

**Alcoa
Fastening
Systems**



Huck C6L[®] / C120L[®]

**The Original
Vibration-Resistant
LockBolt.**



Huck C6L®. The classic 6-groove locking fastener built with staying power.

A result of Huck International innovation a half-century ago, the versatile Alcoa Fastening Systems C6L® Lock Bolt 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. For example, 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.

Designed for consistent installation, easy inspection.

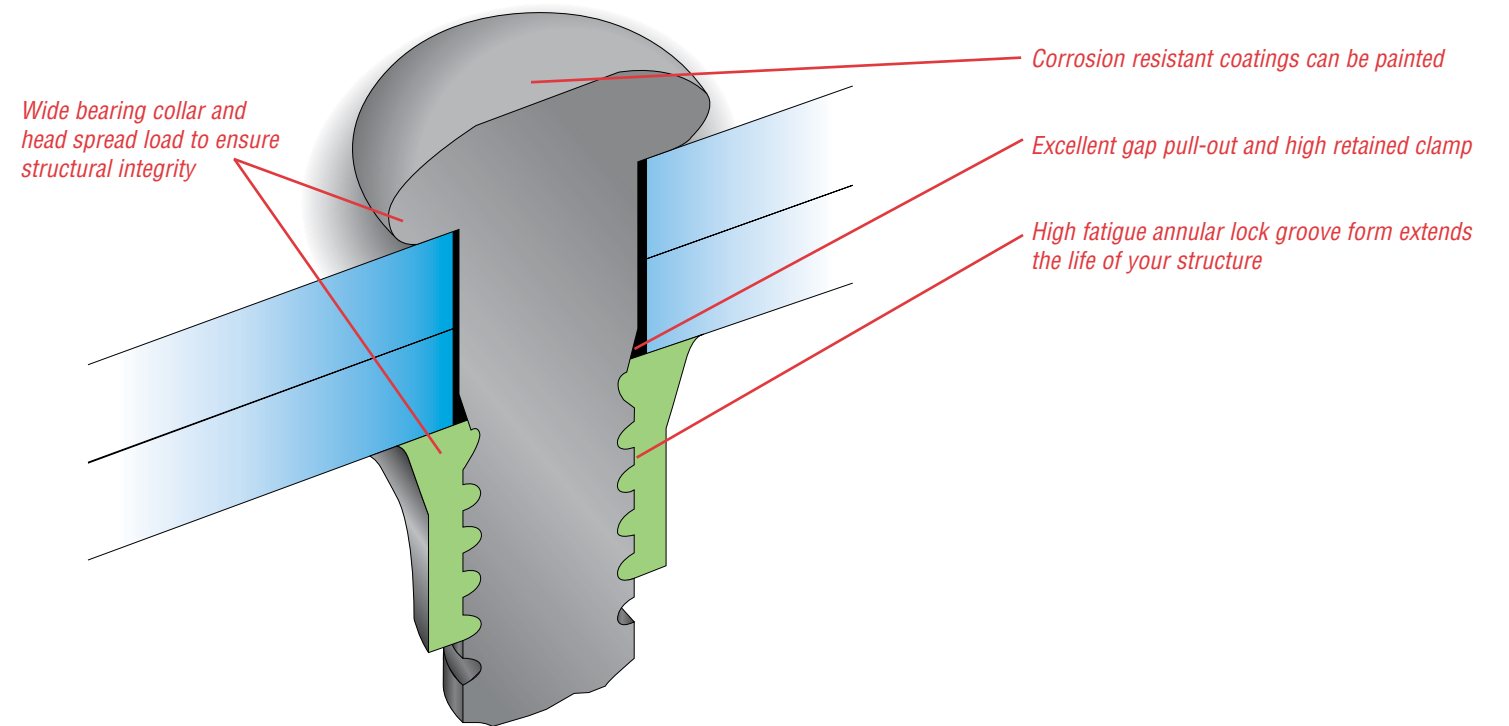
The C6L's unique design virtually eliminates installation errors caused by operator or tool variables. The C6L ensures that once the collar swage is complete, the pintail breaks off and the fastener is tightly installed. No rework required. And you can count on consistent, high-uniform clamp force with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

A quick visual inspection, along with an occasional dimensional check, is all that's required to make sure the C6L is installed accurately.

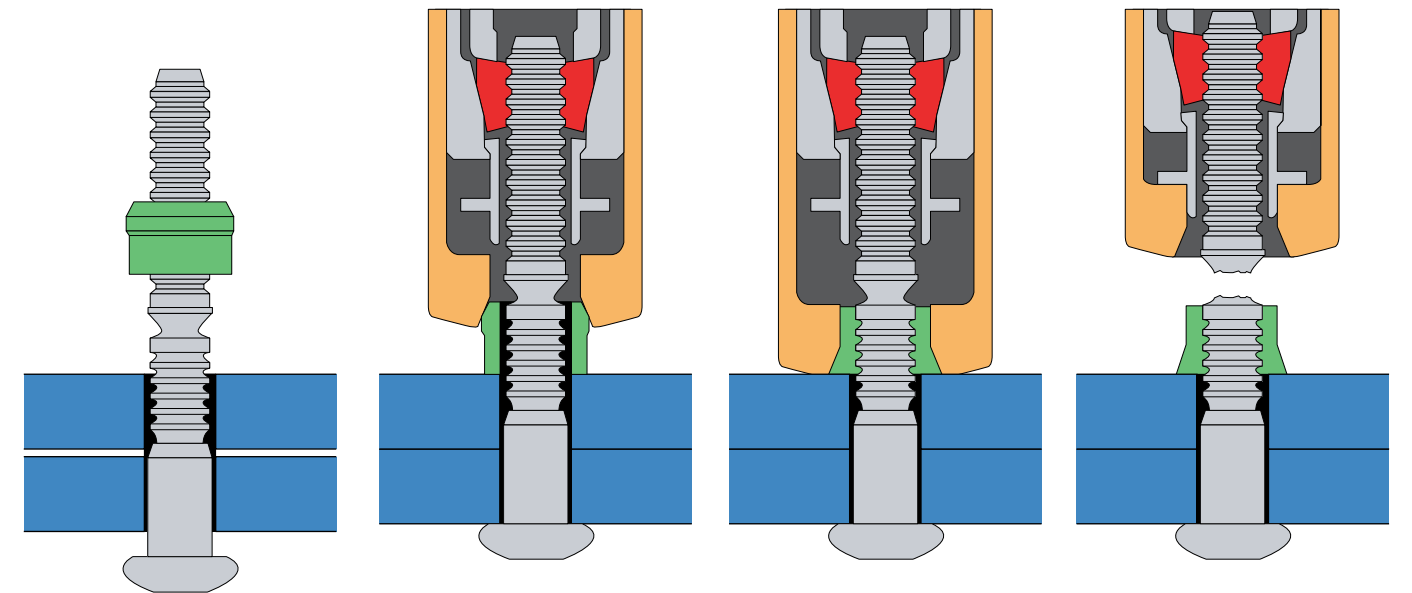
Strong support.

Alcoa Fastening Systems' skilled and knowledgeable technicians – your Huck System Specialists – are ready and waiting with valuable consultation, evaluation, installation assistance, and in-depth staff training capabilities. No other fastening company can match this level of premium, value-added support.

Huck C6L® /C120L®



Installation Sequence



1

The pin is inserted into the prepared hole and the smooth bore collar is placed on the pin.

2

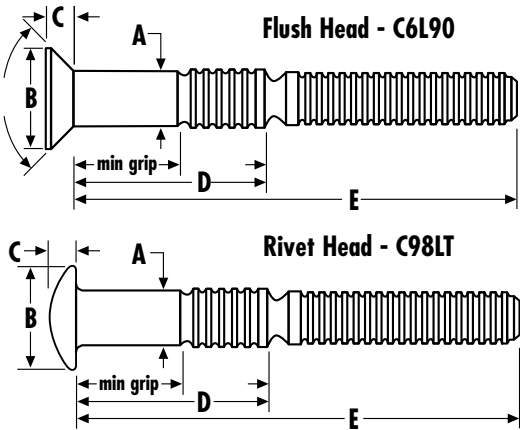
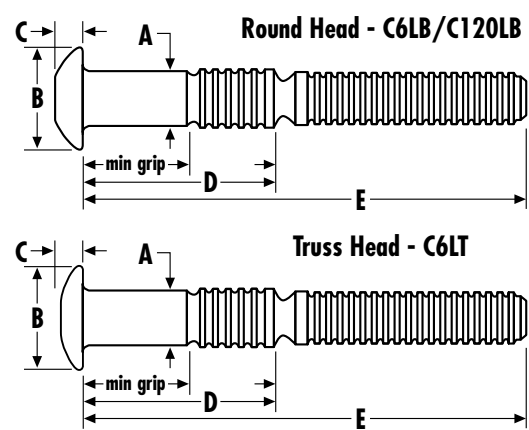
The installation tool is applied to the pintail. When the tool is activated, the jaws in the nose assembly pull on the pintail and the nose anvil pushes on the collar to remove any gap.

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

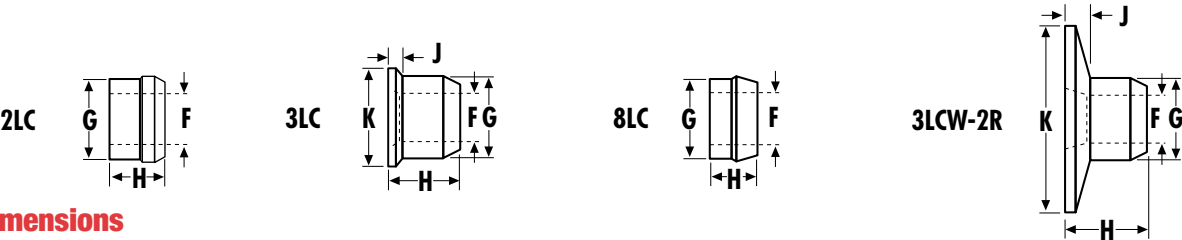
When swaging of the collar into the lockgrooves is complete, the pintail separates from the pin which completes the installation cycle.



Pin Dimensions

Diameter	A	Round Head (B)		Truss Head (T)		Flush Head (90)		Rivet Head (C98LT)	
		B	C	B	C	B	C	B	C
6 (3/16)	.190 - .195	.360 - .390	.113 - .125	.406 - .469	.078 - .088	*	*	.469	.094
8 (1/4)	.254 - .259	.475 - .525	.136 - .152	.531 - .594	.103 - .115	.437 - .473	.104 - .113		
10 (5/16)	.317 - .322	.556 - .694	.181 - .201	.703 - .797	.127 - .141	*	*		
12 (3/8)	.380 - .385	.713 - .787	.223 - .248	.828 - .922	.186 - .202	*	*		

* Contact manufacturer for specifications



Collar Dimensions

Collar Type	Part Number	Collar Diameter	F Diameter	G Diameter	H Length	J (1, 2) Dimension	K Diameter
Standard	2LC-R, 2LC-F,	6 (3/16)	0.187 - 0.196	0.304 - 0.311	0.220 - 0.260		
	LC-I, 2LC-2CU	8 (1/4)	0.256 - 0.265	0.402 - 0.409	0.290 - 0.320		
		10 (5/16)	0.304 - 0.310	0.485 - 0.494	0.350 - 0.380		
		12 (3/8)	0.375 - 0.385	0.590 - 0.600	0.430 - 0.460		
Flange	3LC-2R, 3LC-F, ¹	6	0.187 - 0.196	0.304 - 0.311	0.250 - 0.280	0.031 - 0.062	0.359 - 0.391
	3LC-I, 3LC-2CU ¹	8	0.256 - 0.267	0.402 - 0.409	0.349 - 0.379	0.047 - 0.078	0.484 - 0.516
		10	0.304 - 0.312	0.498 - 0.507	0.394 - 0.426	0.062 - 0.094	0.609 - 0.641
		12	0.378 - 0.390	0.599 - 0.610	0.502 - 0.532	0.062 - 0.125	0.719 - 0.781
Low Profile	8LC-2R, 8LC-F, ²	6	0.187 - 0.196	0.304 - 0.311	0.132 - 0.162	0.094	
	8LC-I, 8LC-2CU ²	8	0.256 - 0.265	0.402 - 0.409	0.172 - 0.202	0.125	
		12	0.375 - 0.385	0.590 - 0.600	0.303 - 0.373	0.156	
Wide Flange	3LCW-2R8 ¹	8	0.253 - 0.272	0.400 - 0.409	0.410 - 0.480	0.105 - 0.156	0.853 - 1.022
	3LCW-2R10 ¹	10	0.304 - 0.312	0.498 - 0.507	0.474 - 0.506	0.144 - 0.196	0.984 - 1.016

¹ When using 3LC Collars, add "J" dimension to thickness of material being fastened to determine grip number. ² When using 8LC collars, subtract "J" dimension from thickness of material being fastened to determine grip number.
³ Use collars and pins together as shown in "values" tables, or contact Huck

C6L HUCKBOLT® Fastener Values⁴ – Grade 2

Dia.	Carbon Steel (R) Pins 2LC-R or 3LC-2R Collars (Grade 5*)			2024 Aluminum (C) Pins 2LC-F or 3LC-F Collars			6061 Aluminum (F) Pins LC-I or 3LC-I Collars			Stainless Steel (U) Pins 2LC-2CU or 3LC-2CU Collars		
	Shear	Clamp	Tensile	Shear	Clamp	Tensile	Shear	Clamp	Tensile	Shear	Clamp	Tensile
6	1725 (2430)	1025 (1200)	1650 (2200)	1050	550	1000	775	350	530	2000	1025	1455
8	3050 (4300)	1805 (2300)	3000 (3700)	1875	950	1800	1375	620	975	3550	1805	2750
10	4725 (6700)	2810 (4200)	4600 (6000)	2925	1500	2850	2125	965	1550	5525	2810	4250
12	6825 (9600)	4020 (5980)	6500 (9300)	4200	2200	4200	3050	1380	2400	7950	4020	6100

⁴ Minimum values, in pounds, of installed fasteners * (2LC120-R or 3LC120-R Collars Grade 5 C120L HUCKBOLTS®)
Meets requirements of MIL-P-23469 except in 2024 Aluminum (C) ---Plated pins may result in reduced tensile values up to 15%

Grip Data and Dimensions : 6 (3/16"), 8 (1/4")

Grip No.	Grip Range Min - Max	6 (3/16") Diameter		8 (1/4") Diameter	
		D	E	D	E
2	0.063 - 0.188	0.394	1.404	0.485	1.520
3	0.125 - 0.250	0.457	1.466	0.548	1.583
4	0.188 - 0.313	0.519	1.529	0.610	1.645
5	0.250 - 0.375	0.582	1.519	0.673	1.708
6	0.313 - 0.438	0.644	1.654	0.735	1.770
7	0.375 - 0.500	0.707	1.716	0.798	1.833
8	0.438 - 0.563	0.769	1.779	0.860	1.895
9	0.500 - 0.625	0.832	1.841	0.923	1.958
10	0.563 - 0.688	0.894	1.904	0.985	2.020
11	0.625 - 0.750	0.957	1.966	1.048	2.083
12	0.688 - 0.813	1.019	2.029	1.110	2.145
13	0.750 - 0.875	1.082	2.091	1.173	2.208
14	0.813 - 0.938	1.144	2.154	1.235	2.270
15	0.875 - 1.000	1.207	2.216	1.298	2.333
16	0.938 - 1.063	1.269	2.279	1.360	2.395
17	1.000 - 1.125	1.332	2.341	1.423	2.458
18	1.063 - 1.188	1.394	2.404	1.458	2.520
19	1.125 - 1.250	1.457	2.466	1.548	2.583
20	1.188 - 1.313	1.519	2.529	1.610	2.645
21	1.250 - 1.375	1.582	2.591	1.673	2.708
22	1.313 - 1.438	1.644	2.654	1.735	2.770
23	1.375 - 1.500	1.707	2.716	1.798	2.833
24	1.438 - 1.563			1.866	2.895
25	1.500 - 1.625			1.923	2.958
26	1.563 - 1.688			1.985	3.020
27	1.625 - 1.750			2.048	3.083
28	1.688 - 1.813			2.110	3.145
29	1.750 - 1.875			2.173	3.208
30	1.813 - 1.938			2.235	3.270
31	1.875 - 2.000			2.298	3.333
32	1.938 - 2.063			2.368	3.395
37				2.637	3.708

Grip Data and Dimensions : 10 (5/16"), 12 (3/8")

Grip No.	Grip Range Min - Max	10 (5/16") Diameter		12 (3/8") Diameter	
		D	E	D	E
4	0.125 - 0.375	0.749	1.906	0.809	2.125
6	0.250 - 0.500	0.874	2.031	0.934	2.250
8	0.375 - 0.625	1.000	2.156	1.059	2.375
10	0.500 - 0.750	1.124	2.281	1.184	2.500
12	0.625 - 0.875	1.249	2.406	1.309	2.625
14	0.750 - 1.000	1.374	2.531	1.434	2.750
16	0.875 - 1.125	1.500	2.656	1.559	2.875
18	1.000 - 1.250	1.624	2.781	1.684	3.000
20	1.125 - 1.375	1.749	2.906	1.809	3.125
22	1.250 - 1.500	1.874	3.031	1.934	3.250
24	1.375 - 1.625	2.000	3.156	2.059	3.375
26	1.500 - 1.750	2.124	3.281	2.184	3.500
28	1.625 - 1.875	2.249	3.406	2.309	3.625
30	1.750 - 2.000	2.374	3.531	2.434	3.750
32	1.875 - 2.125	2.500	3.656	2.559	3.875

Ordering Information

C6L HUCKBOLT Pins (Grade 2)

Follow the form below to construct a part number for ordering C6L pins. Refer to the Grip Data chart for grip numbers.
C6L (STYLE)- (MATERIAL) (DIAMETER)-(GRIP NUMBER) (FINISH)

Example: **C6LT-R8-4G** is a C6L Huckbolt Pin, Truss Head, Carbon Steel, 1/4 Diameter, Grip 4, Zinc Finish

Style		Material		Diameter		Finish
Round Head	C6LB	Carbon Steel	R	3/16	6	Zinc
Truss Head	C6LT	2024 Alum Alloy	C	1/4	8	
Flush Head	C6L90	6061 Alum Alloy	F	5/16	10	
Rivet Head	C98LT	Stainless Steel	U	3/8	12	

C6L Huckbolt Collars (Grade 2)

Follow the form below to construct a part number for ordering C6L collars.
(TYPE) – (MATERIAL) (DIAMETER) (FINISH)

Example: **2LC-R8G** is a Standard C60L Huckbolt Collar, Carbon Steel, 1/4 Diameter, Zinc Finish

Type		Material		Diameter		Finish
Standard	2LC	Carbon Steel	2R/R	3/16	6	Zinc
Flange	3LC	6061 Alum Alloy		1/4	8	
Wide Flange	3LCW	Heat Treated	I	5/16	10	
		6061 Alum Alloy	F	3/8	12	
		Stainless Steel	2CU			

C120L Huckbolt Pins (Grade 5)

Follow the form below to construct a part number for ordering C120L pins. Refer to the Grip Data chart for grip numbers.
C120L (STYLE)- (MATERIAL) (DIAMETER) – (GRIP NUMBER) (FINISH)

Example: **C120LT-R8-4G** is a C120L Huckbolt Pin, Truss Head, Carbon Steel, 1/4 Diameter, Grip 4, Zinc Finish

Style		Material		Diameter		Finish
Round Head	C120B	Carbon Steel	R	3/16	6	Zinc
Truss Head	C120T			1/4	8	
Flush Head	C12090			5/16	10	
				3/8	12	

C120L Huckbolt Collars (Grade 5)

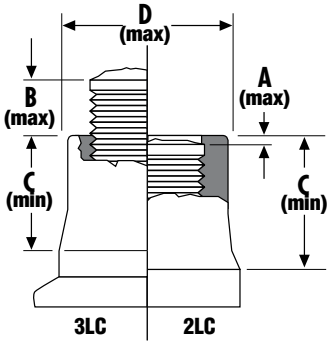
Follow the form below to construct a part number for ordering C120L collars.
(TYPE) - (MATERIAL) (DIAMETER) (FINISH)

Example: **2LC120-R8G** is a Standard C120L Huckbolt ocllar, Carbon Steel, 1/4 Diameter, Zinc Finish

Type		Material		Diameter		Finish
Standard	2LC120	Carbon Steel	2R/R	3/16	6	Zinc
Flange	3LC120			1/4	8	
				5/16	10	
				3/8	12	

Inspection Data

A properly installed HUCKBOLT® Fastener will possess the dimensional characteristics shown in the chart. Should the dimensions “A” or “B” exceed the indicated values, the fastener is being used out-of-grip. A “C” dimension less than the values specified is an indication of incomplete swage. A “D” dimension exceeding the specified values is an indication of an incorrect or worn anvil on the installed tool.



A HUCKBOLT pin installed in a properly prepared hole with the recommended tool will always possess at least the minimum guaranteed strength characteristics when these dimensional limits are met. Should the fastener fail to meet the specified dimensional criteria, it may still perform correctly, but in such a case, the manufacturer should be contacted.

Nominal Size	A (max)	B (max)	C (min)	D (max)
6 (3/16)	.078	.125	.172	.276
8 (1/4)	.078	.156	.250	.364
10 (5/16)	.140	.219	.281	.454
12 (3/8)	.125	.218	.344	.552

Installation Tools

Air Driven Tools					Hydraulic Tools	
Tool Model	Size	245/255*	246/256	2025	2480	2580
Nose Assembly	3/16"			99-3003	99-3003	
	1/4"		99-3006	99-3006	99-3006	
	5/16"	99-99-245	99-99-245			99-99-245
	3/8"	99-100-245	99-100-245			99-100-245

* Note: Aluminum Only

Air Driven Tools



Model	245	255
Weight:	8.8 lbs.	8.8 lbs.
Length:	7.9"	7.1"
Height:	15.0"	14.9"
Width:	4.6"	4.6"



Model	2025
Weight:	5.75 lbs.
Length:	8.4"
Height:	12.5"
Width:	4.4"

Hydraulic Tools



Model	2480
Weight:	2.2 lbs.
Length:	8.6"
Height:	6.5"
Width:	1.9"



Model	246	256
Weight:	11.1 lbs.	11.1 lbs.
Length:	8.8"	7.8"
Height:	15.1"	14.9"
Width:	6.1"	6.1"



Model	2580
Weight:	6.6 lbs.
Length:	8.4"
Height:	6.5"
Width:	2.2"