



HOWMET
AEROSPACE

C50L[®]

Huck-Engineered Lockbolts
for the Most Challenging
Applications

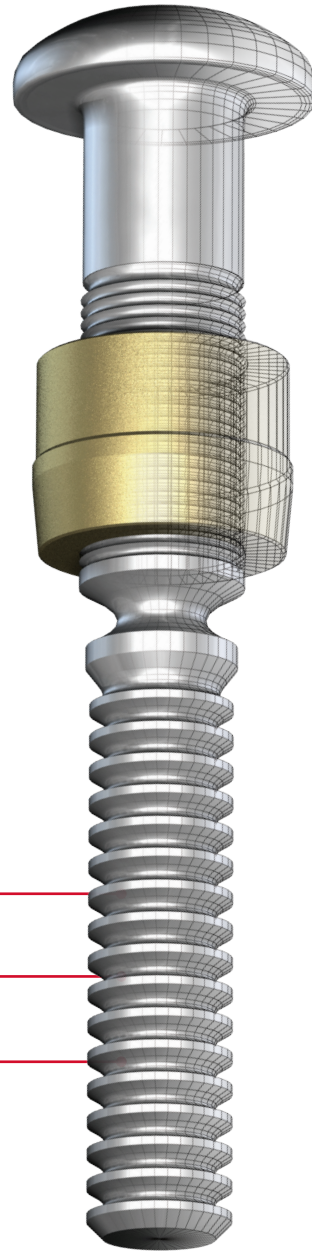


HUCK

Huck® C50L®

The Fastener That Has Defined HuckBolts for More Than 50 years

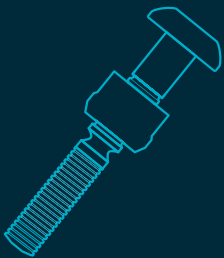
The C50L® offers superior vibration resistance and overall durability for heavy-duty fastening jobs, and is ideal for use within applications where consistent, uniform high clamp force is required. Testing has proven that C50L fasteners meet, or exceed the performance of torqued bolts in both shear and tensile strength, as well as fatigue life. For heavy-duty applications ranging from railcar to mining equipment manufacturing, the C50L delivers superior vibration resistance and overall durability.



Available Sizes 1/2", 5/8", 3/4", 7/8", 1", 1-1/8", 1-3/8"

Materials Steel, Aluminum

Headstyles Round, Truss, Large Truss, 90° Flush, Thread Head

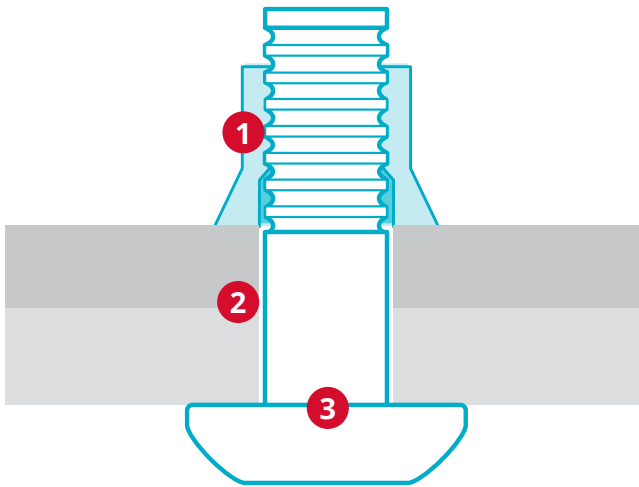


- ✓ Superior vibration resistance
- ✓ Overall durability for heavy-duty applications
- ✓ High shear and tensile strength

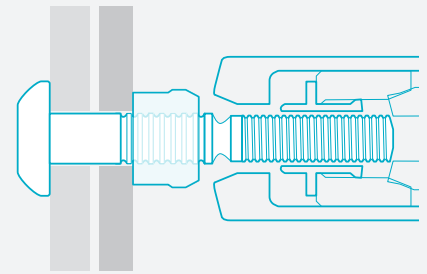
- ✓ High fatigue life
- ✓ Consistent, uniform clamp force

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

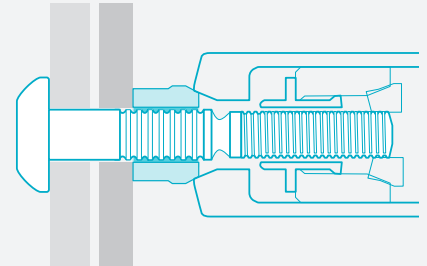
Secure, Fast Installation



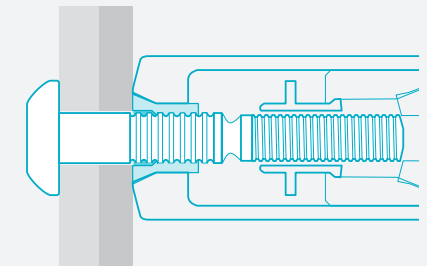
- 1 Swaged-on collar forms a permanent, vibration-proof connection.
- 2 Initial long length of fastener enables pull-out of large gaps.
- 3 Consistent, repeatable pre-load.



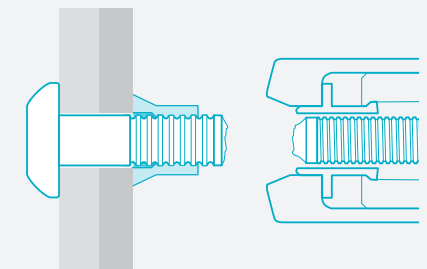
- 1 Insert pin into the prepared hole and the smooth bore collar is placed on the pin.



- 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.

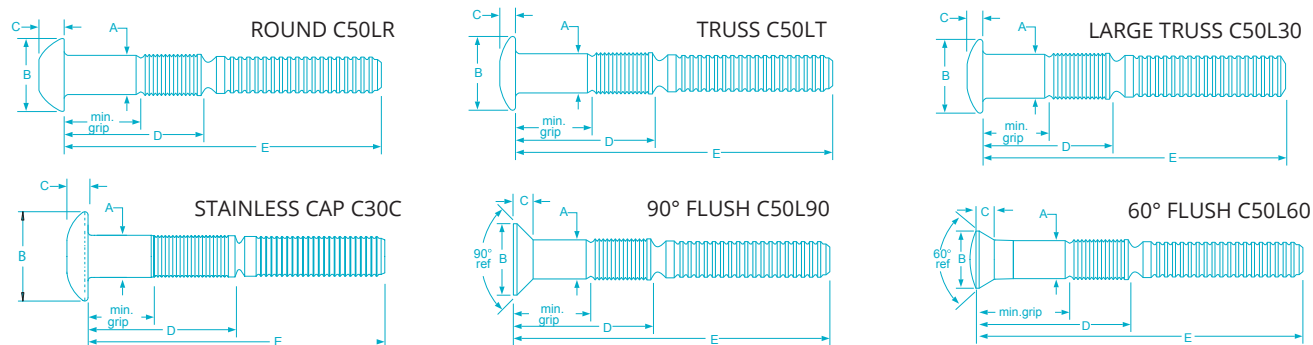


- 3 The nose anvil starts to swage the collar into the lockgrooves on the pin. Continued swaging causes the collar to lengthen and develop clamp.



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

Data and Dimensions



Fastener Dimensions

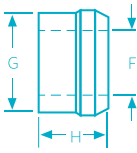
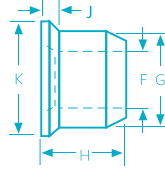
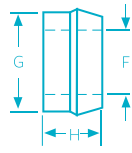
DIA.	CODE	A	ROUND HEAD		TRUSS HEAD C50LT		C50L30		90° FLUSH HEAD		STAINLESS STEEL CAPPED HEAD		C50L60	
			B	C	B	C	B	C	B	C	B	C	B	C
1/2"	16	.493 - .515	.870 - .940	.310 - .320	.875 - .938	.215 - .260	1.027 - 1.09	.251 - .281	.870 - .940	.225 - .239	—	v	—	—
5/8"	20	.617 - .642	1.086 - 1.196	.367 - .432	1.086 - 1.196	.267 - .432	1.288 - 1.375	.298 - .328	1.093 - 1.183	.284 - .300	1.33 - 1.44	.33 - .39	—	—
3/4"	24	.740 - .770	1.328 - 1.438	.455 - .530	1.328 - 1.438	.323 - .398	—	—	1.312 - 1.417	.350 - .380	—	c	1.101 - 1.125	.337 - .357
7/8"	28	.865 - .900	1.540 - 1.660	.530 - .580	1.540 - 1.660	.395 - .445	—	—	1.531 - 1.655	.396 - .430	—	—	1.298 - 1.338	.393 - .413
1"	32	1.025 - .990	1.750 - 2.000	.590 - .650	—	—	—	—	—	—	—	—	1.478 - 1.522	.454 - .474
1-1/8"	36	1.095 - 1.125	2.000 - 2.125	.656 - .720	—	—	—	—	—	—	—	—	1.661 - 1.715	.506 - .526
1-3/8"	44	1.400 - 1.350	2.470 - 2.590	.815 - .880	—	—	—	—	2.448 - 2.572	.648 - .703	—	—	—	—

Grip Tables*

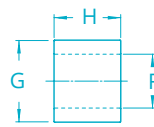
GRIP	GRIP RANGE	1/2" (16)		5/8" (20)		3/4" (24)		7/8" (28)		1" (32)		1-1/8" (36)		1-3/8" (44)
		D	E	D	E	D	E	D	E	D	E	D	E	GRIP RANGE
4	.250 - .500	1.213	3.172	1.433	3.656	1.518	4.156	—	—	—	—	—	—	Up to 34.25" Call for Data
8	.500 - .750	1.463	3.422	1.683	3.906	1.768	4.406	1.921	4.688	2.073	5.375	—	—	
12	.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	—	—	
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	1.063	
84	5.250 - 5.500	—	—	—	—	—	—	—	—	6.823	1.125	7.000	1.313	
88	5.500 - 5.750	—	—	—	—	—	—	—	—	7.073	1.375	7.250	1.563	
92	5.750 - 6.000	—	—	—	—	—	—	—	—	7.323	1.625	7.500	1.813	

*All grips are calculated using a LC collar

Standard-LC

Flanged-3LC¹Low Profile-8LC²/
LC-2R

AC-R44



¹ When using a 3LC collar the minimum grip is equal to the Min grip using a LC collar - "nominal J", Maximum grip is equal to the Max grip using the LC collar - "nominal J" ("J" represents the flange thickness of the 3LC)

² When using an 8LC collar - Min grip is equal to LC Min Grip (See Table), Max Grip is equal to Min grip + grip range + "L" ("L" is the difference in height between the 8LC and LC collars.)

Collar Dimensions

STYLE	DIA.	F	G	H	J	K	L
LC	1/2"	.515 - .540	.765 - .800	.610 - .645	—	—	—
	5/8"	.650 - .665	.970 - .985	.845 - .875	—	—	—
	3/4"	.776 - .790	1.165 - 1.180	.930 - .960	—	—	—
	7/8"	.896 - .920	1.355 - 1.375	1.083 - 1.120	—	—	—
	1"	1.030 - 1.050	1.550 - 1.575	1.235 - 1.280	—	—	—
	1-1/8"	1.150 - 1.180	1.740 - 1.770	1.390 - 1.440	—	—	—
3LC	1/2"	.510 - .535	.793 - .807	.726 - .756	.094-.156	.969 - 1.031	—
	5/8"	.650 - .665	.980-.996	.929 - .959	.125-.187	1.218 - 1.281	—
	3/4"	.776 - .790	1.170-1.195	1.109 - 1.155	.156-.218	1.480 - 1.525	—
	7/8"	.896 - .920	1.360 - 1.370	1.293-1.339	.187- .250	1.570 - 1.615	—
	1"	1.030 - 1.050	1.550 - 1.565	1.485- 1.515	.218- .281	1.843 - 1.906	—
	1-1/8"	1.160 - 1.175	1.750 - 1.760	1.675- 1.715	.273 - .289	2.105 - 2.145	—
8LC	1/2"	.515-.535	.780 - .800	.470 - .500	—	—	.140 -.145
	5/8"	.640 - .665	.972 - .982	.670 - .700	—	—	.175
	3/4"	.775 - .790	1.165 - 1.180	.715 - .745	—	—	.215
	7/8"	.910 - .930	1.360 - 1.375	.833 - .863	—	—	.250 - .257
	1"	1.030 - 1.050	1.552 - 1.568	.950 - .980	—	—	.285 - .300
AC-R44	1-3/8"	1.409-1.419	2.147-2.157	1.738 - 1.762	—	—	—

Installed Fastener Values

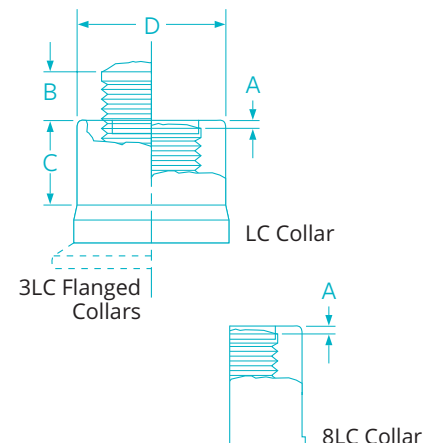
DIA.	CARBON STEEL PINS LC-2R OR 3LC-2R COLLARS (MIN LBF)			2024C ALUMINUM PINS LC-F OR 3LC-F COLLARS (MIN LBF)			6061F ALUMINUM PINS LC-I OR 3LC-I COLLARS (MIN LBF)		
	SHEAR	CLAMP	TENSILE	SHEAR	CLAMP	TENSILE	SHEAR	CLAMP	TENSILE
1/2"	14400	12050	17050	7300	5900	7850	5300	4400	4900
5/8"	22500	19200	27100	11400	9200	12300	8300	6900	7670
3/4"	32400	28400	40100	16400	13300	17700	11900	9950	11040
7/8"	43400	39250	55450	S P E C I A L O R D E R O N L Y					
1"	56500	51500	72700						
1-1/8"	69500	58450	82950	—	—	—	—	—	—
1-3/8"	100000	85000	129500	—	—	—	—	—	—

Hole Data

DIA.	MAX HOLE
1/2"	.563
5/8"	.688
3/4"	.813
7/8"	.938
1"	1.063
1-1/8"	1.188
1-3/8"	1.500

Inspection Data

DIA.	PIN PART NO.	LC COLLAR	3LC COLLAR	8LC COLLAR	A MAX	B MAX	C MIN	D MAX
1/2"	C50L()-()16	LC-2R16G	3LC-2R16G	8LC-2R16G	.063	.375	.406	.733
5/8"	C50L()-()20	LC-2R20G	3LC-2R20G	8LC-2R20G	.063	.375	.625	.916
3/4"	C50L()-()24	LC-2R24G	3LC-2R24G	8LC-2R24G	.063	.375	.656	1.110
7/8"	C50L()-()28	LC-2R28G	3LC-2R28G	8LC-2R28G	.063	.375	.750	1.282
1"	C50L()-()32	LC-2R32G	3LC-2R32G	8LC-2R32G	.063	.375	.875	1.465
1-1/8"	C50LR-BR36	LC-2R36G	—	8LC-2R36G	.063	.625	.906	1.646
1-3/8"	C50LR-BR44	AC-R44U	—	—	.188	.688	1.250	2.020



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 4) 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	BOLT MATERIAL	CODE	DIA.	CODE	GRIP	FINISH	SUFFIX
Round	R	Carbon Steel	BR	1/2"	16	Refer to Grip Tables on page 4	Zinc Plate, Clear Chromate .0003"	G
Truss	T	Aluminum 2024 and 6061 special order only		5/8"	20		Zinc Plate, Clear Chromate .0004"	GA
Stainless Cap	C			3/4"	24		Geomet - 1 Coat	NP
Large Truss	30			7/8"	28		Geomet - 2 Coat	D1
90° Flush	90			1"	32		Geomet - 3 Coat	DL
60° Flush	60	Stainless Steel available on request		1-1/8"	36		Oil Finish	no suffix
				1-3/8"	44			

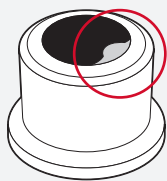
Collars (COLLAR STYLE) - (MATERIAL) (DIAMETER) (COATING) (OPTIONS)

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

COLLAR STYLE	PREFIX	MATERIAL	CODE	DIAMETER	CODE	COATING	CODE	OPTIONS	SUFFIX
Standard	LC-	Low Carbon Steel	2R	1/2"	16	Zinc	G	Tab-Lok	L
Flanged	3LC-	Aluminum special order only		5/8"	20	Additional coating options available			
Low Profile	8LC-			3/4"	24				
Low Profile (44)	AC-R44			7/8"	28				
				1"	32				
				1-1/8"	36				
				1-3/8"	44				

Tab-Lok™

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



Installation Tooling

Hydraulic Tools & Nose Assemblies

NOSE ASSEMBLY	SIZE	TOOL MODEL						
		2620	2620PT	2624	3585	2630	507	12142
	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



Tooling Weight and Dimensions

MODEL	WEIGHT	LENGTH	HEIGHT	WIDTH
2620/2620-PT*	1.4/11.0 lbs.	6.60"/1.10"	7.0"	2.82"
2624	13.9 lbs.	7.37"	7.73"	3.48"
3585	18.5 lbs.	7.84"	1.36"	4.02"
2630	22.3 lbs.	7.90"	8.65"	4.44"
507	43.4 lbs.	15.50"	6.00"	5.40"
12142	6.0 lbs.	11.76"	6.56"	6.56"

For limited clearance installation tools contact us.

* Pass through

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)
Weights 585/601 lbs. without hydraulic fluid	Weights 66 lbs. without hydraulic fluid	Weights 122 lbs. without hydraulic fluid	Weights 75 lbs. without hydraulic fluid
44"L x 25"W x 30"H	13.9"L x 16.1"W x 18.5"H	24"L x 21"W x 27"H	1.45"L x 16.33"W x 15.68"H



Powerig Model 918/918-5



Powerig Model 940



Howmet Fastening Systems

Industrial Division Brands



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