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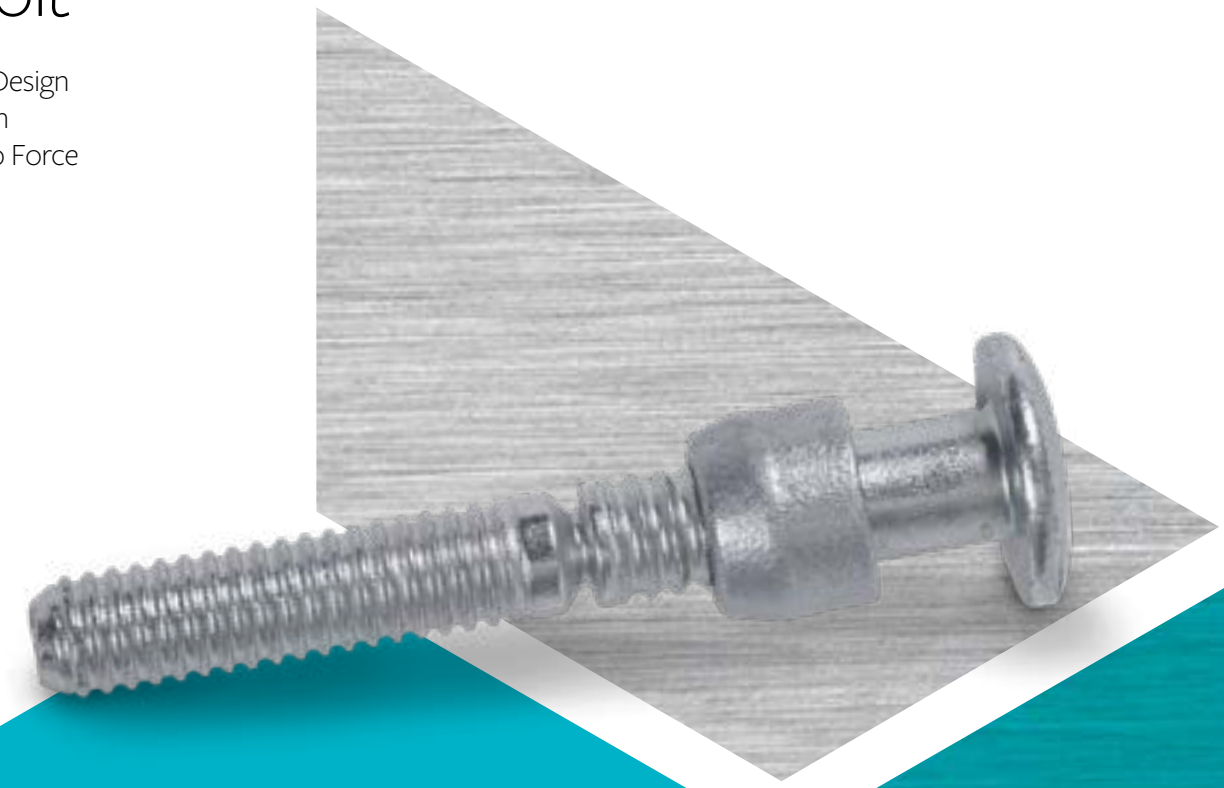
C6L®
The Original Vibration-Resistant HuckBolt®

Locking Groove Design
Simple Installation
Consistent Clamp Force

3/16″ - 3/8″



HUCK®

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The Huck C6L®

The Classic 6-Groove Locking Fastener Built with Staying Power

A result of Huck innovation a half-century ago, the versatile Arconic 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. 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.

Available Sizes:
3/16″, 1/4″, 5/16″, 3/8″

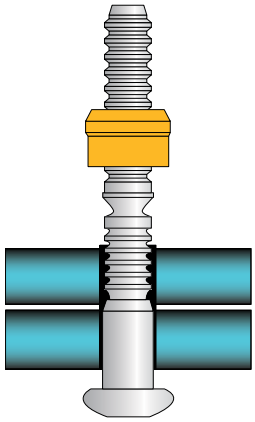
Materials:
Steel, Aluminum, Stainless Steel

Headstyles:
Round, Truss, Flush, 98T

Installation Sequence

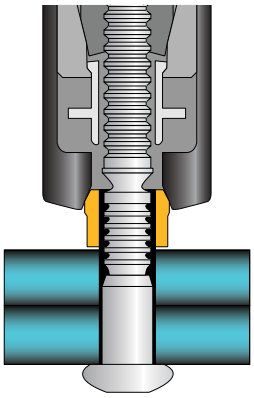
The C6L's unique design virtually eliminates installation errors caused by operator or tool variables. The C6L ensures that once the collar swage is complete, the pintail breaks off and the fastener is tightly installed. No rework required. And you can count on consistent, high-uniform clamp force with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

1



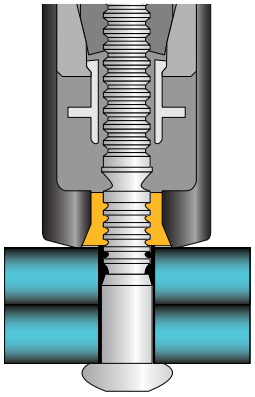
The pin is inserted into the prepared hole and the smooth bore collar is placed on the pin.

2



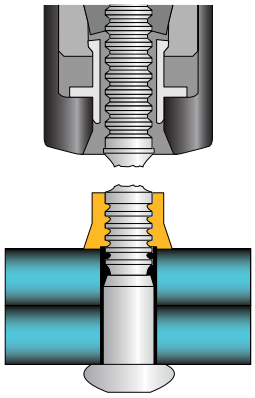
The installation tool is applied to the pintail. When the tool is activated, the jaws in the nose assembly pull on the pintail and the nose anvil pushes on the collar to remove any gap.

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.

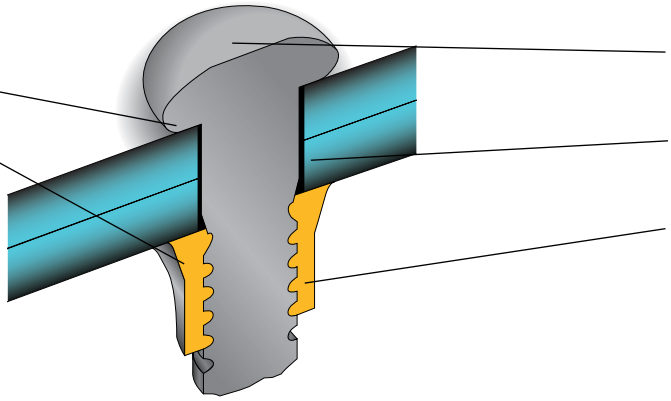
4



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

Secure, Fast Installation

- Wide bearing collar and head spread load to ensure structural integrity



- Corrosion resistant coatings can be painted
- Excellent gap pull-out and high retained clamp
- High fatigue annular lock groove form extends the life of your structure

For Oversized Holes: To optimize clamp, hardened washers such as ASTM F436, DIN 6916 or EN 14399-6 are recommended for use with oversize holes and slots, along with good bolting practice.

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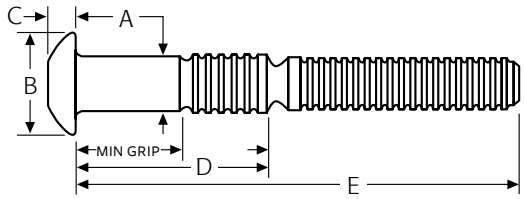
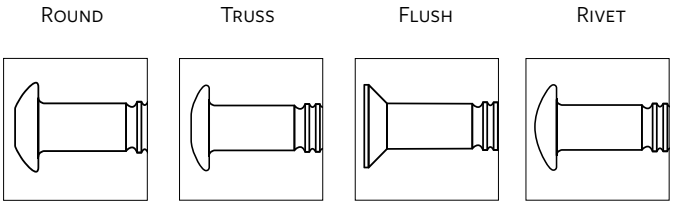
Data and Dimensions

Head Style Options



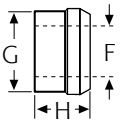


Fastener Dimensions

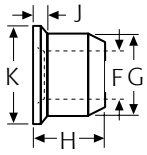
		ROUND HEAD		TRUSS HEAD		FLUSH HEAD		RIVET HEAD	
DIA.	A	B	C	B	C	B	C	B	C
6 (3/16″)	.190 - .195	.360 - .390	.113 - .125	.406 - .469	.078 - .088	.325-.358	.075-.087	.446-.492	.090-.106
8 (1/4″)	.254 - .259	.475 - .525	.136 - .152	.531 - .594	.103 - .115	.435-.475	.100-.115		
10 (5/16″)	.317 - .322	.594 - .656	.181 - .201	.703 - .797	.127 - .141				
12 (3/8″)	.380 - .385	.713 - .787	.223 - .248	.828 - .922	.186 - .202				

Collar Style Options

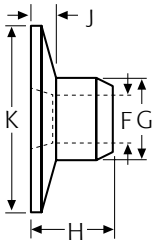
2LC-R



3LC-2R



3LCW-2R



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″)	.187 - .196	.304 - .311	.220 - .260		
	2LC-2CU	8 (1/4″)	.256 - .265	.402 - .409	.290 - .320		
	LC-I	8 (1/4″)	.256-.265	.402 - .409	.315-.335		
		12 (3/8″)	.370-.385	.590-.610	.450-.465		
	2LC-R	10 (5/16″)	.304-.312	.485 - .494	.350 - .380		
	2LC-R, 2LC-2CU	12 (3/8″)	.375 - .385	.590 - .600	.430 - .460		
Flange	3LC-2R, 3LC-F [1] 3LC-I, 3LC-2CU [1]	6	.187 - .196	.304 - .311	.250 - .280	.031 - .062	.359 - .391
		8	.256 - .267	.402 - .409	.349 - .379	.047 - .078	.484 - .516
		10	.304 - .312	.498 - .507	.394 - .426	.062 - .094	.609 - .641
		12	.378 - .390	.599 - .610	.502 - .532	.062 - .125	.719 - .781
Wide Flange	3LCW-2R8 [1]	8	.256-.267	.400 - .409	.410 - .480	.105 - .156	.853 - 1.022
	3LCW-2R10 [1]	10	.304 - .312	.498 - .507	.474 - .506	.144-.176	.984 - 1.016
	3LCW-2R12	12	.378-.390	.598-.606	.600-.615	.175-.195	1.169-1.231

1 When using 3LC Collars, add "J" dimension to thickness of material being fastened to determine grip number.

Installed Fastener Values - lbf(KN)

	CARBON STEEL (R) PINS			2024 ALUMINUM (C) PINS			6061 ALUMINUM (F) PINS			STAINLESS STEEL (U) PINS		
	GRADE 2 COLLAR VALUES 2LC-R OR 3LC-2R (GRADE 5 VALUES)			2LC-F OR 3LC-F COLLARS			LC-I OR 3LC-I COLLARS			2LC-2CU OR3LC-2CU COLLARS		
Dia.	Shear	Clamp	Tensile	Shear	Clamp	Tensile	Shear	Clamp	Tensile	Shear	Clamp	Tensile
6	1725 (2430)	1025 (1200)	1400 (2200)	1050	550	1000	775	350	530	2000	1025	1455
8	3050 (4300)	1805 (2300)	2550 (3800)	1875	950	1800	1375	620	975	3550	1805	2750
10	4725 (6700)	2810 (4200)	3910 (6300)	2925	1500	2850	2125	965	1550	5525	2810	4250
12	6825 (9600)	4020 (5980)	5625 (9300)	4200	2200	4200	3050	1380	2400	7950	4020	6100

Grip Tables**

GRIP	GRIP RANGE	3/16″ (6)		1/4″ (8)	
		D	E	D	E
2	.063 - .188	.394	1.404	.485	1.520
3	.125 - .250	.457	1.466	.548	1.583
4	.188 - .313	.519	1.529	.610	1.645
5	.250 - .375	.582	1.591	.673	1.708
6	.313 - .438	.644	1.654	.735	1.770
7	.375 - .500	.707	1.716	.798	1.833
8	.438 - .563	.769	1.779	.860	1.895
9	.500 - .625	.832	1.841	.923	1.958
10	.563 - .688	.894	1.904	.985	2.020
11	.625 - .750	.957	1.966	1.048	2.083
12	.688 - .813	1.019	2.029	1.110	2.145
13	.750 - .875	1.082	2.091	1.173	2.208
14	.813 - .938	1.144	2.154	1.235	2.270
15	.875 - 1.000	1.207	2.216	1.298	2.333
16	.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	1.937-2.063			2.368	3.395
37				2.637	3.708

GRIP	GRIP RANGE	5/16″ (10)		3/8″ (12)	
		D	E	D	E
4	.125 - .375	.749	1.906	.809	2.125
6	.250 - .500	.874	2.032	.934	2.250
8	.375 - .625	1.000	2.156	1.059	2.375
10	.500 - .750	1.124	2.281	1.184	2.500
12	.625 - .875	1.249	2.406	1.309	2.625
14	.750 - 1.000	1.374	2.531	1.434	2.750
16	.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	3.032	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

**All grips calculated using a 2LC collar

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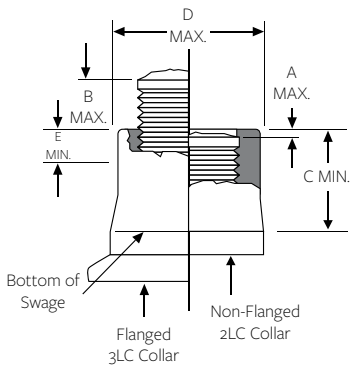
C6L Inspection Data and Installation Tooling



Inspection Data

NOMINAL SIZE	A MAX	B MAX	C MIN	D MAX	E MIN	MAX. HOLE SIZE	
						2LC COLLAR	3LC COLLAR
Straight Bore Anvil Tooling							
6 (3/16″)	.078	.125	.172	.276	–	.219	.234
8 (1/4″)	.078	.156	.250	.364	–	.281	.312
10 (5/16″)	.140	.219	.281	.454	–	.359	.390
12 (3/8″)	.125	.281	.344	.552	–	.421	.468
Tapered Bore Anvil Tooling (99-3003 and 99-3006)							
6 (3/16″)	.040	.125	.180	.276	.115	.218	.234
8 (1/4″)	.030	.156	.230	.364	.085	.281	.312

Should "A" or "B" dimensions exceed the given values, the fastener is out-of-grip. A "C" dimension less than the given value indicates an incomplete swage. A "D" dimension greater than the given values indicates an incorrect or worn anvil on the installation tool. "E" is the minimum length from the top of the collar to measure "D" diameter for tapered bore anvils.

Installation Tools

	SIZE	BATTERY TOOLS	PNEUDRAULIC TOOLS			HYDRAULIC TOOLS	
		TOOL MODEL					
		BV4500-118	244X	256	2025[1,2]	2480	2581
NOSE ASSEMBLY	3/16″	99-3003	99-2555	99-2558	99-3003[1,2]	99-2555 99-3003[1]	99-2558
	1/4″	99-3005	99-3417	99-2564	99-3006[1,2]	99-3006[1] 99-3417	99-2564
	5/16″			99-99-245			99-99-245
	3/8″			99-100-245			99-100-245

Tooling Weight and Dimensions

MODEL	TYPE	WEIGHT	LENGTH	HEIGHT	WIDTH
BV4500-118	Battery	5 lbs	9.06″	9.42″	3.15″
244X	pneudraulic	5.75 lbs	6.9″	13.1″	4.7″
256	pneudraulic	11.1 lbs	7.8″	14.9″	6.1″
2025[1,2]	pneudraulic	5.75 lbs	8.4″	12.5″	4.4″
2480	hydraulic	2.2 lbs	8.6″	6.5″	1.9″
2581	hydraulic	5.5 lbs	8.4″	7.1″	2.1″

1 Note: When using tapered bore anvils, use visual inspection data for tapered bore anvil tooling. 2 Model 2025 is not recommended for high volume installation of stainless steel fasteners.

Ordering Information

Follow the form below to construct a part number for ordering C6L pins and their respective collars. Refer to the Grip Data chart for grip numbers.

Pins (Grade 2 Steel, Aluminum, Stainless Steel)

C6L — (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

HEAD STYLE	PREFIX
Round	C6LB
Truss	C6LT
Flush	C6L90
Rivet	C98LT

MATERIAL	CODE
Grade 2 Carbon Steel	R
2024 Aluminum Alloy	C
6061 Aluminum Alloy	F
Stainless Steel	U

DIAMETER	CODE
3/16″	6
1/4″	8
5/16″	10
3/8″	12

GRIP
Refer to Grip Table on page 5

FINISH	SUFFIX
Zinc	G

Collars (Grade 2 Steel, Aluminum, Stainless Steel)

(TYPE) – (MATERIAL) (DIAMETER) (FINISH) (OPTIONS)
Example: 2LC-R8GL is a Standard C6L HuckBolt Collar, Carbon Steel, 1/4″ Diameter, Zinc Finish with Tab-Lok

HEAD STYLE	PREFIX
Standard	2LC
Flange	3LC
Wide Flange	3LCW

MATERIAL	CODE
Carbon Steel	2R/R
6061 Alum Alloy Heat Treated	I
6061 Alum Alloy	F
Stainless Steel	2CU

DIAMETER	CODE
3/16″	6
1/4″	8
5/16″	10
3/8″	12

FINISH	SUFFIX
Zinc	G

OPTIONS	CODE
Tab Lok	L

*Optional tablock on collars

Pins (Grade 5)

C120L (HEAD 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

HEAD STYLE	PREFIX
Round	C120LB
Truss	C120LT
Flush	C120L90

MATERIAL	CODE
Grade 5 Carbon Steel	R

DIAMETER	CODE
3/16″	6
1/4″	8
5/16″	10
3/8″	12

GRIP
Refer to Grip Table on page 5

FINISH	SUFFIX
Zinc	G

Collars (Grade 5)

(TYPE) – (MATERIAL) (DIAMETER) (FINISH) (OPTIONS)
Example: 2LC120-R8GL is a Standard C120L HuckBolt Collar, Carbon Steel, 1/4 Diameter, Zinc Finish with Tab-Lok

GRADE 5	PREFIX
Standard	2LC120
Flange	3LC120

MATERIAL	CODE
Carbon Steel	2R/R

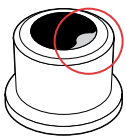
DIAMETER	CODE
3/16″	6
1/4″	8
5/16″	10
3/8″	12

FINISH	SUFFIX
Zinc	G

OPTIONS	CODE
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.



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Arconic Fastening Systems

Arconic Inc. (NYSE: ARNC) creates breakthrough products that shape industries. Working in close partnership with our customers, we solve complex engineering challenges to transform the way we fly, drive, build and power. Through the ingenuity of our people and cutting-edge advanced manufacturing, we deliver these products at a quality and efficiency that ensures customer success and shareholder value.

HUCK® marson® RECOIL® QUALITY THREAD INSERT SYSTEMS KEYSERT® Camloc®

North America

Waco Operations
PO Box 8117
8001 Imperial Drive
Waco, TX 76714-8117
Tel: +1 800-388-4825
Fax: +1 800-798-4825
afs.sales.waco@arconic.com

Tracy Operations
1925 North MacArthur Drive
Tracy, CA 95376
Tel: +1 800-826-2884
Fax: +1 800-573-2645
afs.sales.idg@arconic.com

Kingston Operations
1 Corporate Drive
Kingston, NY 12401
Tel: +1 800-278-4825
Fax: +1 845-334-7333
afs.sales.kingston@arconic.com

Carmel Operations
14300 Clay Terrace Blvd Suite 250
Carmel, IN 46032, USA
Tel: +1 800-826-2884
Fax: +1 800-573-2645
afs.sales.idg@arconic.com

Global

Kolkata Operations
Unit No. 28, 2nd Floor,
55/1, Chowringhee Road,
Kolkata 700071, West Bengal, India
Tel: +91-33-40699170
Tel: +91-33-40699180
Fax +91-33-40699184

São Paulo Operations
Rodovia Anhanguera, s/n, KM 17,
Parque São Domingos - Complexo
Anhanguera - Galpão 1 Seção III
(Módulo III) Box 11
CEP 05112-000 São Paulo – SP Brazil
Tel: +55-11-3583-7061

Telford Operations
Unit C, Stafford Park 7
Telford, Shropshire
England TF3 3BQ
Tel: +44 (0) 1952-290011
Fax: +44 (0) 1952-290459
thisales@arconic.com

Melbourne Operations
1508 Centre Road
Clayton, Victoria
Australia 3168
Tel: +613-8545-3333
Fax: +613-8545-3390
afs.sales@arconic.com

Suzhou Operations
58 Yinsheng Road,
SIP Suzhou, Jiangsu
215126 China
Tel: +86-512-62863800-8888

Tokyo Operations (Japan and Korea)
1013 Hibiya U-1 Bldg.
Uchisaiwai-cho 1-1-7
Chiyoda-ku, Tokyo
100-0011 Japan
Tel: +81-3-3539-6594
Fax: +81-3-3539-6585

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