

Nuts

Self-Retaining Threaded Nuts

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EXPANSION NUTS

ARaymond Tinnerman Expansion Nuts provide fast, vibration-resistant attachments in blind or center-panel locations where only one side is accessible. They snap easily into rectangular holes and are self-retained by spring legs. Special locking tabs are provided where permanent fastener retention is required.

As the screw is driven, the spring legs expand, locking them over the panel, while also providing a double-locking action on the screw (ultimately supplying the joint strength). These easy to apply fasteners require no special skills or equipment to install, and can be used in place of weld-, clinch-, or stake-type fasteners. Applied before or after painting, they will not clog and do not require masking.

Metal Expansion Nuts

ARaymond Tinnerman Metal Expansion Nuts are available in either box or robotics style design options.

Box style expansion nuts are primarily used in sheet metal applications. Once installed, these parts expand, reinforcing the attachment and providing a low failure risk. The strength of the part is greater than that of the panel, maximizing joint strength.

Tapered robotics expansion nuts can be used in plastic and metal panels and are suited for automation. These parts are available in key-hole, speed-nut and tapped barrel thread impressions. The tapped barrel option provides the strongest attachment and assists with assembly, making it beneficial in high volume applications.

Plastic Expansion Nuts

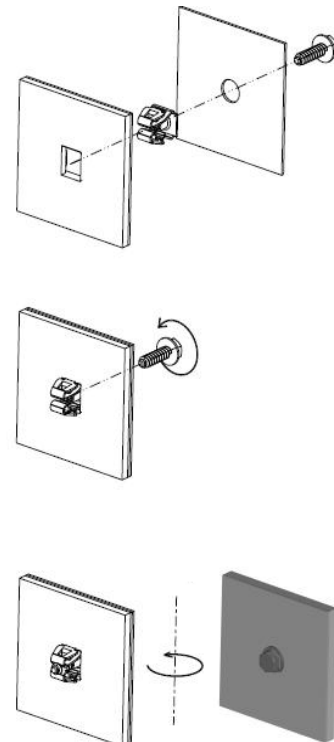
ARaymond Tinnerman Plastic Expansion Nuts work well in applications where metal to metal contact is not desired. The insertion vs. retention ratio is not as high as their metal counterparts. Completely enclosed in plastic, the screw threads are protected from corrosion or galvanic action and all designs can be incorporated with a seal.

Industries and Applications

- Universal
- Sheet metal to sheet metal attachments on appliances, HVAC, industrial and automotive applications
- Great for attaching components and accessory equipment

Benefits

- Parts self-retain
- Easy to assemble - requires no special tools
- Provides a tight joint that is able to withstand vibrations
- Increases torque capability, improves quality and reduces re-work
- Great for high volume applications and easy to automate



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Metal expansion nuts featured on this page are manufactured with spring steel. ARaymond Tinnerman offers these parts in corrosion protection and/or aesthetically pleasing finishes.

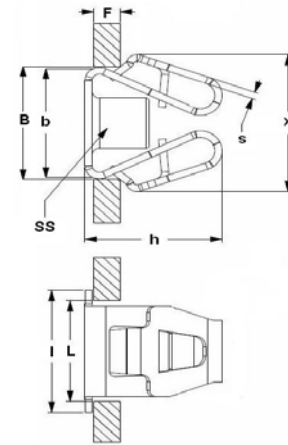
Plastic Expansion Nuts are manufactured in nylon.

Expansion Nuts - Metal

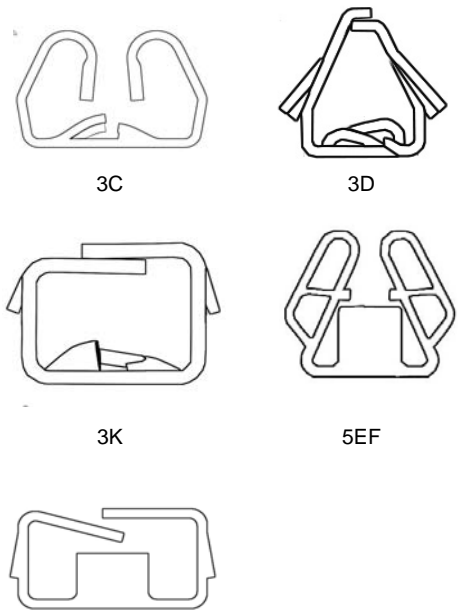
Part Number	Screw Size (SS)	Panel Thickness (F)	Hole Width (B)	Hole Length (L)	Height (h)	Design Variation
D98621-8Z	8-18	0.700-1.000	8.550-8.750	8.650	7.350	3K
<i>D98928-M42141</i>	<i>M4.2x1.41</i>	<i>0.700-1.000</i>	<i>8.550-8.750</i>	<i>8.650</i>	<i>6.900</i>	3K
D98683-8Z	8-18	1.000-1.500	8.550-8.750	8.650	7.350	3K
D98833-8Z	8-18	1.400-2.100	8.550-8.750	8.650	7.350	3K
<i>D99032-M42141</i>	<i>M4.2x1.41</i>	<i>0.700-2.150</i>	<i>8.550-8.750</i>	<i>8.650</i>	<i>6.900</i>	3K
<i>D99049-M42141</i>	<i>M4.2x1.41</i>	<i>0.700-2.150</i>	<i>8.550-8.750</i>	<i>8.650</i>	<i>6.900</i>	3KX
<i>IPTS426401</i>	<i>M4.2x1.41</i>	<i>0.700-1.000</i>	<i>8.650-8.650</i>	<i>8.650</i>	<i>10.800</i>	3D
<i>IPTS428119</i>	<i>M4.2x1.41</i>	<i>1.600-1.900</i>	<i>8.650-8.950</i>	<i>8.800</i>	<i>10.800</i>	3D
C08653-10A	10-12	0.036-0.056	0.503-0.508	0.505	0.345	3C
<i>D99406-M4816</i>	<i>M4.8x1.59</i>	<i>0.700-2.300</i>	<i>12.900-13.100</i>	<i>13.000</i>	<i>7.800</i>	3K
<i>D99229-M48159</i>	<i>M4.8x1.59</i>	<i>0.660-2.100</i>	<i>11.750-12.250</i>	<i>12.000</i>	<i>7.900</i>	3K
<i>D99280-M42141</i>	<i>M4.2x1.41</i>	<i>0.700-2.150</i>	<i>8.550-8.750</i>	<i>10.750</i>	<i>6.900</i>	3K
<i>D98797-064M</i>	<i>M4.2x1.41</i>	<i>1.250-1.750</i>	<i>11.000-11.200</i>	<i>9.100</i>	<i>12.600</i>	3E
<i>D98912-064M</i>	<i>M4.2x1.41</i>	<i>2.300-2.800</i>	<i>11.000-11.200</i>	<i>9.100</i>	<i>12.300</i>	3E
<i>D99294-071M</i>	<i>M5x1.6</i>	<i>2.300-2.800</i>	<i>11.000-11.200</i>	<i>9.100</i>	<i>12.300</i>	3E
<i>D99152-064M</i>	<i>M4.2x1.41</i>	<i>2.100-2.500</i>	<i>8.000-10.200</i>	<i>8.100</i>	<i>12.400</i>	3E
D98914-064M	10-16	0.660-0.840	11.900-12.100	12.000	13.600	3E
<i>D99404-M42141</i>	<i>M4.2x1.41</i>	<i>2.300-2.800</i>	<i>11.000-11.200</i>	<i>9.100</i>	<i>12.700</i>	5EF
<i>D99353-M42141</i>	<i>M4.2x1.41</i>	<i>2.300-2.800</i>	<i>10.000-10.200</i>	<i>10.000</i>	<i>11.900</i>	5EF
<i>D99042-M61</i>	<i>M6x1.0</i>	<i>2.000-2.500</i>	<i>14.800-15.000</i>	<i>14.900</i>	<i>14.000</i>	5EP
<i>D99249-M61</i>	<i>M6x1.0</i>	<i>0.700-2.000</i>	<i>13.750-14.030</i>	<i>9.390</i>	<i>10.700</i>	5K
<i>D99296-M61</i>	<i>M6x1.0</i>	<i>2.000-3.800</i>	<i>13.750-14.030</i>	<i>9.390</i>	<i>10.700</i>	3E
<i>D99038-M61</i>	<i>M6x1.0</i>	<i>0.700-1.500</i>	<i>19.800-20.000</i>	<i>12.650</i>	<i>10.500</i>	5K
<i>D98952-M61</i>	<i>M6x1.0</i>	<i>0.650-1.800</i>	<i>15.750-15.250</i>	<i>15.000</i>	<i>9.700</i>	5KL

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D99406-M4816 availability may be limited.

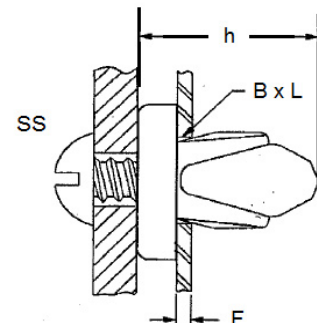


DESIGN VARIATIONS



Expansion Nuts - Plastic

Part Number	Screw Size (SS)	Panel Thickness (F)	Hole Width (B)	Hole Length (L)	Height (h)
C60053AA-031	#8; #10	0.020-0.076	0.250-0.281	0.266	0.471
C61374AA-250	#8; #10	0.020-0.076	0.250-0.281	0.266	0.690
C61408AA-125	#8; #10	0.020-0.076	0.250-0.281	0.266	0.565



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Self-Retaining Threaded Nuts

U-NUTS

ARaymond Tinnerman U-nuts self-retain in screw-receiving position to provide simple, rapid attachment of mating panels. They correct misalignment in panel mounting holes, do not turn as the screw is driven and will not freeze on screw threads.

Most U-nuts are single piece stampings available in single impression, 5-prong and threaded barrel styles. Nut retainers are two-piece assemblies that combine the strength of a cold-headed nut with the versatility of a sheet metal cage.

Multiple impression and floating cage align-nuts can be used in cases where there is excessive build variation.

Industries and Applications

- Universal - Can be used wherever a screw or bolt is used
- Used in place of clinch-nuts and weld-nuts
- Panel assembly applications in HVAC and white goods

Benefits

- Self-retain during assembly, improving assembly time and reducing costly welding and clinching costs
- Easy to assemble, requiring no special tools
- Serviceable - Parts disassemble easily and reliably
- Single-component design eliminates small parts handling and excessive part inventories

Performance Specifications

The strength of the joint greatly depends on the type of impression and screw size.

For course thread screws, single impression and 5-prong styles are a viable alternative. The strength of these parts correspond to the strength of the screw. They are easier to install, have lower profiles and make a cleaner joint.

For machine screws, threaded barrel parts are preferred. The tapped barrel strength equals that of the screw.

For larger sizes, nut retainers are recommended. These parts combine the strength of the nut with the flexibility of the spring steel cage.

Selection Criteria

First, select the thread specification required for the desired joint strength. Next, select a fastener designed for the required panel thickness. Finally, select a nut that will accommodate the distance from the edge of the panel to the center line of the mounting hole.

U-SHAPED BOLT RETAINERS

In some applications it may be advantageous to pre-assemble the bolt to the panel and drive a nut to secure the component. The component can "hang" from the bolt, allowing both hands to be free during the assembly operation.



Speed Nut® - U-Shaped



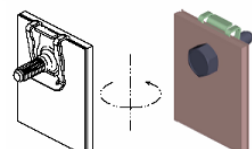
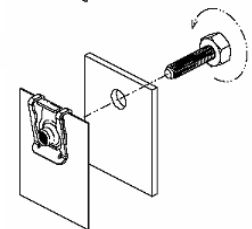
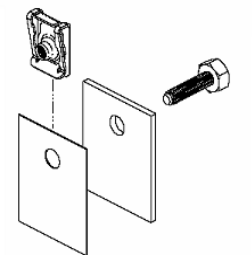
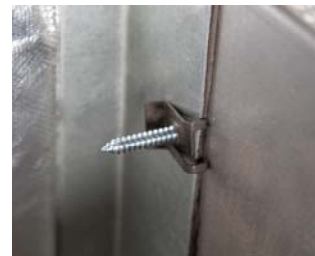
Tapped Barrel



Nut Retainer



Align - Nut



Nuts

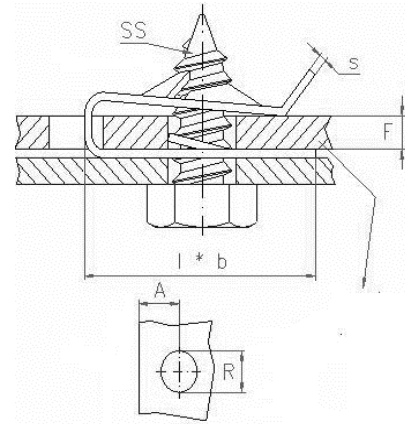
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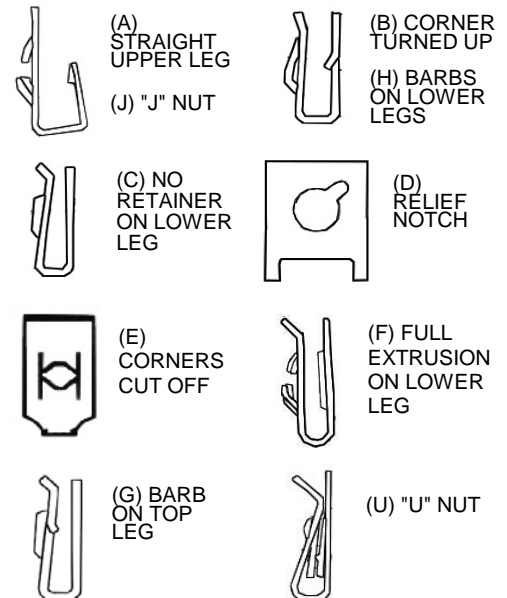
Speed Nut® - U-Shaped

Part Number	Screw Size (SS)	Panel Thickness (F)	Throat Distance (A)	Hole Diameter (R)	Width (b)	Length (l)	Design Variation
C06227-632	6-32	0.041-0.051	0.156	0.187	0.310	0.360	2AJ
C46551-011	6-32	0.018-0.023	0.187	0.187	0.312	0.370	3
D11351-632	6-32	0.110-0.125	0.171	0.156	0.500	0.350	2C
D08109-8	8-15;8-18	0.045-0.062	0.187	0.218	0.500	0.520	2D
C06077-8Z	8-18	0.060-0.070	0.234	0.250	0.500	0.520	2AD
D98448-8Z	8-15;8-18	0.091-0.110	0.220	0.220	0.423	0.417	3BCH
C71784-M42141	M4.2x1.41	2.000-3.000	6.000	7.000	12.000	13.500	2DG
D19640-8AB	8-18	0.025-0.150	0.250	0.280	0.535	0.770	3AU
D99228-M42141	M4.2x1.41	0.600-2.000	7.000	7.900	13.000	15.000	3DKU
D00885-8	8-15;8-18	0.037-0.064	0.296	0.250	0.437	0.630	2D
US 420014	M4.2x1.41	2.250-3.000	7.200	5.800	9.300	12.900	3SZ
US 420519	M4.2x1.41	0.650-3.800	8.640	6.980	13.600	19.300	3SZ
C15127-8	8-15;8-18	0.168-0.198	0.281	0.218	0.406	0.610	2J
D98712-064M	M4.2x1.41	2.200-3.100	10.000	8.000	14.500	17.600	3D
D06377-8AB	8-15;8-18	0.070-0.150	0.312	0.328	0.430	0.750	2DU
D98665-071M	M4.2x1.41	1.000-1.270	12.700	7.920	14.980	20.950	4J
D09031-8	8-15;8-18	0.102-0.125	0.406	0.281	0.625	0.700	2D
D01793-8	8-15;8-18	0.064-0.093	0.437	0.281	0.625	0.700	2D
D97295-028	8-18	0.025-0.150	0.480	0.280	0.340	0.970	3ACU
D19640-10AB	10-16	0.025-0.150	0.250	0.280	0.531	0.770	3AU
C71743-M47159	M4.8x1.59	2.460-2.660	6.800	7.000	12.700	14.100	3JZ
D09031-10	10-16	0.102-0.125	0.406	0.281	0.625	0.700	2D
C01880-10Z	10-16	0.156-0.187	0.750	0.281	0.437	1.140	2
C01197-1024	10-24	0.109-0.120	0.281	0.312	0.437	0.630	2F
C08048-1024	10-24	0.045-0.062	0.515	0.250	0.375	0.970	2J
C01880-1024	10-24	0.156-0.187	0.750	0.281	0.437	1.140	2
D13398-1032	10-32	0.045-0.062	0.250	0.250	0.625	0.570	2D
D00521-1420	1/4-20	0.051-0.109	0.312	0.359	0.500	0.780	2
C14969-1420	1/4-20	0.051-0.109	0.312	0.343	0.500	0.790	2F
C14860-1420	1/4-20	0.064-0.125	0.500	0.343	0.500	0.970	2G
D09569-1420	1/4-20	0.060-0.156	0.937	0.343	0.625	1.240	2E
D17453-1420	1/4-20	0.156-0.190	0.906	0.343	0.625	1.225	2E

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DESIGN VARIATIONS



Nuts

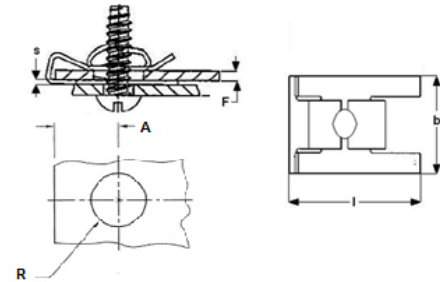
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U-Nut - 5-Prong (Prevailing Torque)

Part Number	Screw Size (SS)	Panel Thickness (F)	Throat Distance (A)	Hole Diameter (R)	Width (b)	Length (l)
<i>D98316-071M</i>	<i>M4.2x1.41</i>	<i>0.500-1.800</i>	<i>7.920</i>	<i>8.330</i>	<i>13.780</i>	<i>19.500</i>
<i>D98317-071M</i>	<i>M4.2x1.41</i>	<i>1.800-3.800</i>	<i>7.900</i>	<i>8.300</i>	<i>13.780</i>	<i>19.500</i>
<i>D98860-071M</i>	<i>M4.2x1.41</i>	<i>2.400-2.900</i>	<i>8.000</i>	<i>6.750</i>	<i>14.000</i>	<i>18.500</i>
<i>D98585-071M</i>	<i>M4.2x1.41</i>	<i>2.400-2.900</i>	<i>8.000</i>	<i>6.750</i>	<i>14.000</i>	<i>18.500</i>
<i>C71667-M42141</i>	<i>M4.2x1.41</i>	<i>1.800-4.000</i>	<i>8.700</i>	<i>8.000</i>	<i>13.600</i>	<i>18.400</i>
<i>D99174-071M</i>	<i>M4.2x1.41</i>	<i>0.800-1.200</i>	<i>14.000</i>	<i>8.330</i>	<i>13.770</i>	<i>25.200</i>
<i>D98434-071M</i>	<i>M4.2x1.41</i>	<i>1.800-3.800</i>	<i>14.000</i>	<i>8.330</i>	<i>13.770</i>	<i>25.200</i>

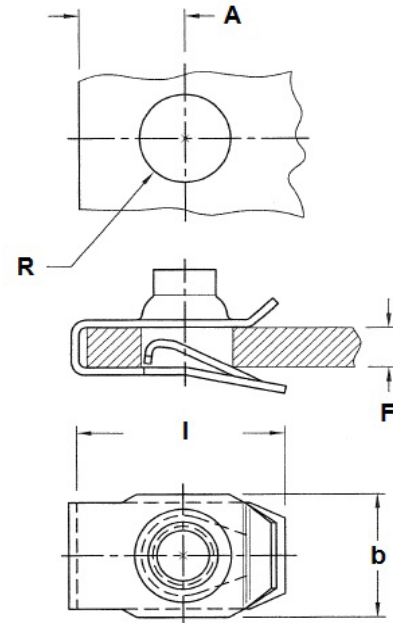
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U-Nut - Tapped Barrel

Part Number	Screw Size (SS)	Panel Thickness (F)	Throat Distance (A)	Hole Diameter (R)	Width (b)	Length (l)	Torque
<i>D99390-M42141</i>	<i>M4.2x1.41</i>	<i>2.000-3.000</i>	<i>8.600</i>	<i>7.930</i>	<i>12.500</i>	<i>16.900</i>	6
<i>D99389-M42141</i>	<i>M4.2x1.41</i>	<i>0.500-2.000</i>	<i>9.100</i>	<i>7.930</i>	<i>12.500</i>	<i>17.300</i>	6
<i>LPGS420018</i>	<i>M4.2x1.41</i>	<i>0.650-3.800</i>	<i>14.000</i>	<i>7.550</i>	<i>12.500</i>	<i>22.000</i>	6
LUGS832006	8-32	0.020-0.079	0.383	0.280	0.492	0.681	5
LUGZ103239	10-32	0.070-0.100	0.270	0.260	0.510	0.600	5
LUGS142059	1/4-20	0.025-0.150	0.450	0.390	0.560	0.920	5
LUGS561863	5/16-18	0.025-0.150	0.500	0.437	0.670	0.980	5
LUGS381683	3/8-16	0.050-0.200	0.660	0.562	0.930	1.290	5
<i>LUGS060023</i>	<i>M6x1.0</i>	<i>0.800-4.000</i>	<i>12.000</i>	<i>10.300</i>	<i>14.220</i>	<i>23.370</i>	5
<i>LPGS060023</i>	<i>M6x1.0</i>	<i>0.800-4.000</i>	<i>12.000</i>	<i>10.300</i>	<i>14.220</i>	<i>23.370</i>	6
<i>LUGZ002112</i>	<i>M6x1.0</i>	<i>0.800-3.810</i>	<i>12.000</i>	<i>10.300</i>	<i>14.220</i>	<i>23.370</i>	5
<i>LPGZ002112</i>	<i>M6x1.0</i>	<i>0.800-3.810</i>	<i>12.000</i>	<i>10.300</i>	<i>14.220</i>	<i>23.370</i>	6
<i>LUGZ002241</i>	<i>M6x1.0</i>	<i>0.800-3.810</i>	<i>12.000</i>	<i>10.300</i>	<i>14.220</i>	<i>23.370</i>	5
<i>LPGZ002241</i>	<i>M6x1.0</i>	<i>0.800-3.810</i>	<i>12.000</i>	<i>10.300</i>	<i>14.220</i>	<i>23.370</i>	6
<i>LUGS061512</i>	<i>M6x1.0</i>	<i>0.800-4.000</i>	<i>12.500</i>	<i>7.930</i>	<i>15.000</i>	<i>24.000</i>	5
<i>LUGS060030</i>	<i>M6x1.0</i>	<i>1.000-2.500</i>	<i>19.750</i>	<i>10.300</i>	<i>14.500</i>	<i>29.500</i>	5
<i>LUGS080025</i>	<i>M8x1.25</i>	<i>0.800-4.000</i>	<i>13.000</i>	<i>11.700</i>	<i>17.020</i>	<i>24.890</i>	5
<i>LPGS080025</i>	<i>M8x1.25</i>	<i>0.800-4.000</i>	<i>13.000</i>	<i>11.700</i>	<i>17.020</i>	<i>24.890</i>	6
<i>LPGZ080025</i>	<i>M8x1.25</i>	<i>0.800-4.000</i>	<i>13.000</i>	<i>11.700</i>	<i>17.020</i>	<i>24.890</i>	6
<i>LUGS085725</i>	<i>M8x1.25</i>	<i>1.500-5.500</i>	<i>13.000</i>	<i>11.700</i>	<i>17.020</i>	<i>24.890</i>	5
<i>LPGS085725</i>	<i>M8x1.25</i>	<i>1.500-5.500</i>	<i>13.000</i>	<i>11.700</i>	<i>17.020</i>	<i>24.890</i>	6
<i>LUGS080031</i>	<i>M8x1.25</i>	<i>1.500-5.500</i>	<i>20.000</i>	<i>11.700</i>	<i>17.000</i>	<i>31.500</i>	5
<i>LPGS080031</i>	<i>M8x1.25</i>	<i>1.500-5.500</i>	<i>20.000</i>	<i>11.700</i>	<i>17.000</i>	<i>31.500</i>	6
<i>LUGS100033</i>	<i>M10x1.5</i>	<i>1.500-5.500</i>	<i>17.500</i>	<i>15.000</i>	<i>17.500</i>	<i>32.500</i>	5
<i>LPGS100033</i>	<i>M10x1.5</i>	<i>1.500-5.500</i>	<i>17.000</i>	<i>12.000</i>	<i>24.000</i>	<i>33.500</i>	6

Bold Italics: Metric



5: Free Spin Barrel
6: Prevailing Torque Barrel

Nuts

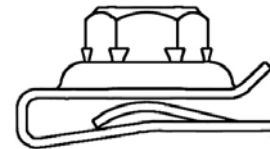
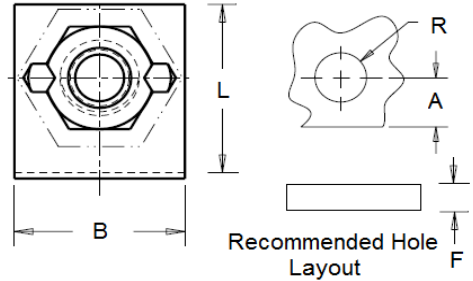
Self-Retaining Threaded Nuts / Bolts

Most of the products featured on this page are manufactured with spring or pre-hardened steel. Nut and bolt components are available in different grades. ARaymond Tinnerman offers these parts in corrosion protection and/or aesthetically pleasing finishes.

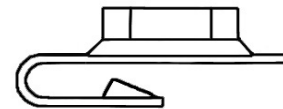
U-Nut Retainer

Part Number	Screw Size (SS)	Panel Thickness (F)	Throat Distance (A)	Hole Diameter (R)	Width (b)	Length (l)	Type
C33962SS-1024	10-24	2.920-3.180	9.520	7.620	17.450	18.040	U-TYPE
C30110-1024	10-24	0.093-0.135	0.375	0.437	0.560	0.730	J-TYPE
C33892-1024	10-24	0.810-2.360	12.700	10.000	15.870	24.010	J-TYPE
C33945-1032	10-32	0.050-0.075	0.375	0.343	0.687	0.710	U-TYPE
C33892-1032	10-32	0.810-2.360	12.700	10.000	15.870	24.010	J-TYPE
C33945-1420	1/4-20	0.050-0.075	0.375	0.343	0.687	0.710	U-TYPE
C30110-1420	1/4-20	0.093-0.135	0.375	0.437	0.560	0.730	J-TYPE
C33896-1420	1/4-20	2.290-3.560	12.700	12.800	19.050	26.290	J-TYPE
C33892-1420	1/4-20	0.810-2.360	12.700	10.000	15.870	24.010	J-TYPE
C33924-1420	1/4-20	0.810-2.360	19.840	10.000	15.870	30.880	J-TYPE
C33952-5618	5/16-18	1.270-2.290	13.870	12.800	19.050	26.670	J-TYPE
C33896-5618	5/16-18	2.290-3.560	12.700	12.800	19.050	26.290	J-TYPE
C33883-5618	5/16-18	3.180-3.430	11.430	12.700	14.730	23.850	J-TYPE
C33953-5618	5/16-18	3.230-4.140	12.700	11.100	19.050	25.400	J-TYPE
C33952-3816	3/8-16	0.050-0.090	0.546	0.504	0.750	26.670	J-TYPE
C33896-3816	3/8-16	2.290-3.560	12.700	12.800	19.050	26.290	J-TYPE
C33896-M61	M6x1.0	2.290-3.560	12.700	12.800	19.050	26.290	J-TYPE
D31758-1032	10-32	0.060-0.070	0.272	0.281	0.500	0.570	U-TYPE

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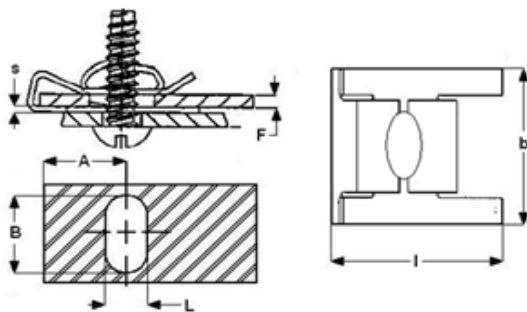


U - Type



J - Type

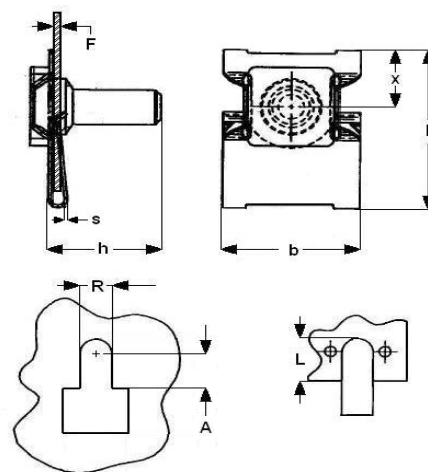
Align Nuts



Part Number	Screw Size (SS)	Panel Thickness (F)	Throat Distance (A)
D98612-8Z	M4.2x1.41	1.80-2.00	7.00

Bold Italics: Metric

U-Shaped Bolt Retainers



Part Number	Screw Size (SS)	Panel Thickness (F)	Throat Distance (A)
C34030-1420	1/4-20	0.098-0.118	0.685

Nuts

Self-Retaining Threaded Nuts

The product displayed in this catalog is a preferred sampling of the larger product offering. For additional product refer to our website or contact a sales professional.

SPEED GRIP CAGE NUTS

ARaymond Tinnerman Cage Nuts combine the benefits of a spring steel fastener with the high-strength of a multi-threaded nut. They snap readily into bolt receiving position at center panel locations and retain themselves in place.

Installation does not require special tools or skills, eliminating the need for special operations. Cage nuts can be applied at any convenient spot along the assembly line. The nut floats within the cage to account for normal build variation. Speed Grip Cage Nuts are ideal for blind location assembly.

Industries and Applications

- Serviceable access panels for HVAC and Appliances
- Cabinet construction for various industries

Benefits

- Serviceable - Parts disassemble easily and reliably
- Self-retaining feature provides easy install
- Strong joint that is able to withstand vibrations
- Easy to assemble, requiring no special tools
- Can be applied at any convenient spot along the assembly line

Performance Specifications

Parts install under 20 lbs. and meet proof load for nut specification.

CUSTOMIZED NUT ASSEMBLIES

ARaymond Tinnerman can manufacture nut assemblies to suit custom applications. Contact a sales professional for a customized solution.

SPEED GRIP BOLT RETAINERS

In some applications it may be advantageous to pre-assemble the bolt to the panel and drive a nut to secure the component. The component can "hang" from the bolt, allowing both hands to be free during the assembly operation. Speed Grip Bolt Retainers use the same cages as Speed Grip Nut Retainer.



Speed Grip Nut Retainer



Speed Grip Bolt Retainer

Nuts

Self-Retaining Threaded Nuts

Most of the products featured on this page are manufactured with spring or pre-hardened steel. Nut and bolt components are available in different grades. ARaymond Tinnerman offers these parts in corrosion protection and/or aesthetically pleasing finishes.

Speed Grip Cage Nuts

Part Number	Screw Size (SS)	Panel Thickness (F)	Hole Width (B)	Hole Length (L)	Width (b)	Length (l)	Material Thick. (s)
D33751-832	8-32	0.025-0.063	0.281-0.286	0.200	0.430	0.450	0.017
D30395-832	8-32	0.025-0.063	0.281-0.286	0.281	0.430	0.450	0.017
D30395-1024	10-24	0.025-0.063	0.281-0.286	0.281	0.430	0.450	0.017
D07931-832	8-32	0.025-0.063	0.342-0.380	0.377	0.490	0.520	0.020
D07931-1032	10-32	0.025-0.063	0.342-0.380	0.377	0.490	0.520	0.020
D07931-1024	10-24	0.025-0.063	0.342-0.380	0.377	0.490	0.520	0.020
D07988-1420	1/4-20	0.025-0.063	0.342-0.380	0.377	0.490	0.520	0.020
D07941-832	8-32	0.064-0.105	0.342-0.380	0.377	0.490	0.520	0.020
D07941-1024	10-24	0.064-0.105	0.342-0.380	0.377	0.490	0.520	0.020
D07941-1032	10-32	0.064-0.105	0.342-0.380	0.377	0.490	0.520	0.020
D98579-1032	10-32	0.064-0.105	0.342-0.380	0.377	0.490	0.520	0.020
D07998-M61	M6x1.0	1.620-2.670	8.710-9.650	9.600	12.450	13.210	0.510
D98580-M61	M6x1.0	1.620-2.670	8.710-9.650	9.580	12.440	13.210	0.510
D07998-1420	1/4-20	0.064-0.105	0.342-0.380	0.377	0.490	0.520	0.020
D98580-1420	1/4-20	0.064-0.105	0.342-0.380	0.377	0.490	0.520	0.020
D07951-1024	10-24	0.093-0.126	0.342-0.380	0.377	0.490	0.520	0.020
D07956-M61	M6x1.0	2.360-3.200	8.710-9.650	9.600	12.450	13.200	0.510
D07956-1420	1/4-20	0.093-0.126	0.342-0.380	0.377	0.490	0.520	0.020
D31365-1024	10-24	0.125-0.156	0.342-0.380	0.377	0.490	0.520	0.020
D31365-1420	1/4-20	0.125-0.156	0.342-0.380	0.377	0.490	0.520	0.020
D98581-1420	1/4-20	0.125-0.156	0.342-0.380	0.377	0.490	0.520	0.020
D33880-1420	1/4-20	0.172-0.192	0.342-0.380	0.377	0.490	0.520	0.020
D07953-5618	5/16-18	0.057-0.092	0.460-0.508	0.462	0.645	0.660	0.025
D07953-3816	3/8-16	0.057-0.092	0.460-0.508	0.462	0.645	0.660	0.025
D07957-5618	5/16-18	0.093-0.126	0.460-0.508	0.505	0.640	0.660	0.025
D07957-3816	3/8-16	0.093-0.126	0.460-0.508	0.505	0.640	0.660	0.025
D31910-5618	5/16-18	0.177-0.197	0.460-0.508	0.505	0.640	0.660	0.025
D31910-M8125	M8x1.25	4.500-5.000	11.680-12.900	12.840	16.260	16.760	0.640
D07968-1213	1/2-13	0.059-0.092	0.573-0.610	0.590	0.860	0.870	0.025
D07969-3816	3/8-16	0.093-0.126	0.573-0.610	0.590	0.860	0.870	0.025
D30683-3816	3/8-16	0.162-0.210	0.573-0.610	0.600	0.860	0.870	0.025
D30683-7614	7/16-14	0.162-0.210	0.573-0.610	0.600	0.860	0.870	0.025
D30096-3816	3/8-16	0.240-0.260	0.573-0.610	0.590	0.860	0.870	0.025

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