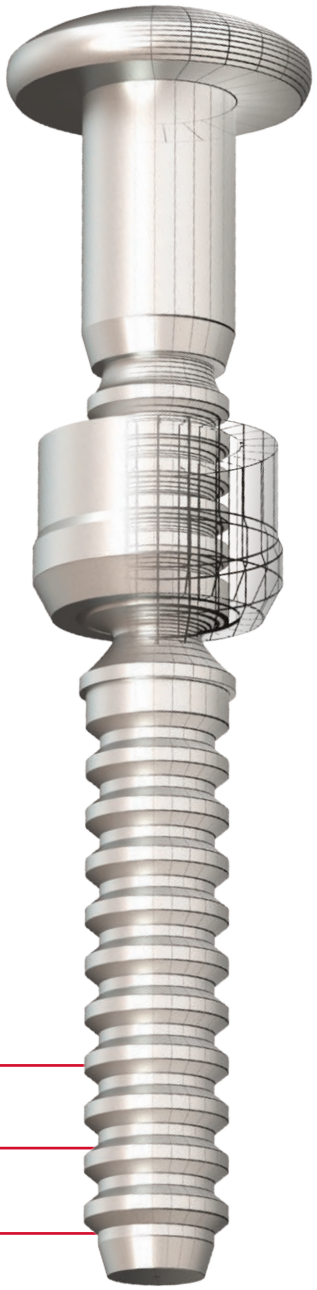
HOWMET AEROSPACE

# Lockbolts, Structural Blind Fasteners and Tooling


HUCK®

# C6L®

## The Classic 6-Groove Locking Fastener Built With Staying Power

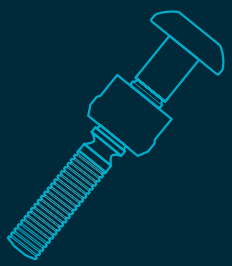


A result of Huck International innovation a half-century ago, the versatile C6L® HuckBolt® remains the number one fastening system for applications that require a strong, vibration-resistant seal today.

C6L's exclusive locking groove design ensures a permanent fit that resists loosening. That means it's ideal for applications from general manufacturing to such high-vibration applications as HVAC, trailer and container assembly, rotary and rotating equipment, shopping carts, railroad and transit cars, geodesic structures, and many others.

In addition to offering superior fastening performance, the C6L system reduces labor and installation costs, along with rework and warranty expenses. Using the C6L eliminates the need to hire certified welders or specially trained employees because workers can be instructed to install these foolproof fasteners in a matter of minutes. The C6L is simply stronger, easier to install, and more durable than welding, adhesives, or conventional threaded fastening systems. The C6L is available in Grade 2, Grade 5, and Grade 8.

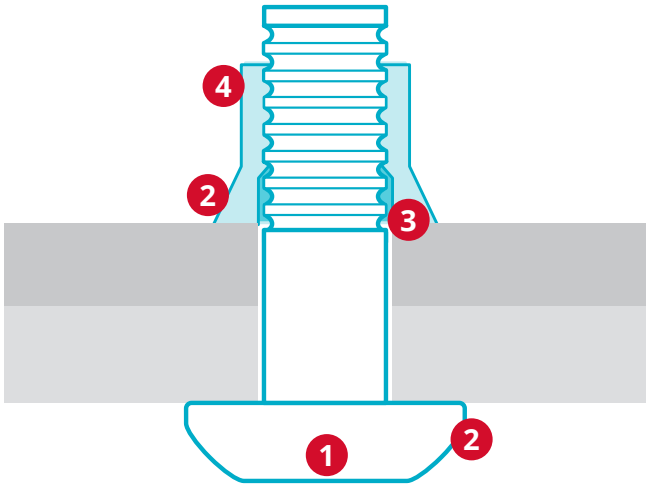
| | |
|---|---|
| **Available Sizes** | 3/16", 1/4", 5/16", 3/8" |
| **Materials** | Steel, Aluminum, Stainless Steel |
| **Headstyles** | Round, Truss, Flush, 98T |



- ✓ **Superior vibration resistance**
- ✓ **High shear and tensile strength, and fatigue life**
- ✓ **Heavy-duty applications**
- ✓ **High uniform clamp force**

# Secure, Fast Installation

The C6L's unique design virtually eliminates installation errors caused by operator or tool variables. The C6L ensures that once the collar swage is complete, the pintail breaks off and the fastener is tightly installed. No rework required. You can count on consistent, highly-uniform clamp force with every C6L installation, time after time.

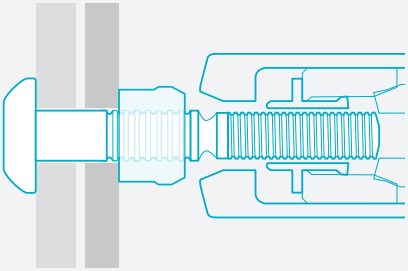



1 Wide bearing collar and head spread load to ensure structural integrity.

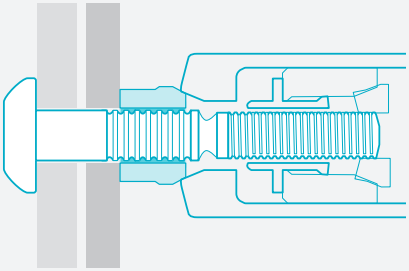
2 Initial long length of fastener enables pull-out of large gaps.

3 Excellent gap pull-out and high retained clamp.

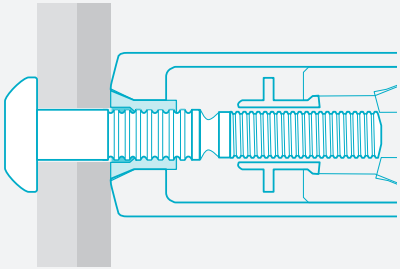
4 High-fatigue, annular lock groove form extends the life of your structure.



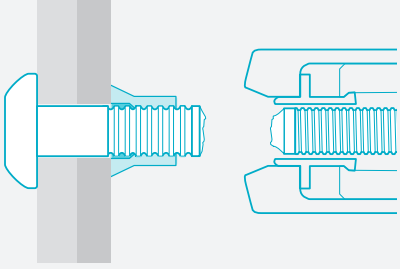
**1** Insert pin into the prepared hole and the smooth bore collar is placed on the pin.



**2** The installation tool is applied to the pintail. When the tool is activated, the jaws in the nose assembly pull on the pintail and the nose anvil pushes on the collar to remove any gap.

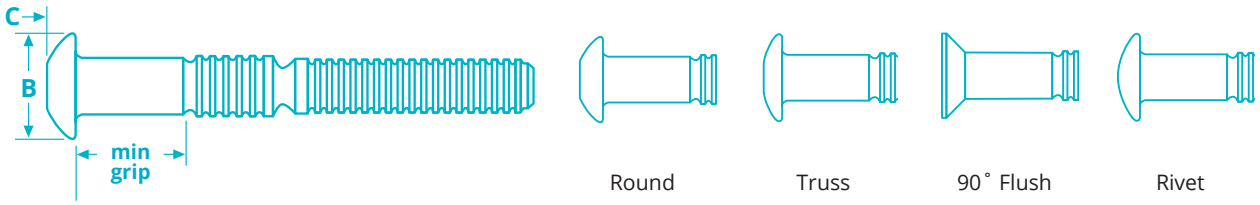


**3** The nose anvil starts to swage the collar into the lockgrooves on the pin. Continued swaging causes the collar to lengthen and develop clamp.



**4** When swaging of the collar into the lockgrooves is complete, the tool ejects the fastener and releases the puller to complete the sequence.

# C6L® Data and Dimensions




## Steel Pin - Zinc Plated

| DIAMETER | PART NO. | GRIP RANGE | MAX HOLE SIZE | [B] HEAD DIA | [C] HEAD HEIGHT | MIN. SHEAR (LBF) | MIN. CLAMP (LBF) | MIN. TENSILE (LBF) |
|---|---|---|---|---|---|---|---|---|
| Round Head | | | | | | | | |
| 1/4" | C6LB-R8-2G | .063-.188 | .281 | .475-.525 | .136-.152 | 3050 | 1805 | 2550 |
| | C6LB-R8-3GA | .125-.250 | .281 | .475-.525 | .136-.152 | 3050 | 1805 | 2550 |
| | C6LB-R8-4G | .188-.313 | .281 | .475-.525 | .136-.152 | 3050 | 1805 | 2550 |
| | C6LB-R8-5G | .250-.375 | .281 | .475-.525 | .136-.152 | 3050 | 1805 | 2550 |
| | C6LB-R8-6G | .313-.438 | .281 | .475-.525 | .136-.152 | 3050 | 1805 | 2550 |
| | C6LB-R8-7G | .375-.500 | .281 | .475-.525 | .136-.152 | 3050 | 1805 | 2550 |
| | C6LB-R8-8G | .438-.563 | .281 | .475-.525 | .136-.152 | 3050 | 1805 | 2550 |
| | C6LB-R8-9GA | .500-.625 | .281 | .475-.525 | .136-.152 | 3050 | 1805 | 2550 |
| 5/16" | C6LB-R10-4G | .125-.375 | .359 | .594-.656 | .181-.201 | 4725 | 2810 | 4600 |
| | C6LB-R10-6G | .250-.500 | .359 | .594-.656 | .181-.201 | 4725 | 2810 | 4600 |
| | C6LB-R10-8G | .375-.625 | .359 | .594-.656 | .181-.201 | 4725 | 2810 | 4600 |
| 3/8" | C6LB-R12-4G | .125-.375 | .422 | .720-.780 | .223-.248 | 6825 | 4020 | 5625 |
| | C6LB-R12-6G | .250-.500 | .422 | .720-.780 | .223-.248 | 6825 | 4020 | 5625 |
| | C6LB-R12-8G | .375-.625 | .422 | .720-.780 | .223-.248 | 6825 | 4020 | 5625 |
| | C6LB-R12-10G | .500-.750 | .422 | .720-.780 | .223-.248 | 6825 | 4020 | 5625 |
| | C6LB-R12-12G | .625-.875 | .422 | .720-.780 | .223-.248 | 6825 | 4020 | 5625 |
| | C6LB-R12-14G | .750-1.000 | .422 | .720-.780 | .223-.248 | 6825 | 4020 | 5625 |
| Truss Head | | | | | | | | |
| 1/4" | C6LT-R8-4GA | .188-.313 | .281 | .531-.594 | .103-.115 | 3050 | 1805 | 2550 |
| | C6LT-R8-5GA | .250-.375 | .281 | .531-.594 | .103-.115 | 3050 | 1805 | 2550 |
| | C6LT-R8-7GA | .375-.500 | .281 | .531-.594 | .103-.115 | 3050 | 1805 | 2550 |
| | C6LT-R8-8GA | .438-.563 | .281 | .531-.594 | .103-.115 | 3050 | 1805 | 2550 |
| 3/8" | C6LT-R12-4G | .125-.375 | .422 | .828-.922 | .186-.202 | 6825 | 4020 | 6500 |
| | C6LT-R12-6G | .250-.500 | .422 | .828-.922 | .186-.202 | 6825 | 4020 | 6500 |
| | C6LT-R12-8G | .375-.625 | .422 | .828-.922 | .186-.202 | 6825 | 4020 | 6500 |
| | C6LT-R12-10G | .500-.750 | .422 | .828-.922 | .186-.202 | 6825 | 4020 | 6500 |

*Grip range and hole size calculated using a 2LC collar

## Aluminum Pin

| DIAMETER | PART NO. | GRIP RANGE | MAX HOLE SIZE | [B] HEAD DIA | [C] HEAD HEIGHT | MIN. SHEAR (LBF) | MIN. CLAMP (LBF) | MIN. TENSILE (LBF) |
|---|---|---|---|---|---|---|---|---|
| Round Head | | | | | | | | |
| 1/4" | C6LB-C8-4 | .188-.313 | .281 | .713-.787 | .136-.152 | 1875 | 950 | 1800 |
| 3/8" | C6LB-C12-6 | .250-.500 | .422 | .713-.787 | .223-.248 | 4200 | 2200 | 4200 |
| | C6LB-C12-8 | .375-.625 | .422 | .713-.787 | .223-.248 | 4200 | 2200 | 4200 |
| | C6LB-C12-10 | .500-.750 | .422 | .713-.787 | .223-.248 | 4200 | 2200 | 4200 |
| | C6LB-C12-12 | .625-.875 | .422 | .713-.787 | .223-.248 | 4200 | 2200 | 4200 |

NOTE: Part numbers listed reflect typical stock. Additional Head Styles, material, diameter and grips may be available. All parts may be subject to minimum order.

# C6L® Data and Dimensions

## Steel Pin - Zinc Plated - Stainless Steel Cap

| DIAMETER | PART NO. | GRIP RANGE | MAX HOLE SIZE | [B] HEAD DIA (MAX) | [C] HEAD HEIGHT (MAX) | MIN. SHEAR (LBF) | MIN. CLAMP (LBF) | MIN. TENSILE (LBF) |
|---|---|---|---|---|---|---|---|---|
| **Truss Head** | | | | | | | | |
| 1/4" | C6LTC-R8-3G | .125-.250 | .281 | .610 | .165 | 3050 | 1805 | 2550 |
| | C6LTC-R8-4G | .188-.313 | .281 | .610 | .165 | 3050 | 1805 | 2550 |
| | C6LTC-R8-5G | .250-.375 | .281 | .610 | .165 | 3050 | 1805 | 2550 |
| | C6LTC-R8-6G | .313-.438 | .281 | .610 | .165 | 3050 | 1805 | 2550 |
| | C6LTC-R8-7G | .375-.500 | .281 | .610 | .165 | 3050 | 1805 | 2550 |
| | C6LTC-R8-8G | .438-.563 | .281 | .610 | .165 | 3050 | 1805 | 2550 |
| | C6LTC-R8-9G | .500-.625 | .281 | .610 | .165 | 3050 | 1805 | 2550 |
| 3/8" | C6LTC-R12-4G | .125-.375 | .422 | .860 | .210 | 6825 | 4020 | 5625 |
| | C6LTC-R12-6G | .250-.500 | .422 | .860 | .210 | 6825 | 4020 | 5625 |
| | C6LTC-R12-8G | .375-.625 | .422 | .860 | .210 | 6825 | 4020 | 5625 |
| | C6LTC-R12-10G | .500-.750 | .422 | .860 | .210 | 6825 | 4020 | 5625 |
| | C6LTC-R12-12G | .625-.875 | .422 | .860 | .210 | 6825 | 4020 | 5625 |
| | C6LTC-R12-14G | .750-1.000 | .422 | .860 | .210 | 6825 | 4020 | 5625 |

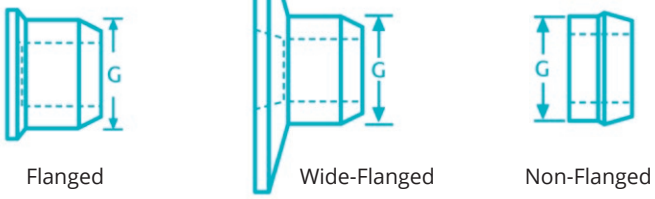
## Stainless Steel Pin

| DIAMETER | PART NO. | GRIP RANGE | MAX HOLE SIZE | [B] HEAD DIA | [C] HEAD HEIGHT | MIN. SHEAR (LBF) | MIN. CLAMP (LBF) | MIN. TENSILE (LBF) |
|---|---|---|---|---|---|---|---|---|
| **Rivet Head - Polished** | | | | | | | | |
| 3/16" | C98LT-U6-3BR | .125-.250 | .219 | .446-.492 | .090-.106 | 2000 | 1025 | 1455 |
| | C98LT-U6-5BR | .250-.375 | .219 | .446-.492 | .090-.106 | 2000 | 1025 | 1455 |
| | C98LT-U6-6BR | .313-.438 | .219 | .446-.492 | .090-.106 | 2000 | 1025 | 1455 |
| | C98LT-U6-7BR | .375-.500 | .219 | .446-.492 | .090-.106 | 2000 | 1025 | 1455 |
| | C98LT-U6-9BR | .500-.625 | .219 | .446-.492 | .090-.106 | 2000 | 1025 | 1455 |
| | C98LT-U6-10BR | .563-.688 | .219 | .446-.492 | .090-.106 | 2000 | 1025 | 1455 |
| | C98LT-U6-11BR | .625-.750 | .219 | .446-.492 | .090-.106 | 2000 | 1025 | 1455 |
| | C98LT-U6-12BR | .688-.813 | .219 | .446-.492 | .090-.106 | 2000 | 1025 | 1455 |
| **Round Head** | | | | | | | | |
| 1/4" | C6LB-U8-3 | .125-.250 | .281 | .475-.525 | .136-.152 | 3550 | 1805 | 2750 |
| | C6LB-U8-4 | .188-.313 | .281 | .475-.525 | .136-.152 | 3550 | 1805 | 2750 |
| | C6LB-U8-5 | .250-.375 | .281 | .475-.525 | .136-.152 | 3550 | 1805 | 2750 |
| | C6LB-U8-6 | .313-.438 | .281 | .475-.525 | .136-.152 | 3550 | 1805 | 2750 |
| | C6LB-U8-8 | .438-.563 | .281 | .475-.525 | .136-.152 | 3550 | 1805 | 2750 |
| | C6LB-U8-9 | .500-.625 | .281 | .475-.525 | .136-.152 | 3550 | 1805 | 2750 |
| 3/8" | C6LB-U12-6 | .250-.500 | .422 | .713-.787 | .223-.248 | 7950 | 4020 | 6100 |
| | C6LB-U12-8 | .375-.625 | .422 | .713-.787 | .223-.248 | 7950 | 4020 | 6100 |
| | C6LB-U12-10 | .500-.750 | .422 | .713-.787 | .223-.248 | 7950 | 4020 | 6100 |
| **Truss Head** | | | | | | | | |
| 3/8" | C6LT-U12-4 | .125-.375 | .422 | .828-.922 | .186-.202 | 7950 | 4020 | 6100 |
| | C6LT-U12-6 | .250-.500 | .422 | .828-.922 | .186-.202 | 7950 | 4020 | 6100 |
| | C6LT-U12-8 | .375-.625 | .422 | .828-.922 | .186-.202 | 7950 | 4020 | 6100 |
| | C6LT-U12-10 | .500-.750 | .422 | .828-.922 | .186-.202 | 7950 | 4020 | 6100 |

# C6L® Data and Tooling

## Tab-Lok™

The optional Tab-Lok feature makes sure the collar stays on the pin, before installation, in overhead and down slanted pin placements.




Flanged | Wide-Flanged | Non-Flanged

## Installation Tooling

| DIAMETER | TOOL | NOSE ASSEMBLY | TYPE |
|---|---|---|---|
| 3/16" | 244X | 99-2555-HD | Pneudraulic |
| | 256 | 99-2558 | Pneudraulic |
| | 2025* | 99-3003** | Pneudraulic |
| | 2480 | 99-3003**/99-2555-HD | Hydraulic |
| | 2581 | 99-2558 | Hydraulic |
| | BV4500-118 | 99-2555 | Battery |
| 1/4" | 244X | 99-3417 | Pneudraulic |
| | 256 | 99-2564 | Pneudraulic |
| | 2025* | 99-3006** | Pneudraulic |
| | 2480 | 99-3006**/99-3417 | Hydraulic |
| | 2581 | 99-2564 | Hydraulic |
| | BV4500-118 | 99-3417 | Battery |
| 5/16" | 256 | 99-99-245 | Pneudraulic |
| | 2581 | 99-99-245 | Hydraulic |
| 3/8" | 256 | 99-100-245 | Pneudrauic |
| | 2581 | 99-100-245 | Hydraulic |

* Model 2025 is not recommended for high volume installation of stainless steel fasteners.
** When using tapered bore anvils, use visual inspection data for tapered bore anvil tooling.


## Collars

STEEL, ZINC PLATED

| DIAMETER | PART NO. | WIDTH (G) |
|---|---|---|
| **Non-Flanged** | | |
| 3/16" | 2LC-R6G | .304-.311 |
| 1/4" | 2LC-R8G | .402-.409 |
| 5/16" | 2LC-R10G | .485-.494 |
| 3/8" | 2LC-R12G | .590-.600 |
| **Flanged** | | |
| 3/16" | 3LC-2R6G | .304-.311 |
| 1/4" | 3LC-2R8G | .402-.409 |
| 5/16" | 3LC-2R10G | .498-.507 |
| 3/8" | 3LC-2R12G | .599-.610 |
| **Wide-Flanged** | | |
| 1/4" | 3LCW-2R8G | .400-.409 |

ALUMINUM

| DIAMETER | PART NO. | WIDTH (G) |
|---|---|---|
| **Non-Flanged** | | |
| 3/16" | 2LC-F6 | .304-.311 |
| 1/4" | 2LC-F8 | .402-.409 |
| 5/16" | 2LC-F10 | .499-.507 |
| 3/8" | 2LC-F12 | .590-.600 |
| **Flanged** | | |
| 1/4" | 3LC-F8 | .402-.409 |
| 5/16" | 3LC-F10 | .498-.507 |
| 3/8" | 3LC-F12 | .599-.610 |

STAINLESS STEEL

| DIAMETER | PART NO. | WIDTH (G) |
|---|---|---|
| **Non-Flanged** | | |
| 3/16" | 2LC-2CU6 | .304-.311 |
| 1/4" | 2LC-2CU8 | .402-.409 |
| 3/8" | 2LC-2CU12 | .590-.600 |
| Flanged | | |
| 3/16" | 3LC-2CU6 | .304-.311 |
| 1/4" | 3LC-2CU8 | .402-.409 |
| 3/8" | 3LC-2CU12 | .599-.610 |