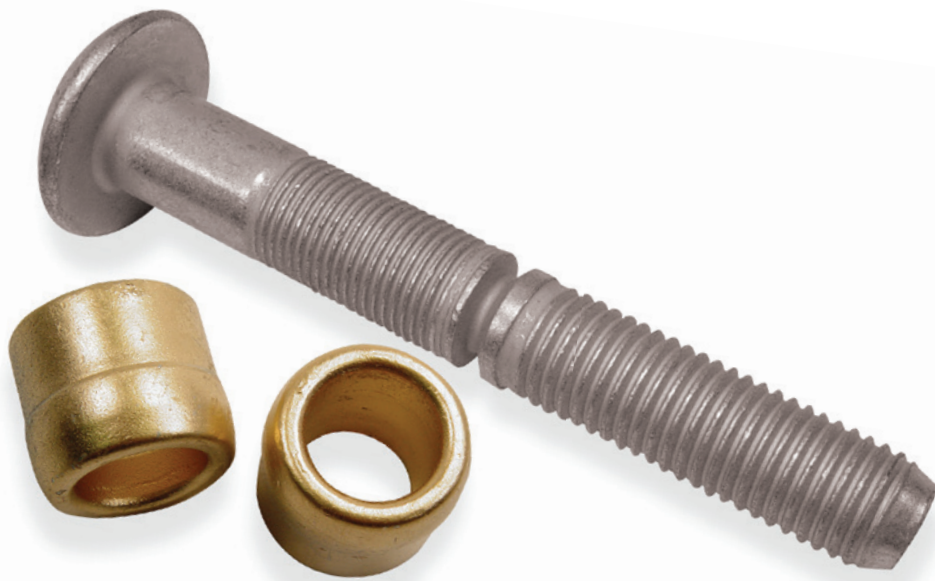


Alcoa
Fastening
Systems



C50L[®] HuckBolt[®]

Huck-engineered lockbolts
for the most challenging
applications

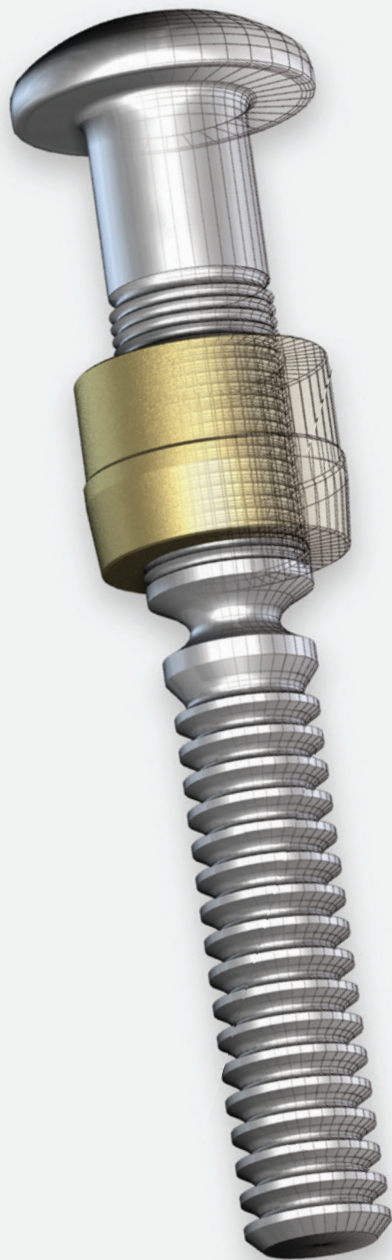
Vibration resistant
Longer fatigue life
Consistent installations

1/2" - 1-3/8"

HUCK[®]

C50L[®] HuckBolt[®]

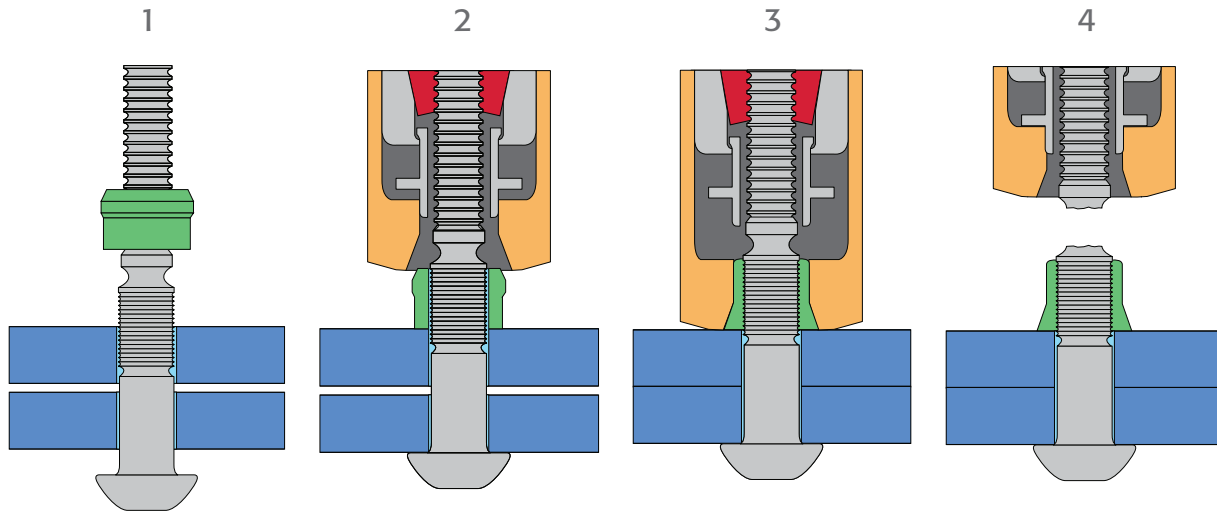
Grade 5 fasteners certified to meet or exceed all ASTM A-325 standards.



For applications ranging from railcar to mining equipment manufacturing, C50L[®] HuckBolt[®] fasteners from Alcoa Fastening Systems offer superior vibration resistance and overall durability. Heavy-duty applications demand tough, reliable fasteners. And extensive testing has demonstrated that C50L HuckBolt fasteners meet or exceed the performance of torqued bolts in both shear and tensile strength (with a longer fatigue life). Value is built in, too. Over the lifetime of your product, the investment you make in the quality of C50L HuckBolt fasteners will pay for itself. You won't find a stronger, more reliable fastening system, no matter what your application.

Installs safer and quieter

The C50L HuckBolt system is engineered to be installed without torquing or multiple impacts. Noise level is significantly reduced, and as a result, your installation area becomes quieter, less stressful, and more productive.



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

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.

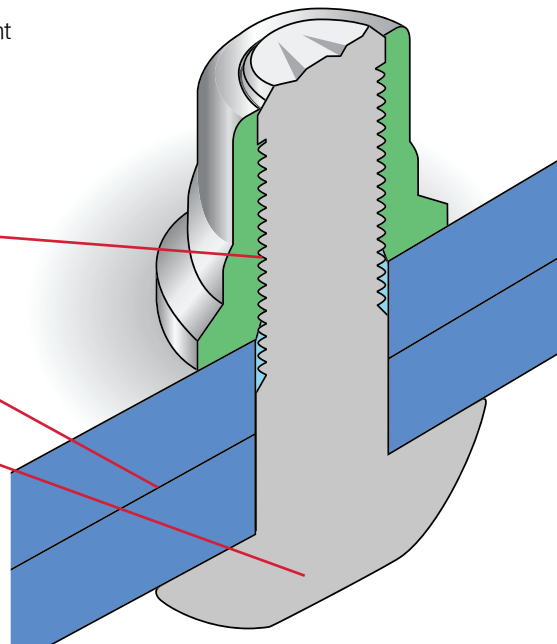
The nose anvil starts to swage the collar into the lockgrooves on the pin. Continued swaging causes the collar to lengthen and develop clamp.

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

Successful, consistent installations

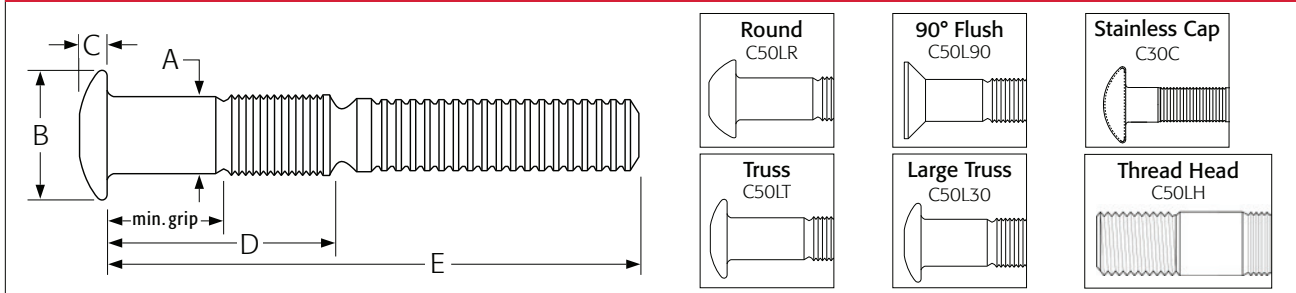
Unlike threaded fasteners, the C50L HuckBolt delivers consistent installation results. High costs of calibrating, maintaining, and replacing tools are eliminated. And installation does not require expensive, highly experienced workers.

- Swaged-on collar forms a permanent, vibration-proof connection
- Initial long length of fastener enables pull-out of large gaps
- Pre-load remains consistent from installation-to-installation



C50L® HuckBolt® data and dimensions

Head style options



Fastener dimensions

Diameter	Code	Round Head			Truss Head C50LT		C50L30		90° Flush Head		Stainless Steel Capped Head		Thread Head C50LH	
		A	B	C	B	C	B	C	B	C	B	C	B	C
1/2"	16	0.515 - 0.490	0.906	0.316	0.906	0.240	1.090	0.266	0.906	0.250	—	v	—	—
5/8"	20	0.642 - 0.617	1.141	0.397	1.141	0.297	1.330	0.315	1.140	0.313	1.440	0.390	—	—
3/4"	24	0.768 - 0.741	1.383	0.495	1.383	0.360	—	—	1.370	0.375	—	—	—	—
7/8"	28	0.895 - 0.866	1.610	0.550	1.610	0.420	—	—	1.594	0.430	—	—	—	—
1"	32	1.025 - 0.990	1.850	0.618	—	—	—	—	—	—	—	—	—	—
1-1/8"	36	1.095 - 1.125	2.063	0.688	—	—	—	—	—	—	—	—	—	—
1-3/8"	44	1.400 - 1.350	2.530	0.850	—	—	—	—	2.510	0.670	—	—	—	1.688

Collar dimensions

Style	Diameter	F	G	H	J	K
LC	1/2"	0.515 - 0.535	0.800 - 0.765	0.645 - 0.610	—	—
	5/8"	0.650 - 0.665	0.985 - 0.970	0.875 - 0.845 ³	—	—
	3/4"	0.775 - 0.790	1.180 - 1.165	0.960 - 0.930	—	—
	7/8"	0.915 - 0.920	1.375 - 1.360	1.113 - 1.083	—	—
	1"	1.035 - 1.050	1.570 - 1.550	1.275 - 1.240	—	—
3LC¹	1-1/8"	1.165 - 1.185	1.770 - 1.750	1.440 - 1.390	—	—
	1/2"	0.510 - 0.530	0.807 - 0.793	0.760 - 0.722	0.130 - 0.120	1.035 - 0.980
	5/8"	0.648 - 0.660	0.996 - 0.980	0.962 - 0.926	0.170 - 0.142	1.273 - 1.227
	3/4"	0.775 - 0.793	1.195 - 1.175	1.150 - 1.115	0.200 - 0.175	1.520 - 1.480
	7/8"	0.895 - 0.907	1.370 - 1.360	1.333 - 1.300	0.230 - 0.205	1.615 - 1.575
8LC²	1-1/8"	1.160 - 1.770	1.760 - 1.750	1.715 - 1.675	0.289 - 0.273	2.145 - 2.105
	1/2"	0.508 - 0.535	0.800 - 0.780	0.500 - 0.470	—	—
	5/8"	0.640 - 0.665	0.982 - 0.972	0.700 - 0.670	—	—
	3/4"	0.775 - 0.790	1.180 - 1.165	0.745 - 0.715	—	—
	7/8"	0.903 - 0.920	1.375 - 1.360	0.863 - 0.833	—	—
AC-R44	1-3/8"	1.407 - 1.420	2.159 - 2.146	1.762 - 1.738	—	—

1 When using 3LC collars, include J dimension in grip dimension to determine grip number.

2 Optional collar at reduced clamping force and tensile strength. Contact AFS for data. When using 8LC collars, subtract J dimension from grip dimension to determine grip number.

3 H length for 20 (5/8") diameter in F, I or 2CU material is 805 - 770.

C50L® HuckBolt® data and dimensions

Grip tables

Grip	Grip Range	1/2" (16)		5/8" (20)		3/4" (24)		7/8" (28)		1" (32)		1-1/8" (36)		1-3/8" (44)
		D	E	D	E	D	E	D	E	D	E	D	E	Grip range
4	.250 - .500	1.213	3.172	1.433	3.656	1.518	4.156	—	—	—	—	—	—	up to
8	.500 - .750	1.463	3.422	1.683	3.906	1.768	4.406	1.921	4.688	2.073	5.375	—	—	34.25"
12	.750 - 1.000	1.713	3.672	1.933	4.156	2.018	4.656	2.171	4.938	2.323	5.625	—	—	
16	1.000 - 1.250	1.963	3.922	2.183	4.406	2.268	4.906	2.421	5.188	2.573	5.875	—	—	Call for data.
20	1.250 - 1.500	2.213	4.172	2.433	4.656	2.518	5.156	2.671	5.438	2.823	6.125	—	—	
24	1.500 - 1.750	2.463	4.422	2.683	4.906	2.768	5.406	2.921	5.688	3.073	6.375	—	—	
28	1.750 - 2.000	2.713	4.672	2.933	5.156	3.018	5.656	3.171	5.938	3.323	6.625	—	—	
32	2.000 - 2.250	2.963	4.922	3.183	5.406	3.268	5.906	3.421	6.188	3.573	6.875	—	—	
36	2.250 - 2.500	3.213	5.172	3.433	5.656	3.518	6.156	3.671	6.438	3.823	7.125	—	—	
40	2.500 - 2.750	3.463	5.422	3.683	5.906	3.768	6.406	3.921	6.688	4.073	7.375	—	—	
44	2.750 - 3.000	3.713	5.672	3.933	6.156	4.018	6.656	4.171	6.938	4.323	7.625	—	—	
48	3.000 - 3.250	3.963	5.922	4.183	6.406	4.268	6.906	4.421	7.188	4.573	7.875	—	—	
52	3.250 - 3.500	4.213	6.172	4.433	6.656	4.518	7.156	4.671	7.438	4.823	8.125	—	—	
56	3.500 - 3.750	4.463	6.422	4.683	6.906	4.768	7.406	4.921	7.688	5.073	8.375	5.250	8.563	
60	3.750 - 4.000	4.713	6.672	4.933	7.156	5.018	7.656	5.171	7.938	5.323	8.625	5.500	8.813	
64	4.000 - 4.250	4.963	6.922	5.183	7.406	5.268	7.906	5.421	8.188	5.573	8.875	5.750	9.063	
68	4.250 - 4.500	5.213	7.172	5.433	7.656	5.518	8.156	5.671	8.438	5.823	9.125	6.000	9.313	
72	4.500 - 4.750	5.463	7.422	5.683	7.906	5.768	8.406	5.921	8.688	6.073	9.375	6.250	9.563	
76	4.750 - 5.000	5.713	7.672	5.933	8.156	6.018	8.656	—	—	6.323	9.625	6.500	9.813	
80	5.000 - 5.250	5.963	7.922	—	—	—	—	—	—	6.573	9.875	6.750	10.063	
84	5.250 - 5.500	—	—	—	—	—	—	—	—	6.823	10.125	7.000	10.313	
88	5.500 - 5.750	—	—	—	—	—	—	—	—	7.073	10.375	7.250	10.563	
92	5.750 - 6.000	—	—	—	—	—	—	—	—	7.323	10.625	7.500	10.813	

Installed fastener values

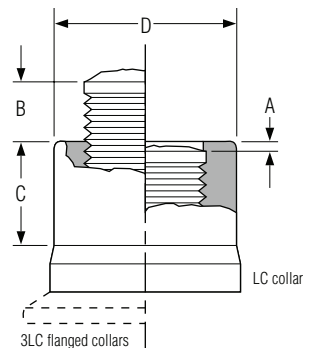
Diameter	Carbon Steel Pins LC-2R or 3LC-2R Collars			2024C Aluminum Pins LC-F or 3LC-F Collars			6061F Aluminum Pins LC-I or 3LC-I Collars				
	Shear	Clamp	Tensile	Shear	Clamp	Tensile	Shear	Clamp	Tensile		
1/2"	14400	12050	17050	7300	5900	7850	5300	4400	4900		
5/8"	22500	19200	27100	11400	9200	12300	8300	6900	7670		
3/4"	32400	28400	40100	16400	13300	17700	11900	9950	11040		
7/8"	43400	39250	55450	SPECIAL ORDER ONLY							
1"	56500	51500	72700	SPECIAL ORDER ONLY							
1-1/8"	69500	58450	82950	—	—	—	—	—	—		
1-3/8"	100000	85000	129500	—	—	—	—	—	—		

Hole data

Diameter	Max Hole
1/2"	0.563
5/8"	0.688
3/4"	0.813
7/8"	0.938
1"	1.063
1-1/8"	1.188
1-3/8"	1.500

Inspection data

Diameter	Pin Part No.	LC Collar	3LC Collar	A max	B max	C min	D max
1/2"	C50L(-)(-)16	LC-2R16G	3LC-2R16G	.063	.375	.406	.733
5/8"	C50L(-)(-)20	LC-2R20G	3LC-2R20G	.063	.375	.625	.916
3/4"	C50L(-)(-)24	LC-2R24G	3LC-2R24G	.063	.375	.656	1.110
7/8"	C50L(-)(-)28	LC-2R28G	3LC-2R28G	.063	.375	.750	1.282
1"	C50L(-)(-)32	LC-2R32G	3LC-2R32G	.063	.375	.875	1.465
1-1/8"	C50LR-BR36	LC-2R36G	—	.063	.625	.906	1.646
1-3/8"	C50LR-BR44	AC-R44U	—	.188	.688	1.250	2.020



C50L® HuckBolt® Installation Tooling

Hydraulic Tools & Nose Assemblies

	Model 2620	Model 2620PT	Model 2624	Model 3585	Model 2630	Model 507	Model 12142
Nose Assembly							
1/2"	99-5000	99-5002	99-5021	99-5021			
5/8"			99-5008	99-5008			
3/4"				99-5010			
7/8"					99-5014		
1"						99-5016	
1-1/8"						99-5019	
1-3/8"							Integral



2620/2620-PT*



2624



3585



2630



507



12142

Tooling weight and dimensions

Model	Weight	Length	Height	Width
2620/2620-PT*	10.4/11.0 lbs.	6.60"/10.10"	7.0"	2.82"
2624	13.9 lbs.	7.37"	7.73"	3.48"
3585	18.5 lbs.	7.84"	10.36"	4.02"
2630	22.3 lbs.	7.90"	8.65"	4.44"
507	43.4 lbs.	15.50"	6.00"	5.40"
12142	60.0 lbs.	11.76"	6.56"	6.56"

For limited clearance installation tools contact manufacturer.
* Pass through



Powerig
Model 918/
918-5



Powerig
Model 940

Huck Powerig® hydraulic units

Model 918/918-5	Model 940	Model 913H not shown	Model 968 not shown
High-production applications	Portable; production and repair	Portable; production and repair	Portable; production and repair
918 powers 2 tools (2 gpm/tool) 918-5 powers 3 tools (1.3 gpm/tool)	70 in. ³ /min. flow rate (.3 gpm)	139 in. ³ /min. flow rate (.6 gpm)	70 in. ³ /min. flow rate (.3 gpm)
Electrically powered; 220, 440, or 550 volts, 3 phase	Electrically powered; 115 or 220 volts, single phase	Gasoline powered	Air powered; 50 cfm (.024 m ³ /s)
Weighs 585/601 lbs. without hydraulic fluid	Weighs 66 lbs. without hydraulic fluid	Weighs 122 lbs. without hydraulic fluid	Weighs 75 lbs. without hydraulic fluid
44 3/4" H x 25 3/4" W x 10 3/4" D	13.9" H x 6.1" W x 18.5" L	24" H x 21" W x 27" L	10.45" H x 16.33" W x 5.68" L

Ordering Information

Follow the form below to construct a part number for ordering C50L pins and their respective collars. Refer to the Grip Tables (page 5) for grip numbers.

Pins

C50L (HEAD STYLE) - (MATERIAL) (DIAMETER) - (GRIP NUMBER) - (COATING)

Example: C50LR-BR16-4 is a C50L HUCKBOLT fastener, Round Head, Carbon Steel, 1/2" Diameter, Grip 4

Bolt Head Style	Prefix
Round	R
Truss	T
Large Truss	30
90° Flush	90
Thread Head	H

Bolt Material	Code
Carbon Steel	BR
Aluminum 2024 and 6061 special order only	
Stainless Steel available on request	

Diameter	Code
1/2"	16
5/8"	20
3/4"	24
7/8"	28
1"	32
1-1/8"	36
1-3/8"	44

Grip
Refer to Grip Tables on page 5

Coating	Suffix
Bare	(blank)
Zinc	GA

*Additional coating options available upon request

Collars

(COLLAR STYLE) - (MATERIAL) (DIAMETER) (COATING) (OPTIONS)

Example: LC-2R16G is a Standard Collar, Low Carbon Steel, 1/2" Diameter, Zinc Finish

Collar Style	Prefix
Standard	LC-
Flanged	3LC-
Low Profile	8LC-
Low Profile (44)	AC-R44

Material	Code
Low Carbon Steel	2R
Aluminum special order only	

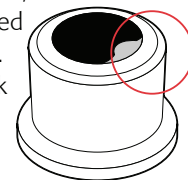
Diameter	Code
1/2"	16
5/8"	20
3/4"	24
7/8"	28
1"	32
1-1/8"	36
1-3/8"	44

Coating	Code
Zinc	G
Additional coating options available	

Options	Suffix
Tab-Lok	L

Tab-Lok™

The Tab-Lok feature makes sure the collar stays on the pin, before installation, in overhead and down slanted pin placements. To order Tab-Lok collars refer to adjacent charts.



Alcoa Fastening Systems



For more than 120 years, the name Alcoa has been recognized worldwide as a strong leader in product quality and customer support. These strengths are found in every product manufactured for Alcoa Fastening Systems, offering the greatest breadth and depth of fastening system solutions in the industry.

Alcoa Fastening Systems (AFS) maintains company offices in the United States and in many other countries. AFS fastener distributors are also located in many of the world's industrial centers, where they provide a ready source of AFS fasteners, installation tools, tool parts, and application assistance.

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Fax: 800 798 4825

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