | Clamping<br>length<br>L<br>+0.02<br>0 | Dimensions  |                 |           |           |           |           |           | Location<br>hole<br>max. | Shearing<br>resistance,<br>two-shear<br>min. | <br>min.      max. |       | <br>[g] | Standard<br>description        | Art. No. |      |  |  |
|--------------------------|-----------|-----------|---------------------------------------|-------------|-----------------|-----------|-----------|-----------|-----------|-----------|--------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------|--------------------------------|----------|------|--|--|
|                          |           |           |                                       | B<br>±0.005 | C<br>0<br>-0.04 | D<br>max. | E<br>max. | F<br>max. | G<br>max. | H<br>min. |                          |                                              |                                                                                                       |       |                                                                                            |                                |          |      |  |  |
|                          |           |           |                                       | [in]        |                 |           |           |           |           |           |                          |                                              | [in]                                                                                                  | [lbf] |                                                                                            |                                |          | [°F] |  |  |
| [in]                     | [in]      | [in]      | [in]                                  | [in]        |                 |           |           |           |           |           | [in]                     | [lbf]                                        | [°F]                                                                                                  |       | [g]                                                                                        |                                |          |      |  |  |
| 3/8                      | 0.3720    | 0.3735    | 5.5                                   | 0.440       | 0.365           | 0.390     | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                                   | 200   | 106.0                                                                                      | MS17985C655 /<br>NAS1336A2C55D | 4211.D55 |      |  |  |
| 3/8                      | 0.3720    | 0.3735    | 6.0                                   | 0.440       | 0.365           | 0.390     | 0.625     | 2.065     | 1.45      | 0.850     | 0.3790                   | 20,700                                       | -65                                                                                                   | 200   | 113.0                                                                                      | MS17985C660 /<br>NAS1336A2C60D | 4211.D60 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 0.8                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 48.1                                                                                       | MS17985C708 /<br>NAS1337A2C08D | 4211.E08 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 1.0                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 51.8                                                                                       | MS17985C710 /<br>NAS1337A2C10D | 4211.E10 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 1.1                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 53.6                                                                                       | MS17985C711 /<br>NAS1337A2C11D | 4211.E11 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 1.2                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 55.5                                                                                       | MS17985C712 /<br>NAS1337A2C12D | 4211.E12 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 1.5                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 61.1                                                                                       | MS17985C715 /<br>NAS1337A2C15D | 4211.E15 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 1.8                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 66.7                                                                                       | MS17985C718 /<br>NAS1337A2C18D | 4211.E18 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 2.0                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 70.4                                                                                       | MS17985C720 /<br>NAS1337A2C20D | 4211.E20 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 2.1                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 72.2                                                                                       | MS17985C721 /<br>NAS1337A2C21D | 4211.E21 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 2.3                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 75.9                                                                                       | MS17985C723 /<br>NAS1337A2C23D | 4211.E23 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 2.4                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 77.8                                                                                       | MS17985C724 /<br>NAS1337A2C24D | 4211.E24 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 2.5                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 79.6                                                                                       | MS17985C725 /<br>NAS1337A2C25D | 4211.E25 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 2.6                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 81.5                                                                                       | MS17985C726 /<br>NAS1337A2C26D | 4211.E26 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 2.7                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 83.0                                                                                       | MS17985C727 /<br>NAS1337A2C27D | 4211.E27 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 2.8                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 85.2                                                                                       | MS17985C728 /<br>NAS1337A2C28D | 4211.E28 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 2.9                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 87.1                                                                                       | MS17985C729 /<br>NAS1337A2C29D | 4211.E29 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 3.0                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 88.9                                                                                       | MS17985C730 /<br>NAS1337A2C30D | 4211.E30 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 3.1                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 90.8                                                                                       | MS17985C731 /<br>NAS1337A2C31D | 4211.E31 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 3.2                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 92.6                                                                                       | MS17985C732 /<br>NAS1337A2C32D | 4211.E32 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 3.3                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 94.5                                                                                       | MS17985C733 /<br>NAS1337A2C33D | 4211.E33 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 3.6                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 100.0                                                                                      | MS17985C736 /<br>NAS1337A2C36D | 4211.E36 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 4.0                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 107.0                                                                                      | MS17985C740 /<br>NAS1337A2C40D | 4211.E40 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 4.2                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 111.0                                                                                      | MS17985C742 /<br>NAS1337A2C42D | 4211.E42 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 4.6                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 119.0                                                                                      | MS17985C746 /<br>NAS1337A2C46D | 4211.E46 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 5.0                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 126.0                                                                                      | MS17985C750 /<br>NAS1337A2C50D | 4211.E50 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 5.3                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 132.0                                                                                      | MS17985C753 /<br>NAS1337A2C53D | 4211.E53 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 5.5                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 135.0                                                                                      | MS17985C755 /<br>NAS1337A2C55D | 4211.E55 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 5.6                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.47      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 137.0                                                                                      | MS17985C756 /<br>NAS1337A2C56D | 4211.E56 |      |  |  |
| 7/16                     | 0.4345    | 0.4360    | 7.2                                   | 0.509       | 0.380           | 0.390     | 0.625     | 2.065     | 1.60      | 0.850     | 0.4425                   | 28,500                                       | -65                                                                                                   | 200   | 167.0                                                                                      | MS17985C772 /<br>NAS1337A2C72D | 4211.E72 |      |  |  |
| 1/2                      | 0.4970    | 0.4985    | 0.8                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                                   | 200   | 69.6                                                                                       | MS17985C808 /<br>NAS1338A2C08D | 4211.F08 |      |  |  |
| 1/2                      | 0.4970    | 0.4985    | 0.9                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                                   | 200   | 72.1                                                                                       | MS17985C809 /<br>NAS1338A2C09D | 4211.F09 |      |  |  |



| Nominal<br>diameter<br>A | A<br>min. | A<br>max. | Clamping<br>length<br>L<br>+0.02<br>0 | Dimensions  |                 |           |           |           |           |           | Location<br>hole<br>max. | Shearing<br>resistance,<br>two-shear<br>min. |  |      |  | Standard<br>description        | Art. No. |
|--------------------------|-----------|-----------|---------------------------------------|-------------|-----------------|-----------|-----------|-----------|-----------|-----------|--------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|--------------------------------|----------|
|                          |           |           |                                       | B<br>±0.005 | C<br>0<br>-0.04 | D<br>max. | E<br>max. | F<br>max. | G<br>max. | H<br>min. |                          |                                              | min.                                                                                | max. |                                                                                     |                                |          |
|                          |           |           |                                       | [in]        |                 |           |           |           |           |           | [in]                     | [lbf]                                        | [°F]                                                                                |      | [g]                                                                                 |                                |          |
| 1/2                      | 0.4970    | 0.4985    | 1.0                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 74.4                                                                                | MS17985C810 /<br>NAS1338A2C10D | 4211.F10 |
| 1/2                      | 0.4970    | 0.4985    | 1.1                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 76.9                                                                                | MS17985C811 /<br>NAS1338A2C11D | 4211.F11 |
| 1/2                      | 0.4970    | 0.4985    | 1.2                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 79.3                                                                                | MS17985C812 /<br>NAS1338A2C12D | 4211.F12 |
| 1/2                      | 0.4970    | 0.4985    | 1.3                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 81.8                                                                                | MS17985C813 /<br>NAS1338A2C13D | 4211.F13 |
| 1/2                      | 0.4970    | 0.4985    | 1.4                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 84.2                                                                                | MS17985C814 /<br>NAS1338A2C14D | 4211.F14 |
| 1/2                      | 0.4970    | 0.4985    | 1.5                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 86.6                                                                                | MS17985C815 /<br>NAS1338A2C15D | 4211.F15 |
| 1/2                      | 0.4970    | 0.4985    | 1.6                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 89.1                                                                                | MS17985C816 /<br>NAS1338A2C16D | 4211.F16 |
| 1/2                      | 0.4970    | 0.4985    | 1.7                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 91.5                                                                                | MS17985C817 /<br>NAS1338A2C17D | 4211.F17 |
| 1/2                      | 0.4970    | 0.4985    | 1.8                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 94.0                                                                                | MS17985C818 /<br>NAS1338A2C18D | 4211.F18 |
| 1/2                      | 0.4970    | 0.4985    | 1.9                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 96.4                                                                                | MS17985C819 /<br>NAS1338A2C19D | 4211.F19 |
| 1/2                      | 0.4970    | 0.4985    | 2.0                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 98.8                                                                                | MS17985C820 /<br>NAS1338A2C20D | 4211.F20 |
| 1/2                      | 0.4970    | 0.4985    | 2.1                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 101.0                                                                               | MS17985C821 /<br>NAS1338A2C21D | 4211.F21 |
| 1/2                      | 0.4970    | 0.4985    | 2.2                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 104.0                                                                               | MS17985C822 /<br>NAS1338A2C22D | 4211.F22 |
| 1/2                      | 0.4970    | 0.4985    | 2.3                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 106.0                                                                               | MS17985C823 /<br>NAS1338A2C23D | 4211.F23 |
| 1/2                      | 0.4970    | 0.4985    | 2.4                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 109.0                                                                               | MS17985C824 /<br>NAS1338A2C24D | 4211.F24 |
| 1/2                      | 0.4970    | 0.4985    | 2.5                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 111.0                                                                               | MS17985C825 /<br>NAS1338A2C25D | 4211.F25 |
| 1/2                      | 0.4970    | 0.4985    | 2.6                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 114.0                                                                               | MS17985C826 /<br>NAS1338A2C26D | 4211.F26 |
| 1/2                      | 0.4970    | 0.4985    | 2.8                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 118.0                                                                               | MS17985C828 /<br>NAS1338A2C28D | 4211.F28 |
| 1/2                      | 0.4970    | 0.4985    | 2.9                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 121.0                                                                               | MS17985C829 /<br>NAS1338A2C29D | 4211.F29 |
| 1/2                      | 0.4970    | 0.4985    | 3.0                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 123.0                                                                               | MS17985C830 /<br>NAS1338A2C30D | 4211.F30 |
| 1/2                      | 0.4970    | 0.4985    | 3.1                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 126.0                                                                               | MS17985C831 /<br>NAS1338A2C31D | 4211.F31 |
| 1/2                      | 0.4970    | 0.4985    | 3.2                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 128.0                                                                               | MS17985C832 /<br>NAS1338A2C32D | 4211.F32 |
| 1/2                      | 0.4970    | 0.4985    | 3.3                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 138.0                                                                               | MS17985C833 /<br>NAS1338A2C33D | 4211.F33 |
| 1/2                      | 0.4970    | 0.4985    | 3.4                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 133.0                                                                               | MS17985C834 /<br>NAS1338A2C34D | 4211.F34 |
| 1/2                      | 0.4970    | 0.4985    | 3.5                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 135.0                                                                               | MS17985C835 /<br>NAS1338A2C35D | 4211.F35 |
| 1/2                      | 0.4970    | 0.4985    | 3.6                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 138.0                                                                               | MS17985C836 /<br>NAS1338A2C36D | 4211.F36 |
| 1/2                      | 0.4970    | 0.4985    | 3.7                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 140.0                                                                               | MS17985C837 /<br>NAS1338A2C37D | 4211.F37 |
| 1/2                      | 0.4970    | 0.4985    | 4.0                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 148.0                                                                               | MS17985C840 /<br>NAS1338A2C40D | 4211.F40 |
| 1/2                      | 0.4970    | 0.4985    | 4.2                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 153.0                                                                               | MS17985C842 /<br>NAS1338A2C42D | 4211.F42 |
| 1/2                      | 0.4970    | 0.4985    | 4.3                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 155.0                                                                               | MS17985C843 /<br>NAS1338A2C43D | 4211.F43 |
| 1/2                      | 0.4970    | 0.4985    | 4.4                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 157.0                                                                               | MS17985C844 /<br>NAS1338A2C44D | 4211.F44 |
| 1/2                      | 0.4970    | 0.4985    | 4.5                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 160.0                                                                               | MS17985C845 /<br>NAS1338A2C45D | 4211.F45 |

| Nominal<br>diameter<br>A | A<br>min. | A<br>max. | Clamping<br>length<br>L<br>+0.02<br>0 | Dimensions  |                 |           |           |           |           |           | Location<br>hole<br>max. | Shearing<br>resistance,<br>two-shear<br>min. |  |      |  | Standard<br>description         | Art. No. |
|--------------------------|-----------|-----------|---------------------------------------|-------------|-----------------|-----------|-----------|-----------|-----------|-----------|--------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|---------------------------------|----------|
|                          |           |           |                                       | B<br>±0.005 | C<br>0<br>-0.04 | D<br>max. | E<br>max. | F<br>max. | G<br>max. | H<br>min. |                          |                                              | min.                                                                                | max. |                                                                                     |                                 |          |
|                          |           |           |                                       | [in]        |                 |           |           |           |           |           | [in]                     | [lbf]                                        | [°F]                                                                                |      | [g]                                                                                 |                                 |          |
| 1/2                      | 0.4970    | 0.4985    | 4.7                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 165.0                                                                               | MS17985C847 /<br>NAS1338A2C47D  | 4211.F47 |
| 1/2                      | 0.4970    | 0.4985    | 4.8                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 167.0                                                                               | MS17985C848 /<br>NAS1338A2C48D  | 4211.F48 |
| 1/2                      | 0.4970    | 0.4985    | 5.0                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 172.0                                                                               | MS17985C850 /<br>NAS1338A2C50D  | 4211.F50 |
| 1/2                      | 0.4970    | 0.4985    | 5.5                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 184.0                                                                               | MS17985C855 /<br>NAS1338A2C55D  | 4211.F55 |
| 1/2                      | 0.4970    | 0.4985    | 6.0                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 196.0                                                                               | MS17985C860 /<br>NAS1338A2C60D  | 4211.F60 |
| 1/2                      | 0.4970    | 0.4985    | 6.4                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 206.0                                                                               | MS17985C864 /<br>NAS1338A2C64D  | 4211.F64 |
| 1/2                      | 0.4970    | 0.4985    | 8.0                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 245.0                                                                               | MS17985C880 /<br>NAS1338A2C80D  | 4211.F80 |
| 1/2                      | 0.4970    | 0.4985    | 9.0                                   | 0.594       | 0.460           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5050                   | 36,900                                       | -65                                                                                 | 200  | 270.0                                                                               | MS17985C890 /<br>NAS1338A2C90D  | 4211.F90 |
| 9/16                     | 0.5595    | 0.5610    | 1.0                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 84.9                                                                                | MS17985C910 /<br>NAS1339A2C10D  | 4211.G10 |
| 9/16                     | 0.5595    | 0.5610    | 1.2                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 91.2                                                                                | MS17985C912 /<br>NAS1339A2C12D  | 4211.G12 |
| 9/16                     | 0.5595    | 0.5610    | 1.7                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 107.0                                                                               | MS17985C917 /<br>NAS1339A2C17D  | 4211.G17 |
| 9/16                     | 0.5595    | 0.5610    | 2.4                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 128.0                                                                               | MS17985C924 /<br>NAS1339A2C24D  | 4211.G24 |
| 9/16                     | 0.5595    | 0.5610    | 2.5                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 132.0                                                                               | MS17985C925 /<br>NAS1339A2C25D  | 4211.G25 |
| 9/16                     | 0.5595    | 0.5610    | 3.2                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 153.0                                                                               | MS17985C932 /<br>NAS1339A2C32D  | 4211.G32 |
| 9/16                     | 0.5595    | 0.5610    | 3.6                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 166.0                                                                               | MS17985C936 /<br>NAS1339A2C36D  | 4211.G36 |
| 9/16                     | 0.5595    | 0.5610    | 4.0                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 178.0                                                                               | MS17985C940 /<br>NAS1339A2C40D  | 4211.G40 |
| 9/16                     | 0.5595    | 0.5610    | 5.0                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 209.0                                                                               | MS17985C950 /<br>NAS1339A2C50D  | 4211.G50 |
| 9/16                     | 0.5595    | 0.5610    | 5.5                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 225.0                                                                               | MS17985C955 /<br>NAS1339A2C55D  | 4211.G55 |
| 9/16                     | 0.5595    | 0.5610    | 6.1                                   | 0.666       | 0.510           | 0.565     | 0.800     | 2.345     | 1.60      | 0.885     | 0.5675                   | 46,700                                       | -65                                                                                 | 200  | 244.0                                                                               | MS17985C961 /<br>NAS1339A2C61D  | 4211.G61 |
| 5/8                      | 0.6220    | 0.6240    | 1.5                                   | 0.750       | 0.580           | 0.580     | 0.975     | 3.100     | 1.70      | 0.980     | 0.6300                   | 57,800                                       | -65                                                                                 | 200  | 151.0                                                                               | MS17985C1015 /<br>NAS1340A2C15D | 4211.H15 |
| 5/8                      | 0.6220    | 0.6240    | 2.0                                   | 0.750       | 0.580           | 0.580     | 0.975     | 3.100     | 1.70      | 0.980     | 0.6300                   | 57,800                                       | -65                                                                                 | 200  | 170.0                                                                               | MS17985C1020 /<br>NAS1340A2C20D | 4211.H20 |
| 5/8                      | 0.6220    | 0.6240    | 2.5                                   | 0.750       | 0.580           | 0.580     | 0.975     | 3.100     | 1.70      | 0.980     | 0.6300                   | 57,800                                       | -65                                                                                 | 200  | 190.0                                                                               | MS17985C1025 /<br>NAS1340A2C25D | 4211.H25 |
| 5/8                      | 0.6220    | 0.6240    | 2.6                                   | 0.750       | 0.580           | 0.580     | 0.975     | 3.100     | 1.70      | 0.980     | 0.6300                   | 57,800                                       | -65                                                                                 | 200  | 193.0                                                                               | MS17985C1026 /<br>NAS1340A2C26D | 4211.H26 |
| 5/8                      | 0.6220    | 0.6240    | 3.2                                   | 0.750       | 0.580           | 0.580     | 0.975     | 3.100     | 1.70      | 0.980     | 0.6300                   | 57,800                                       | -65                                                                                 | 200  | 216.0                                                                               | MS17985C1032 /<br>NAS1340A2C32D | 4211.H32 |
| 5/8                      | 0.6220    | 0.6240    | 3.5                                   | 0.750       | 0.580           | 0.580     | 0.975     | 3.100     | 1.70      | 0.980     | 0.6300                   | 57,800                                       | -65                                                                                 | 200  | 228.0                                                                               | MS17985C1035 /<br>NAS1340A2C35D | 4211.H35 |
| 5/8                      | 0.6220    | 0.6240    | 4.0                                   | 0.750       | 0.580           | 0.580     | 0.975     | 3.100     | 1.70      | 0.980     | 0.6300                   | 57,800                                       | -65                                                                                 | 200  | 247.0                                                                               | MS17985C1040 /<br>NAS1340A2C40D | 4211.H40 |
| 5/8                      | 0.6220    | 0.6240    | 4.5                                   | 0.750       | 0.580           | 0.580     | 0.975     | 3.100     | 1.70      | 0.980     | 0.6300                   | 57,800                                       | -65                                                                                 | 200  | 267.0                                                                               | MS17985C1045 /<br>NAS1340A2C45D | 4211.H45 |
| 5/8                      | 0.6220    | 0.6240    | 6.0                                   | 0.750       | 0.580           | 0.580     | 0.975     | 3.100     | 1.70      | 0.980     | 0.6300                   | 57,800                                       | -65                                                                                 | 200  | 324.0                                                                               | MS17985C1060 /<br>NAS1340A2C60D | 4211.H60 |
| 3/4                      | 0.7470    | 0.7485    | 1.6                                   | 0.887       | 0.670           | 0.700     | 1.000     | 3.100     | 1.72      | 1.030     | 0.7570                   | 83,200                                       | -65                                                                                 | 200  | 198.0                                                                               | MS17985C1216 /<br>NAS1341A2C16D | 4211.K16 |
| 3/4                      | 0.7470    | 0.7485    | 2.5                                   | 0.887       | 0.670           | 0.700     | 1.000     | 3.100     | 1.72      | 1.030     | 0.7570                   | 83,200                                       | -65                                                                                 | 200  | 248.0                                                                               | MS17985C1225 /<br>NAS1341A2C25D | 4211.K25 |
| 3/4                      | 0.7470    | 0.7485    | 3.0                                   | 0.887       | 0.670           | 0.700     | 1.000     | 3.100     | 1.72      | 1.030     | 0.7570                   | 83,200                                       | -65                                                                                 | 200  | 276.0                                                                               | MS17985C1230 /<br>NAS1341A2C30D | 4211.K30 |
| 3/4                      | 0.7470    | 0.7485    | 4.0                                   | 0.887       | 0.670           | 0.700     | 1.000     | 3.100     | 1.72      | 1.030     | 0.7570                   | 83,200                                       | -65                                                                                 | 200  | 331.0                                                                               | MS17985C1240 /<br>NAS1341A2C40D | 4211.K40 |



| Nominal<br>diameter<br>A | A<br>min. | A<br>max. | Clamping<br>length<br>L<br>+0.02<br>0 | Dimensions  |                 |           |           |           |           |           | Location<br>hole<br>max. | Shearing<br>resistance,<br>two-shear<br>min. |  |      |  | Standard<br>description         | Art. No. |
|--------------------------|-----------|-----------|---------------------------------------|-------------|-----------------|-----------|-----------|-----------|-----------|-----------|--------------------------|----------------------------------------------|-------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|---------------------------------|----------|
|                          |           |           |                                       | B<br>±0.005 | C<br>0<br>-0.04 | D<br>max. | E<br>max. | F<br>max. | G<br>max. | H<br>min. |                          |                                              | min.                                                                                | max. |                                                                                     |                                 |          |
|                          |           |           |                                       | [in]        |                 |           |           |           |           |           |                          |                                              | [°F]                                                                                |      |                                                                                     |                                 |          |
| [in]                     | [in]      | [in]      | [in]                                  | [in]        |                 |           |           |           |           |           | [in]                     | [lbf]                                        | [°F]                                                                                |      | [g]                                                                                 |                                 |          |
| 3/4                      | 0.7470    | 0.7485    | 5.0                                   | 0.887       | 0.670           | 0.700     | 1.000     | 3.100     | 1.72      | 1.030     | 0.7570                   | 83,200                                       | -65                                                                                 | 200  | 387.0                                                                               | MS17985C1250 /<br>NAS1341A2C50D | 4211.K50 |
| 3/4                      | 0.7470    | 0.7485    | 8.0                                   | 0.887       | 0.670           | 0.700     | 1.000     | 3.100     | 1.72      | 1.030     | 0.7570                   | 83,200                                       | -65                                                                                 | 200  | 553.0                                                                               | MS17985C1280 /<br>NAS1341A2C80D | 4211.K80 |
| 7/8                      | 0.8720    | 0.8735    | 4.0                                   | 1.046       | 0.760           | 0.840     | 1.320     | 3.520     | 2.17      | 1.310     | 0.8820                   | 112,500                                      | -65                                                                                 | 200  | 506.0                                                                               | MS17985C1440 /<br>NAS1342A2C40D | 4211.L40 |
| 1                        | 0.9970    | 0.9985    | 1.0                                   | 1.219       | 0.810           | 0.950     | 1.320     | 3.520     | 2.17      | 1.310     | 1.0100                   | 147,200                                      | -65                                                                                 | 200  | 333.0                                                                               | MS17985C1610 /<br>NAS1343A2C10D | 4211.M10 |
| 1                        | 0.9970    | 0.9985    | 1.5                                   | 1.219       | 0.810           | 0.950     | 1.320     | 3.520     | 2.17      | 1.310     | 1.0100                   | 147,200                                      | -65                                                                                 | 200  | 383.0                                                                               | MS17985C1615 /<br>NAS1343A2C15D | 4211.M15 |
| 1                        | 0.9970    | 0.9985    | 2.9                                   | 1.219       | 0.810           | 0.950     | 1.320     | 3.520     | 2.17      | 1.310     | 1.0100                   | 147,200                                      | -65                                                                                 | 200  | 522.0                                                                               | MS17985C1629 /<br>NAS1343A2C29D | 4211.M29 |
| 1                        | 0.9970    | 0.9985    | 3.1                                   | 1.219       | 0.810           | 0.950     | 1.320     | 3.520     | 2.17      | 1.310     | 1.0100                   | 147,200                                      | -65                                                                                 | 200  | 541.0                                                                               | MS17985C1631 /<br>NAS1343A2C31D | 4211.M31 |
| 1                        | 0.9970    | 0.9985    | 3.3                                   | 1.219       | 0.810           | 0.950     | 1.320     | 3.520     | 2.17      | 1.310     | 1.0100                   | 147,200                                      | -65                                                                                 | 200  | 561.0                                                                               | MS17985C1633 /<br>NAS1343A2C33D | 4211.M33 |
| 1                        | 0.9970    | 0.9985    | 4.0                                   | 1.219       | 0.810           | 0.950     | 1.320     | 3.520     | 2.17      | 1.310     | 1.0100                   | 147,200                                      | -65                                                                                 | 200  | 631.0                                                                               | MS17985C1640 /<br>NAS1343A2C40D | 4211.M40 |
| 1                        | 0.9970    | 0.9985    | 5.0                                   | 1.219       | 0.810           | 0.950     | 1.320     | 3.520     | 2.17      | 1.310     | 1.0100                   | 147,200                                      | -65                                                                                 | 200  | 581.0                                                                               | MS17985C1650 /<br>NAS1343A2C50D | 4211.M50 |
| 1                        | 0.9970    | 0.9985    | 5.5                                   | 1.219       | 0.810           | 0.950     | 1.320     | 3.520     | 2.17      | 1.310     | 1.0100                   | 147,200                                      | -65                                                                                 | 200  | 779.0                                                                               | MS17985C1655 /<br>NAS1343A2C55D | 4211.M55 |

## Compliance

### RoHS compliant

Compliant according to Directive 2011/65/EU and Directive 2015/863.

### Does not contain SVHC substances

No SVHC substances with more than 0.1% w/w contained - SVHC list [REACH] as of 23.01.2024.

### Does not contain Proposition 65 substances

No Proposition 65 substances included.

<https://www.P65Warnings.ca.gov/>

### Free from Conflict Minerals

This product does not contain any substances designated as "conflict minerals" such as tantalum, tin, gold or tungsten from the Democratic Republic of Congo or adjacent countries.