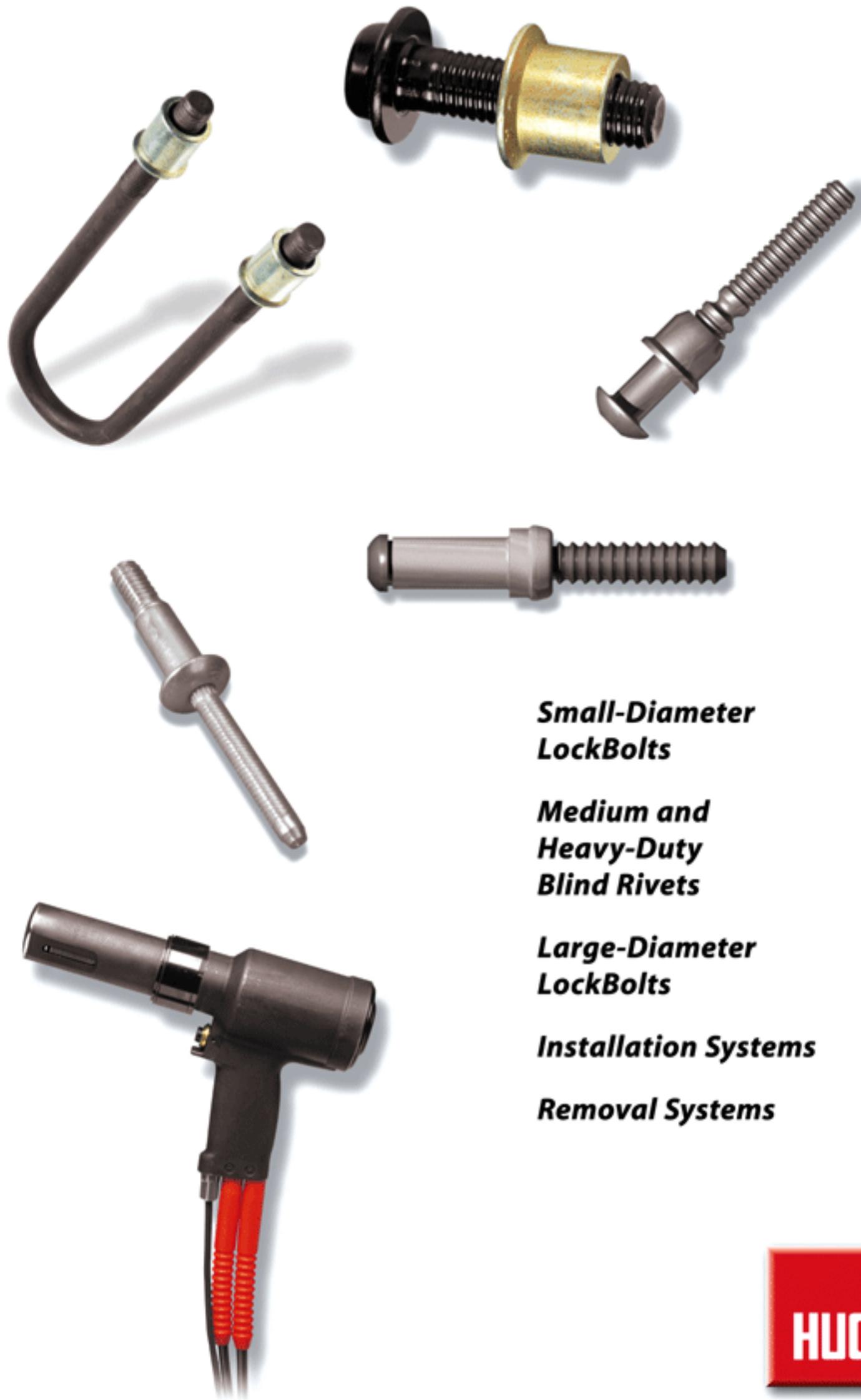


Dependable Fastening Systems for Manufacturing and Repair Applications



***Small-Diameter
LockBolts***

***Medium and
Heavy-Duty
Blind Rivets***

***Large-Diameter
LockBolts***

Installation Systems

Removal Systems



알 코아화스닝시스템(afs)은 세계 굴지의 기업인 ALCOA 그룹의 자회사로서 HUCK, RECOIL, MARSON, CAMLOC, DELRON, RAM, K-FAST 등 세계적인 Fastening System 브랜드를 보유한 체결류 전문 기업입니다.

AFS의 모기업인 ALCOA 사는 미국 피츠버그에 본사를 두고 있는 다국적 기업으로 매년 스위스에서 개최되는 세계경제포럼(DAVOS Forum)에서 선정하는 “세계 100대 지속 가능기업”에 그 이름을 3년째 올리고 있는 세계 최대의 알루미늄 원재료 및 알루미늄 관련 제조, 서비스 기업입니다.

AFS의 HUCK 제품들은 항공기, 철도차량, 승용차, 대형 트럭 등 인명 및 화물의 운송 수단과 풍력/태양 열 발전설비, 강교(교량), 컨테이너, 송전탑, 가전제품(Flat TV) 등 매우 안정적인 체결이 요구되는 많은 산업 분야에 사용되고 있습니다.

벤츠, 볼보, 에어버스, 보잉, 로템, 알스톰, 봄바디어, 프레이트라이너, 맥, 다이후쿠 등 세계 굴지의 수많은 기업들이 채택한 최고 기술의 체결시스템 HUCK 제품을 만나보시기 바랍니다.

“귀사의 제품을 세계최고의 제품으로 만들어 드릴 것입니다.”

SHIN SUNG MACHINERY TOOLS Co.

신성기공은 1988년도에 설립된 체결류 전문 기업으로서 대한민국 유일의 HUCK 공식 대리점입니다. 귀사가 최고의 제품을 만드는데 일조할 수 있는도록 HUCK 제품과 관련된 최선의 지원과 서비스를 제공하고 있습니다.



Authorized Distributor of AFS
Shin Sung Machinery Tools Co.

Small-Diameter LockBolts

HUCK 브랜드의 small diameter($3/16''$ ~ $3/8''$) 투피스(two-piece) Fastener는 안정적이고 균일한 조임력과 내진성을 요구하는 장비에 이상적입니다. 많은 종류의 트럭, 트레일러, 컨테이너 등에 적용되어지고 있습니다.



C6L® LockBolt

Ideal for general manufacturing applications, as well as in the assembly of trucks, buses, trailers, and rail cars. Available in a variety of materials and head styles, in diameters from $3/16''$ to $3/8''$.



Magna-Grip® LockBolt

Unique for its ability to break flush at the collar-line over a wide grip range. Typically used in truck-cab, rail-car, and bus assembly. Available in many materials and head designs, in diameters from $3/16''$ to $3/8''$.



Hucktainer® Fastener

Designed for truck-body and trailer applications requiring a strong, vibration-resistant clamp. Will not crush, craze, or bullnose fiberglass-reinforced panels. Available with plastic-encapsulated head for maximum corrosion protection.



Small-Diameter Huck-Spin® LockBolt

All the advantages of the large-diameter Huck-Spin packaged for $1/4''$ to $3/8''$ applications. Swaged-on, vibration-proof clamp; no pintail noise or waste; swift, accurate installation; quick visual inspection. Available in several materials and head styles.

Medium and Heavy-Duty Blind Rivets

HUCK 중형 블라인드 리벳은 트럭 바디와 트레일러, 특장차 및 운송산업 분야를 위해 디자인 되었으며, 이와 유사한 진동과 충격에 노출된 철도 관련 시스템에도 많이 사용 됩니다.
또한 설치가 매우 용이 하며 육안 검사로 체결 상태를 검사할 수 있어 품질관리 비용과 사후관리 비용을 대폭 절감할 수 있습니다.



Auto-Clamp™ Rivet

A two-piece fastening system for extended grip applications. Material thickness capability up to four inches. Clamps tight without crushing or marring.



Grip-Rite™ Blind Rivets

Equally versatile in blind and non-blind applications with almost any combination of materials. Available in 3/32" through 1/4" diameters in a variety of head styles. Ideal for all types of light and medium-duty uses.



StrongHold™ Rivet

Designed for structural applications where highly durable physical properties are required. Special design combines weather-tight sealing capability and high shear values.



Peel® Rivet

Split-body fastener often used in automotive applications. Offers extremely high shear and tensile values with a unique, hardened mandrel that locks in place and a specially designed aluminum body. Secondary grip ring aids mandrel retention. Available in 3/16" and 1/4" diameters.



Magna-Tite® Rivet

Applied watertight sealant; especially suitable for oversize holes and repair applications. Large blind-side "footprint" for thin or low-strength materials. Typical uses include truck cabs, motorcycles, playground equipment, outdoor furniture.



FloorTight® Fastener

Designed for large vehicle floor applications; accommodates material thicknesses from 3/4" to 1-5/8". Eliminates need to counterbore plywood or dimple plymetal before installation. Locking on the blind side makes this fastener suitable for many plywood/ plymetal uses in addition to floor assembly.



HuckLok™ High-Clamping Blind Rivet

A unique blind fastener offering a wide grip range and an ingenious double-locking action that clamps the assembly from both sides, for maximum joint integrity. Its bulb-forming design provides a large "footprint" to prevent pull-through with thin or lightweight materials. Ideal for all types of metals, plastics, and composites.



Magna-Lok® Rivet

A structural fastener offering a solid-circle lock for high-vibration applications. Can be used in materials with thickness variations as great as 3/8". Available in a variety of sizes and materials. Frequently used in dish antennas, electrical enclosures, and a variety of automotive and other transportation applications.



Magna-Bulb® Rivet

Superior holding power with a wide, bulb-shaped "footprint" on the blind side. Won't cause pull-through, which makes this fastener ideal for thin or low-strength materials such as aluminum, fiberglass, and plastic. Commonly used in truck cabs, school buses, shopping carts, trailer liners.



Auto-Bulb™ Rivet

Large diameter head and broad bulb spread diffuses the load over a larger area. Tapered hole-seeking tip provides quick and easy installation.



BOM® Blind Bolt

Highest-strength blind fastener, making it applicable for heavy joints. Excellent pull-together capability; high clamp force. Available in diameters from 3/16" through 3/4". Used in applications where stress and vibration are the norm, e.g. bridge repair, truck cab and body assembly, wind-powered generators, railroad locomotives and rolling stock, HVAC equipment.

Large-Diameter LockBolts

HUCK 대직경(1/2" ~ 1-3/8") 투피스(two-piece)화스너는 철도 차량, 철도 선로, 대형 트럭등 지속적이고 매우 큰 진동이 발생하는 산업분야 제품에 적합한 최고의 체결류 입니다.

볼보, 벤츠, 맥, 프라이트라이너 등 세계적인 대형 트럭 제조사와 봄바디어, 신간센등 굴지의 철도 업체에서도 이미 사용되고 있습니다.



C50L® LockBolt

For railcar, bus and RV frame, and ship manufacturing; bridge and building construction; and other applications requiring uniform clamp force. Meets A325 strength requirements. Available in a variety of materials, sizes, head designs.



HP8 LockBolt

Huck's original Grade 8 fastener; an easy-to-use system offering permanent, vibration-resistant clamp performance, rapid installation, and quick visual inspection.



Huck-Fit® LockBolt

For OEM or aftermarket service applications. Fit-up thread allows loose pre-assembly of components for accurate alignment before swaging. Removable with standard impact wrench.



Huck-Spin® LockBolt

Fail-proof Grade 8 fastener affording easy, accurate, and quiet installation, with no pintail waste. Round or hexagonal head (hex design permits removal with standard impact wrench).



U-Spin® U-Bolt

Vibration-proof Huck lockbolt performance for U-bolt applications. Easy-to-maneuver, computer-controlled installation module swages two U-Spins simultaneously (all four legs) for fast, accurate installation and high productivity.



RamBolt

For rail crossings and frogs. Initially installs with a torque wrench to allow retightening. After the joint has seated, a HuckBolt® collar is fully swaged delivering a permanent retained clamp of 85,000 lbs for the 1-3/8" diameter fastener.



Installation Tooling

HUCK 는 체결을 더욱 쉽고 빠르게 할 수 있도록 많은 종류의 HUCK Fastener 전용 툴은 제조, 판매 합니다. 공압과 유압 툴이 있으며, 유압툴은 전용 유압펌프와 함께 사용 됩니다. 견고하고 정확한 체결을 위해, 유지 관리 서비스를 위해 HUCK Fastener 체결공구는 반드시 HUCK 제품을 사용 하셔야 합니다.



Pneudraulic Tools

Using both hydraulic fluid and 90-100 psi of air pressure, Huck pneudraulic tools vary in size and the types of fasteners they install. Applications range from maintenance and repair to high-speed production requiring up to 1,000 installations per hour.

Hydraulic Tools

Huck hydraulic tooling ranges from manually operated tools used in repair and maintenance applications to larger tools for high-speed installation of very large fasteners in production environments.

Swage Forward™ Installation Tools

The latest advancement in Huck-Spin installation technology, our new Swage Forward design offers all the speed, dependability, and productivity you require, in a package about one-third the size and weight of our standard Huck-Spin tool.

Huck-Spin™ Installation Tools

Employs a unique spin on, swage, spin off routine to install Huck-Spin fasteners with a secure, permanent clamp with no pin-break.



SpinCutter™ Collar Removal System

Simplifies repairs by removing Huck-Spin collars with smooth, swift hydraulic action; easier and safer than a cutting torch. Kit includes tool, hoses, power source, and a nose assembly for installing new fasteners to complete the repair. Tool and noses are also available independently.

Aftermarket Tools

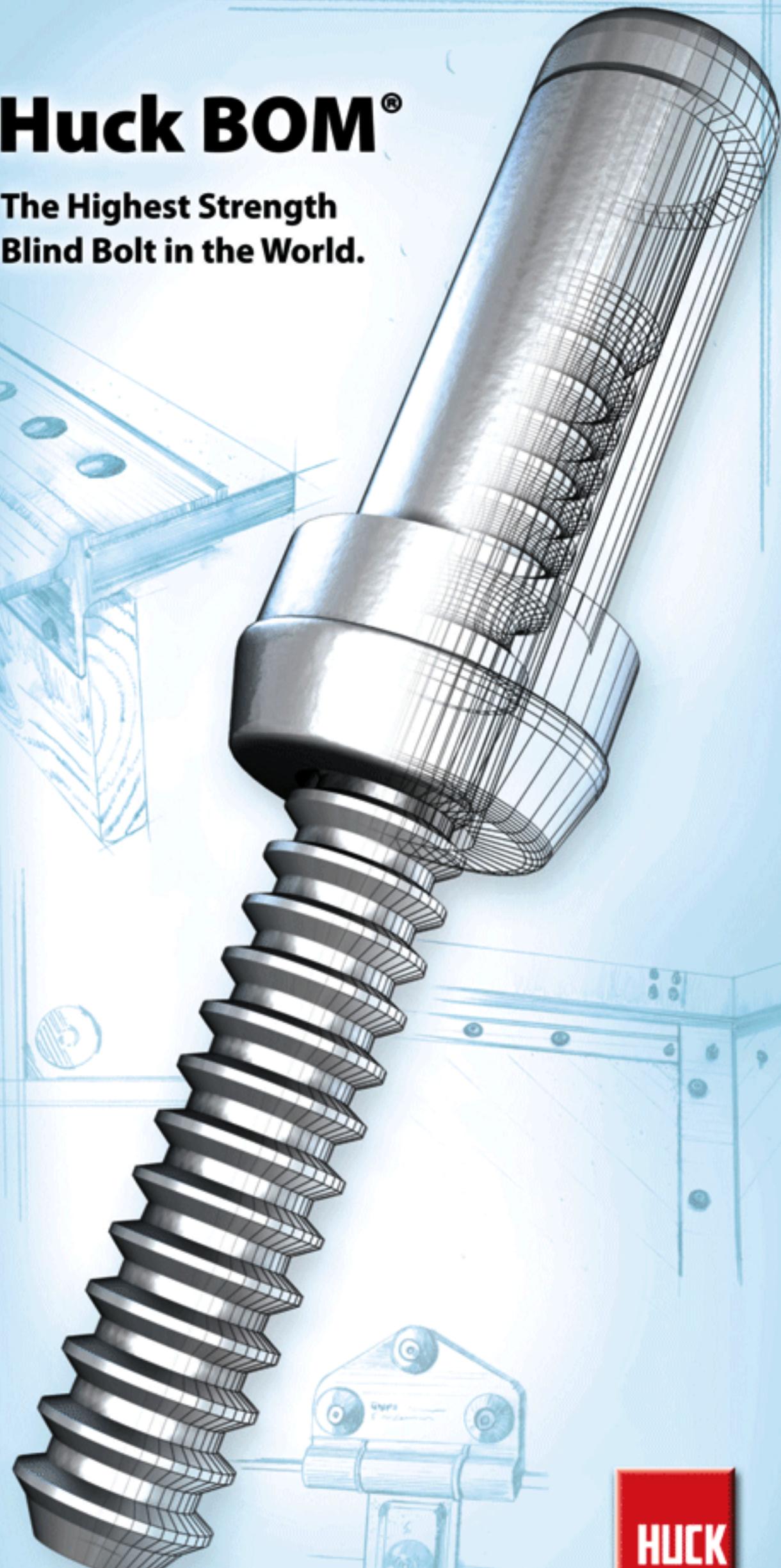
Dedicated kits are available for general repair and maintenance service in industrial and transportation applications. Each includes the tool and accessories needed to install a broad range of popular fastener types and sizes, swiftly and conveniently, with a single kit.

POWERIG® Power Units

Huck POWERIG units are the recommended power sources for Huck hydraulic installation tools. The flexible lineup comprises models for moderate to high production applications, and portable models to meet service-shop and field-repair requirements.

Huck BOM®

The Highest Strength
Blind Bolt in the World.



HUCK
®

**BOM® fasteners. The highest strength, highest precision
fastening system you'll find anywhere.**

“세상에서 가장 강한 블라인드 볼트”

BOM® Lock-Bolt 시스템은 어디에서도 찾을 수 없는 가장 강하고 정밀한 체결 시스템을 제공해 드립니다. Alcoa Fastening Systems의 BOM® (Blind, Oversize, Mechanically locked) Lock-Bolt 는 네 개의 일반 체결장치가 감당할 수 있는 작업을 하나로 지탱할 수 있을 정도로 강합니다. 그 이름에서 알 수 있듯이 한쪽방향 작업을 통한 체결장치 중 가장 큰 사이즈를 지원하며, 기계적인 체결이기에 더욱 안전 하며 신뢰할 수 있습니다.

더 이상 이보다 진동에 강한 블라인드 볼트를 찾을 수 없을 것입니다. BOM Lock-Bolt만의 Push-and-Pull 설치 디자인으로 BOM체결장치는 군용차량 및 장비에 사용될 만큼 견고하며 자동차 서스펜션, 철도차량 및 자동 창고 등에 사용이 됩니다. 가장 높은 장력을 요하는 경우에도 BOM체결 시스템의 강도는 충분합니다.



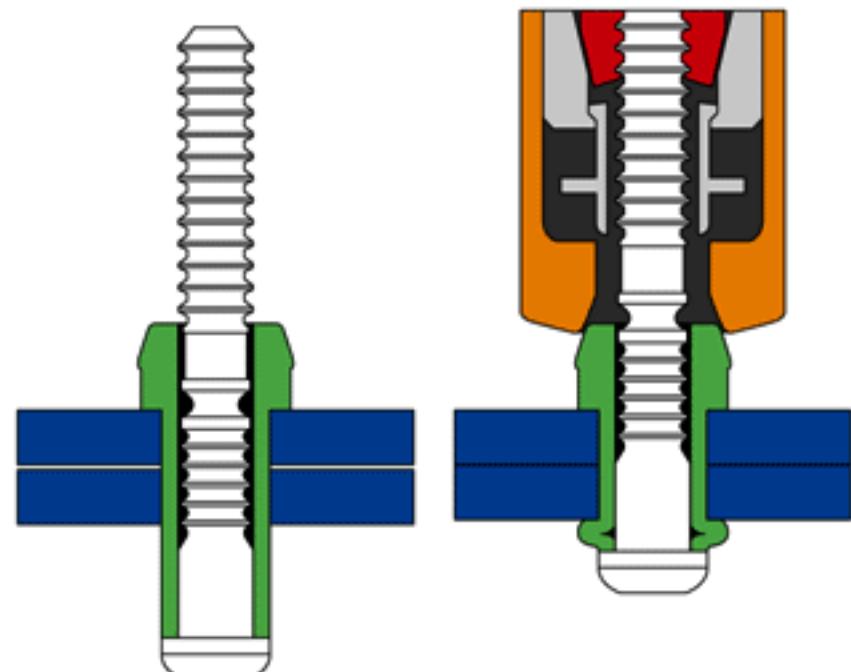
빠르고 경제적인 설치 및 검사

BOM Lock-Bolt는 설치가 간편하므로 작업자가 수분 만에 쉽게 설치 절차를 학습하여 용접공이나 특수하게 교육을 받은 직원을 고용할 필요가 없어 원가를 절감할 수 있습니다. 설치는 다른 동종의 제품에 비해 더욱 정밀한데 이는 사람의 실수로 인한 요소가 이 제품에는 적용되지 않기 때문입니다. 다시 말해서 정확한 설치가 작업자의 기능이나 특수 공구에 의존하지 않는다는 것입니다. 현재의 공구를 이용하여 지금 바로 BOM Lock-Bolt를 사용할 경우 장기적으로 더욱 많은 비용절감을 할 수가 있습니다.

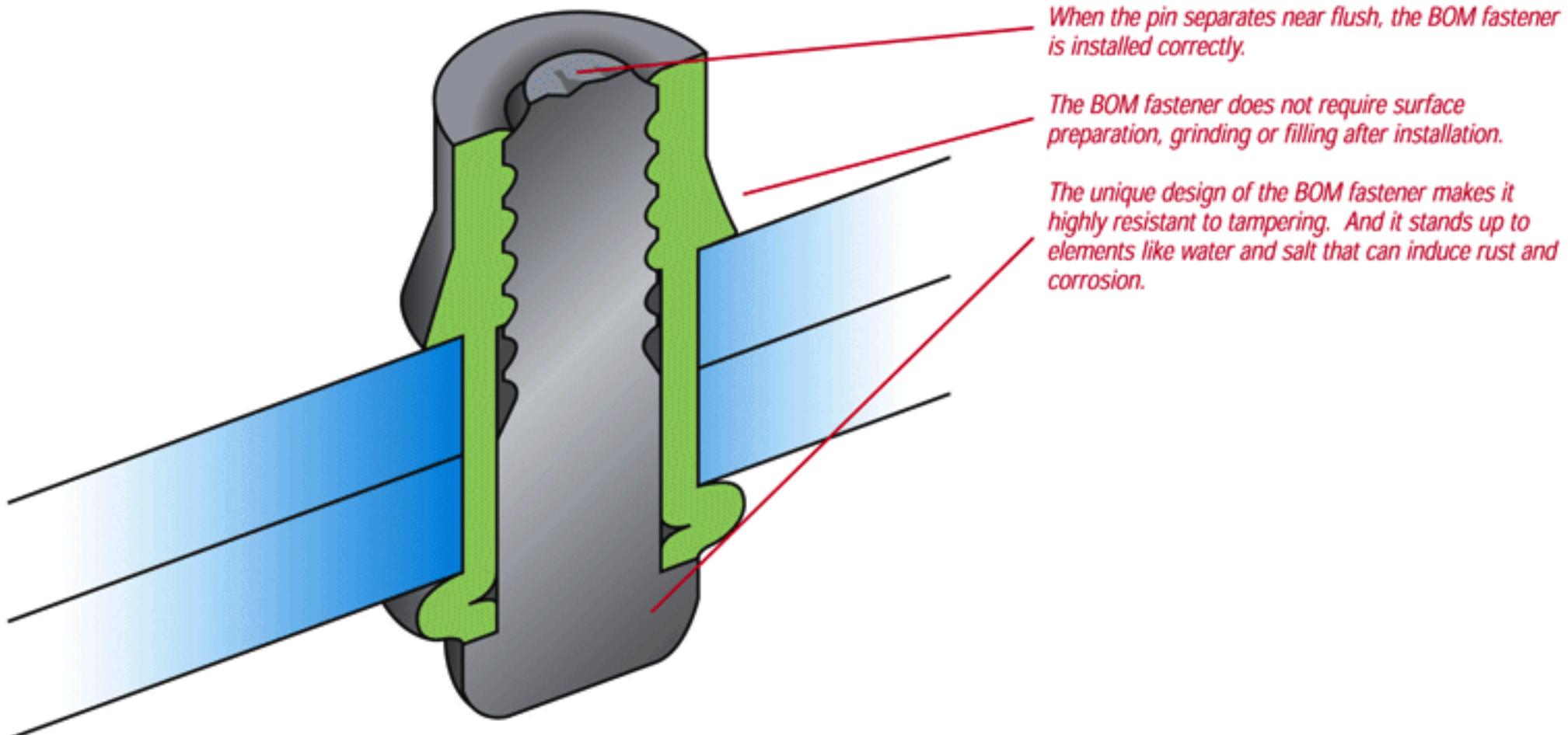
일단 설치가 되면 Torque 검사나 x-ray검사가 필요 없으며 내일이든 10년 후 이든 항상 동일한 수준의 체결이 유지가 됩니다.

소음 발생이 적어 작업환경을 개선할 수 있습니다.

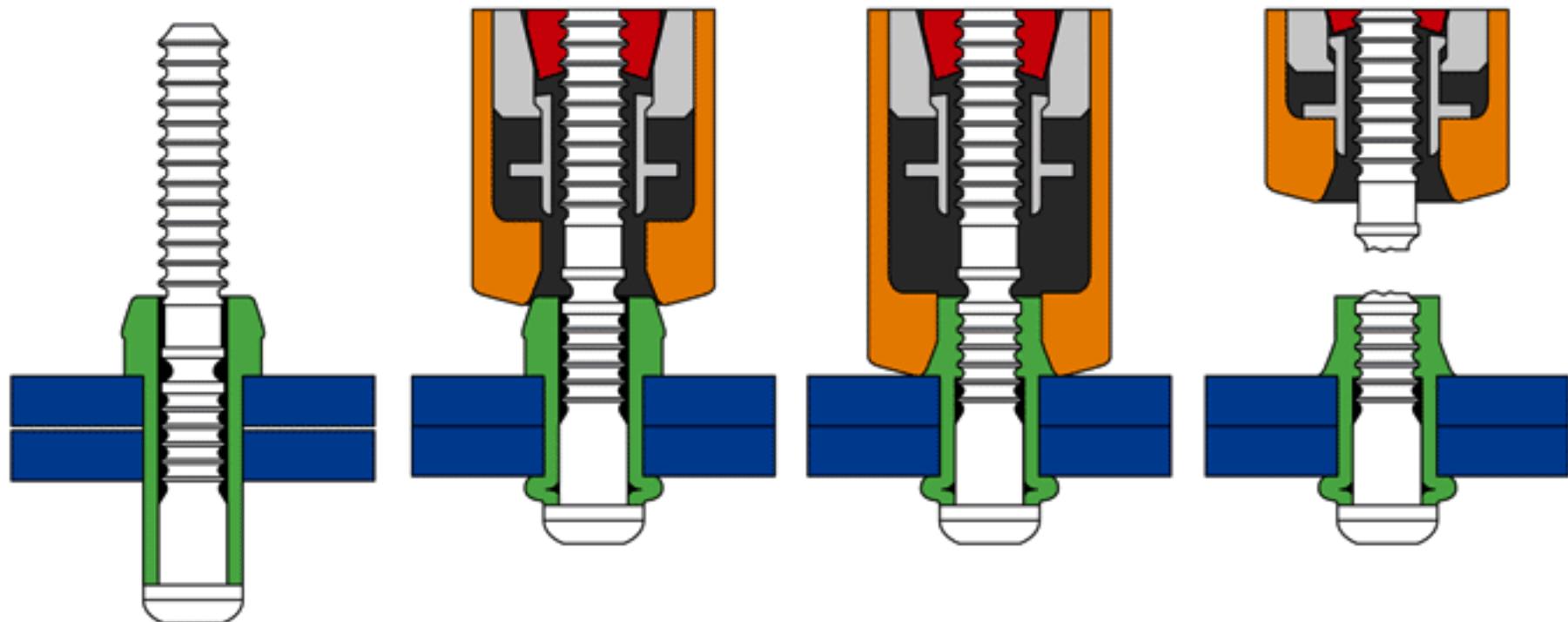
Alcoa Fastening Systems의 TOOL은 작업 현장이나 공장에서 Impact 공구를 사용하지 않음으로 낮은 소음을 유지할 수 있게 합니다. 작업자의 작업으로 인한 피로를 감소 시켜 작업 능률을 향상시킬 수 있습니다. 즉, Impact 공구 작업자의 근육과 관절이 구에서 발생하는 연속적인 충격으로부터 벗어나 능률 향상을 이룰 수 있습니다. 또한, BOM Lock-Bolt의 설치는 용접환경에서의 많은 열과 독성가스가 분출되는 조건을 없애 주어서 OSHA기준을 준수하도록 해줍니다.



Huck BOM®



Installation Sequence



1

The fastener is inserted into the prepared hole.

2

The installation tool is applied to the pintail. When the tool is activated it pulls on the pintail which upsets the sleeve (green), forming a head on the blind side. Sheet gap is removed.

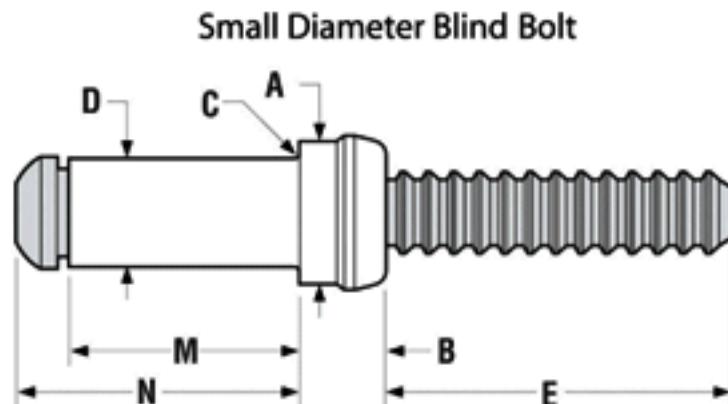
3

The anvil (orange) swages the collar into the locking grooves.

4

Continued pull of the tool causes the pintail to break away which completes the installation cycle.

BOM® Blind Bolt



Fastener Dimensions

Dia.	A	B	C max	D	E min
3/16	.276-.286	.152-.168	.015	.196-.206	.785
1/4	.368-.380	.205-.225	.020	.262-.275	.860
5/16	.468-.478	.266-.278	.025	.332-.346	1.285
3/8	.553-.563	.315-.327	.030	.393-.411	1.230
1/2	.744-.754	.415-.438	.035	.529-.544	1.530
5/8	.931-.941	.507-.545	.040	.662-.685	1.710
3/4	1.115-1.130	.637-.654	.050	.795-.826	2.150

Inspection Data

F nom	G min	H max	J max	K max	L nom
.177	.109	.094	.261	.031	.306
.232	.156	.094	.346	.031	.405
.304	.188	.172	.434	.047	.517
.357	.203	.172	.510	.047	.605
.475	.297	.172	.686	.063	.841
.595	.406	.313	.874	.078	1.038
.722	.438	.313	1.027	.078	1.267



MINIMUM VALBS IN NOMINAL GRIP

Diameter	Shear	Tensile
3/16	2800	1800
1/4	5100	3250
5/16	8050	5200
3/8	11100	7250
1/2	20150	13000
5/8	31900	20500
3/4	45100	29100

Note: These are minimum ultimate shear and tensile strengths, in pounds, of installed fasteners, when tested in a grip equal to or greater than one and one half the fastener diameter.

HOLE PREPARATION DATA

Diameter	Hole Diameter
3/16	.208-.222
1/4	.277-.292
5/16	.348-.368
3/8	.413-.435
1/2	.546-.581
5/8	.687-.728
3/4	.828-.873

BOM® Blind Bolt

Grip Data and Dimensions :

Grip No.	6 (3/16") Diameter			8 (1/4") Diameter			10 (5/16") Diameter			12 (3/8") Diameter		
	Range	M ref	N max	Range	M ref	N max	Range	M ref	N max	Range	M ref	N max
2	.093-.156	.376	.500	.093-.156	.460	.620						
3	.157-.219	.439	.562	.157-.219	.523	.682						
4	.220-.281	.501	.625	.220-.281	.585	.745	.188-.312	.695	.875	.188-.312	.766	.969
5	.282-.344	.564	.687	.282-.344	.648	.807						
6	.345-.406	.626	.750	.345-.406	.710	.870	.313-.437	.820	1.000	.313-.437	.891	1.094
7	.407-.469	.689	.812	.407-.469	.773	.932						
8	.470-.531	.751	.875	.470-.531	.835	.995	.438-.562	.945	1.125	.438-.562	1.016	1.219
9	.532-.594	.814	.937	.532-.594	.898	1.057						
10	.595-.656	.876	1.000	.595-.656	.960	1.120	.563-.687	1.070	1.250	.563-.687	1.141	1.344
11	.657-.719	.939	1.062	.657-.719	1.023	1.182						
12	.720-.781	1.001	1.125	.720-.781	1.085	1.245	.688-.812	1.195	1.375	.688-.812	1.266	1.469
14							.813-.937	1.320	1.500	.813-.937	1.391	1.594
16							.938-1.062	1.445	1.625	.938-1.062	1.516	1.719
18										1.063-1.187	1.641	1.844
20										1.188-1.312	1.766	1.969

Grip Data and Dimensions :

Grip No.	16 (1/2") Diameter			20 (5/8") Diameter			24 (3/4") Diameter		
	Range	M ref	N max	Range	M ref	N max	Range	M ref	N max
4	.251-.375	1.000	1.266	.251-.500	1.213	1.531	.251-.500	1.380	1.750
6	.376-.500	1.125	1.391						
8	.501-.625	1.250	1.516	.501-.750	1.463	1.781	.501-.750	1.630	2.000
10	.626-.750	1.375	1.641						
12	.751-.875	1.500	1.766	.751-1.000	1.713	2.031	.751-1.000	1.880	2.250
14	.876-1.000	1.625	1.891						
16	1.001-1.125	1.750	2.016	1.001-1.250	1.963	2.281	1.001-1.250	2.130	2.500
18	1.126-1.250	1.875	2.141						
20	1.251-1.375	2.000	2.266	1.251-1.500	2.213	2.531			
22	1.376-1.500	2.125	2.391						
24	1.501-1.625	2.250	2.516						

BOM® Blind Bolt

Installation Tools

Tool Model	Air Driven Tools				Hydraulic Tools						
	255	256	2025		2480	2580	2600	2620	2620-PT	2624	2628
Nose Assembly	3/16"	99-1053	99-1053	99-994	99-994	99-1053					
	1/4"	99-830-1	99-830-1			99-830-1					
	5/16"		99-769			99-769**	99-3119				
	3/8"		99-1272*			99-1272*	99-3122				
	1/2"							99-5100	99-5101		
	5/8"									99-5102	99-5102
	3/4"										99-5103

* use only in very low volume repair applications

** requires 123634-2580 steel deflector

Air Driven Tools



Model 255

Weight:	8.8 lbs
Length:	7.1"
Height:	14.9"
Width:	4.6"



Model 2025

Weight:	5.75 lbs
Length:	8.4"
Height:	12.5"
Width:	4.4"



Model 256

Weight:	11.1 lbs
Length:	7.8"
Height:	14.9"
Width:	6.1"

BOM® Blind Bolt

Hydraulic Tools

**Model 2480**

Weight:	2.2 lbs
Length:	8.6"
Height:	6.5"
Width:	1.9"

**Model 2580**

Weight:	6.6 lbs
Length:	8.4"
Height:	6.5"
Width:	2.2"

**Model 2600**

Weight:	7.3 lbs
Length:	9.4"
Height:	6.9"
Width:	2.6"

**Model 2620 2620-PT**

Weight:	9.88 lbs	9.88 lbs
Length:	6.6"	10.2"
Height:	7.0"	7.0"
Width:	2.82"	2.82"

**Model 2624**

Weight:	17.5 lbs
Length:	7.4"
Height:	7.7"
Width:	3.5"

**Model 2628**

Weight:	20.5 lbs
Length:	7.74"
Height:	8.12"
Width:	3.87"

ORDERING INFORMATION

Follow the form below to construct a part number for ordering BOM blind fasteners. Refer to the Grip Data chart for grip numbers.

BOM-R (DIAMETER) – (GRIP NUMBER)

Example: **BOM-R8-6** is a BOM blind fastener, 1/4" Diameter, Grip 6

Diameter	Diameter cont.
3/16	6
1/4	8
5/16	10
3/8	12
1/2	16
5/8	20
3/4	24

MATERIALS AND FINISHES

	Material	Finish	Lubrication
Sleeve	Carbon Steel	Zinc Plating	Wax Film
Pins	3/16 - 5/16 Dia.	None	Wax Film
	3/8 - 3/4 Dia.	Alloy Steel	Wax Film

The C50L® HuckBolt® Fastening System

**Strong and dependable lockbolts for heavy-duty,
vibration-intensive applications.**



HUCK®



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

C50L®은 철도차량, 철도 선로, 철도 설비 등 철도 관련 산업분야를 위한 Alcoa Fastening Systems의 대표적인 체결 시스템입니다.

높은 하중과 지속적인 진동(충격)이 가해지는 모든 철도 관련 시스템은 더욱 강하고 믿을 수 있는 체결장치가 필요합니다. 또한 배(수분) 또는 염분이 포함된 해풍 등 자연 환경에 직접 노출된 철도 관련시스템은 이러한 악조건에 견디며 지속적인 체결을 보장 하는 체결류를 사용 하여야 합니다.

C50L®은 이러한 악조건에도 강력하고 지속적인 체결력을 유지할 수 있도록 만들어진 철도 산업분야를 위한 특화된 제품입니다. 이미 많은 철도 관련 기업들의 제품에 적용이 되어 검증된 제품으로 귀사의 제품을 지속적인 진동과 충격에 의한 풀림으로부터 지켜줄 것 입니다.

Keynote of C50L® Huck Bolt Systems

- 안전성

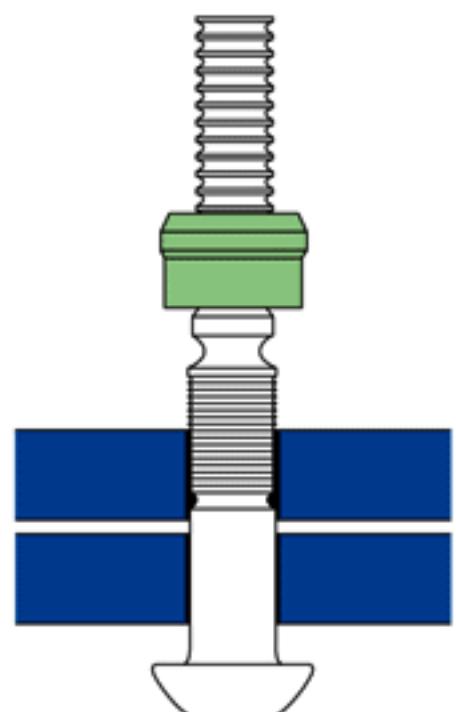
모든 하드웨어 시스템은 그보다 더 작은 단위의 System이나 Part, Assy라 불리는 작은 단위의 부품들로 구성 됩니다. 이러한 작은 단위의 System들은 용접이나 체결에 의해 서로 연결되어 목적 시스템으로 만들어지게 됩니다. 시스템이나 산업분야에 따라 이러한 System간의 연결의 풀림은 매우 큰 문제가 됩니다. 특히, 대규모 인명 수송 장치인 철도차량이나 철도 관련 시스템은 더욱 견고하고 신뢰할 수 있어야 합니다. C50L®은 이미 수많은 철도 관련 기업에서 사용 하고 있는 제품으로서 안전성과 신뢰성이 검증이 된 제품입니다. 어떠한 악조건의 환경에서도 안정적인 체결을 유지할 수 있습니다.

- 유지보수 비용의 절감

대부분의 체결시스템은 시간이 지남에 따라 체결력이 감소하게 됩니다. 많은 진동과 충격에 노출이 되었다면 풀림과 그로 인한 체결력 감소는 더욱 빠르게 진행되어 철도 차량이나 철도 선로, 철도 설비 관련 제품들은 주기적이고 지속적인 체결 상태를 관리/관찰 하여야 합니다. 이는 매우 많은 비용을 발생시킵니다. C50L HuckBolt 시스템은 볼트/너트와 달리 유지/보수 작업이 필요 없는 반영구적인 체결을 제공 하여 유지보수에 소요 되는 매우 많은 비용을 절감할 수 있습니다.

- 간단하고 빠른 설치

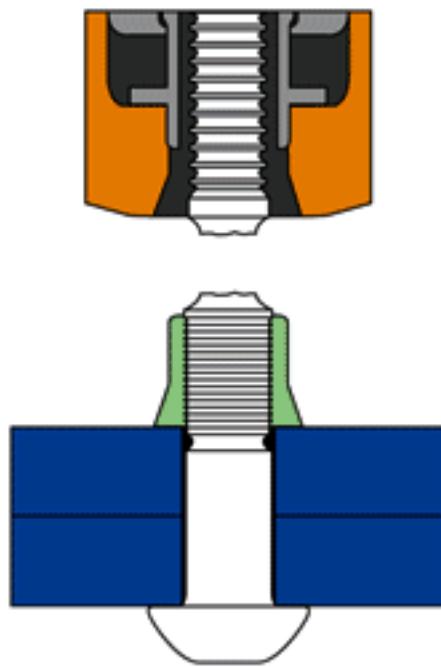
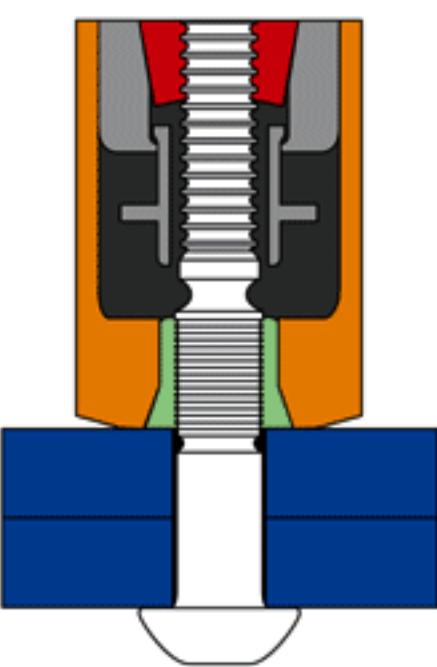
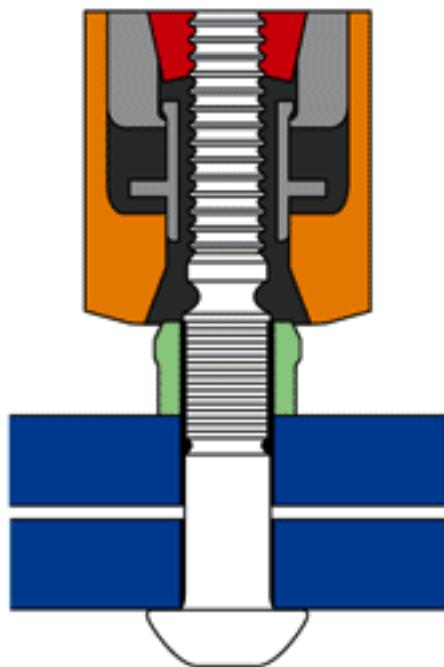
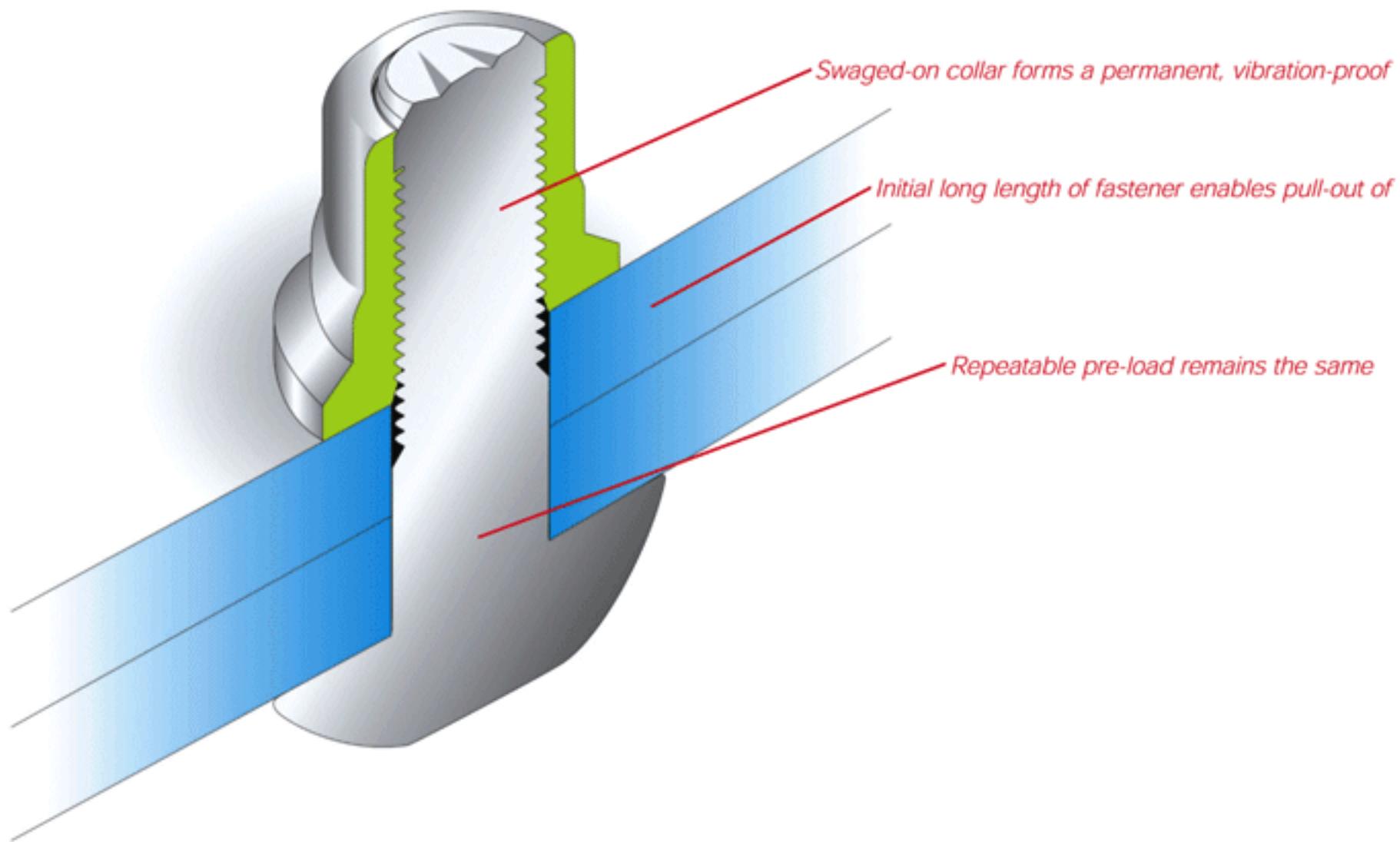
용접과 달리 C50L의 체결에는 숙련된 기술자를 고용할 필요가 없습니다. C50L 체결 TOOL은 사용자 편의 위주로 만들어져 회전이나 수번의 충격 없이 간단히 설치 되도록 개발 되었습니다. 또한, 소음을 크게 줄여 작업 환경을 조용하고 안정적이며 생산적으로 만들어 드립니다. 궁극적으로 생산성을 늘이고 인건비 절감의 효과를 볼 수 있습니다.



1

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

C50L® HuckBolt®



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.

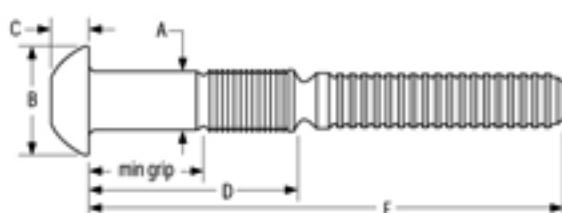
3

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

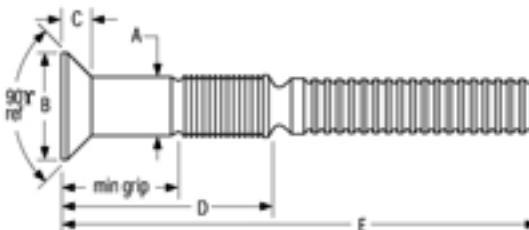
4

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

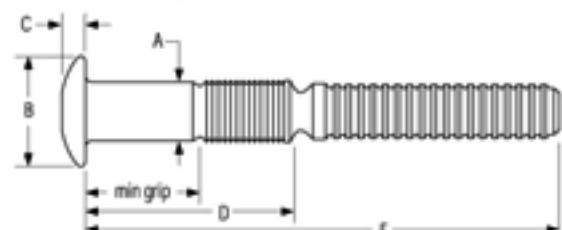
C50L® Huckbolt®



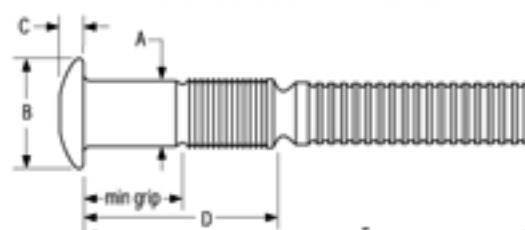
Round Head – C50LR



90° Flush Head – C50L90



Truss Head – C50LT



Large Truss Head – C50L30

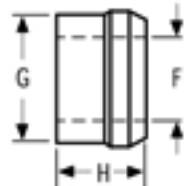
Fastener Dimensions

Dia.	Round Head			Truss Head C50LT		Large Truss Head C50L30		90° Flush Head	
	A	B	C	B	C	B	C	B	C
1/2 (16)	0.515 - 0.493	59/64	5/16	59/64	15/64	1-3/32	17/64	29/32	1/4
5/8 (20)	0.642 - 0.617	1-9/64	25/64	1-9/64	19/64	1-3/8	21/64	1-5/32	5/16
3/4 (24)	0.768 - 0.741	1-3/8	15/32	1-3/8	23/64			1-3/8	3/8
7/8 (28)	0.895 - 0.866	1-19/32	35/64	1-19/32	13/32			1-19/32	7/16

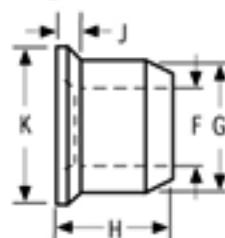
Collar Dimensions

Collar	Diameter	F	G	H	J	K
LC	1/2	0.515 - 0.540	0.800 - 0.765	0.645 - 0.610		
	5/8	0.650 - 0.665	1.010 - 0.970	0.875 - 0.845 ³		
	3/4	0.775 - 0.790	1.180 - 1.165	0.960 - 0.930		
	7/8	0.910 - 0.935	1.375 - 1.345	1.113 - 1.083		
3LC ¹	1/2	0.515 - 0.535	0.807 - 0.793	0.746 - 0.716	0.156 - 0.094	1.031 - 0.969
	5/8	0.650 - 0.665	1.010 - 0.970	0.959 - 0.929	0.187 - 0.125	1.281 - 1.218
	3/4	0.775 - 0.790	1.200 - 1.170	1.147 - 1.117	0.218 - 0.156	1.531 - 1.468
	7/8	0.910 - 0.930	1.375 - 1.360	1.330 - 1.300	0.250 - 0.187	1.625 - 1.562
8LC ²	1/2	0.515 - 0.535	0.800 - 0.775	0.500 - 0.470		
	5/8	0.650 - 0.665	1.010 - 0.970	0.700 - 0.670		
	3/4	0.775 - 0.790	1.180 - 1.165	0.745 - 0.715		
	7/8	0.910 - 0.930	1.375 - 1.360	0.863 - 0.833		

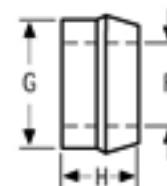
Standard Collar - LC



Flanged Collar - 3LC



Low Profile Collar - 8LC



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®

Grip Data and Dimensions

Grip is the actual thickness of material to be fastened. Grip includes 'C' dimension on 90° flush head and 60° watertight fasteners. Grips listed are not necessarily available in every head style. Contact AFS for grips not shown.

Tolerances: Dimension D ± 1/32, Dimension E + 3/16, -1/16

Grip	Grip Range	1/2" Diameter (-16)		5/8" Diameter (-20)		3/4" Diameter (-24)		7/8" Diameter (-28)	
		No.	min	-	max	D	E	D	E
4	1/4 - 1/2	1.213	3 11/64	1.433	3 21/32	1.518	4 5/32		
8	1/2 - 3/4	1.463	3 27/64	1.683	3 29/32	1.768	4 13/32	1.921	4 11/16
12	3/4 - 1	1.713	3 43/64	1.933	4 5/32	2.018	4 21/32	2.171	4 15/16
16	1 - 1 1/4	1.963	3 59/64	2.183	4 13/32	2.268	4 29/32	2.421	5 3/16
20	1 1/4 - 1 1/2	2.213	4 11/64	2.433	4 21/32	2.518	5 5/32	2.671	5 7/16
24	1 1/2 - 1 3/4	2.463	4 27/64	2.683	4 29/32	2.768	5 13/32	2.921	5 11/16
28	1 3/4 - 2	2.713	4 43/64	2.933	5 5/32	3.018	5 21/32	3.171	5 15/16
32	2 - 2 1/4	2.963	4 59/64	3.183	5 13/32	3.268	5 29/32	3.421	6 3/16
36	2 1/4 - 2 1/2	3.213	5 11/64	3.433	5 21/32	3.518	6 5/32	3.671	6 7/16
40	2 1/2 - 2 3/4	3.463	5 27/64	3.683	5 29/32	3.768	6 13/32	3.921	6 11/16
44	2 3/4 - 3	3.713	5 43/64	3.933	6 5/32	4.018	6 21/32	4.171	6 15/16
48	3 - 3 1/4	3.963	5 59/64	4.183	6 13/32	4.268	6 29/32	4.421	7 3/16
52	3 1/4 - 3 1/2	4.213	6 11/64	4.433	6 21/32	4.518	7 5/32	4.671	7 7/16
56	3 1/2 - 3 3/4	4.463	6 27/64	4.683	6 29/32	4.768	7 13/32	4.921	7 11/16
60	3 3/4 - 4	4.713	6 43/64	4.933	7 5/32	5.018	7 21/32	5.171	7 15/16
64	4 - 4 1/4	4.963	6 59/64	5.183	7 13/32	5.268	7 29/32	5.421	8 3/16
68	4 1/4 - 4 1/2	5.213	7 11/64	5.433	7 21/32	5.518	8 5/32	5.671	8 7/16
72	4 1/2 - 4 3/4	5.463	7 27/64	5.683	7 29/32	5.768	8 13/32	5.921	8 11/16
76	4 3/4 - 5	5.713	7 43/64	5.933	8 5/32	6.018	8 21/32		
80	5 - 5 1/4	5.963	7 59/64						
84	5 1/4 - 5 1/2								
88	5 1/2 - 5 3/4								
92	5 3/4 - 6								

Installed Fastener Values¹

Dia.	Carbon Steel Pins LC-2R or 3LC-2R Collars			2024 Aluminum Pins LC-F or 3LC-F Collars			6061 Aluminum Pins LC-1 or 3LC-1 Collars			CRES Pins LC-2CU or 3LC-2CU Collars		
	Shear	Clamp	Tensile	Shear	Clamp	Tensile	Shear	Clamp	Tensile	Shear	Clamp	Tensile
1/2	14400	12050	17050	7300	5900	7850	5300	4400	4900	13900	12050	17050
5/8	22500	19200	27100	11400	9200	12300	8300	6900	7670	21000	19200	27100
3/4	32400	28400	40100	16400	13300	17700	11900	9950	11040	30300	28400	40100
7/8	43400	39250	55450									

¹ Minimum values, in pounds, of installed fasteners. Round head, in carbon steel equivalent to ASTM A325 high strength bolts.

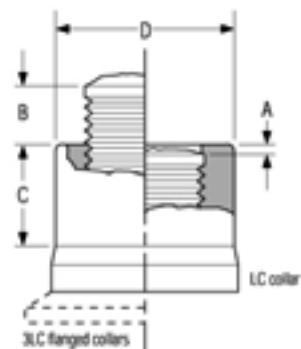
C50L® Huckbolt®

Inspection Data

A properly installed C50L fastener will incorporate the dimensional characteristics tabulated below. 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 tabulated values is an indication of an incorrect or worn anvil on the installation tool. The 'A' dimension can be increased to 1/8 and still meet all published values, provided there is no requirement to meet ASTM specifications pertaining to locking grooves (threads) in the shear plane.

Dia.	Pin Part No.	Collar Type LC*	Collar Type 3LC*	Collar Type 2LR	A max	B max	C min	D max
1/2	C50L()-()16	LC-2R16G	3LC-2R16G		1/16	3/8	13/32	.733
5/8	C50L()-()20	LC-2R20G	3LC-2R20G		1/16	3/8	5/8	.916
3/4	C50L()-()24	LC-2R24G	3LC-2R24G		1/16	3/8	21/32	1.110
7/8	C50L()-()28	LC-2R28G	3LC-2R28G		1/16	3/8	3/4	1.282

* Manufacturer's Option: 'G' or 'GA', unless specified



Hole Data

Dia.	Maximum Hole
1/2	9/16
5/8	11/16
3/4	13/16
7/8	15/16

ORDERING INFORMATION

C50L Pins

Follow the form below to construct a part number for ordering C50L pins. Refer to the Grip Data chart for grip numbers.

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

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

Head Style	Material	Diameter	Grip
Round R	Carbon Steel BR	1/2 16	Refer to Grip Data Chart
Truss T	2024 Aluminum C	5/8 20	
Large Truss 30	6061 Aluminum F	3/4 24	
90 Flush 90	CRES ¹ U	7/8 28	
		1 32	
		1 1/8 36	
		1 3/8 44	

¹ CRES fasteners are available in 16 through 24 diameters and through 36 grips only

C50L Collars

Follow the form below to construct a part number for ordering collars for C50L pins.

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

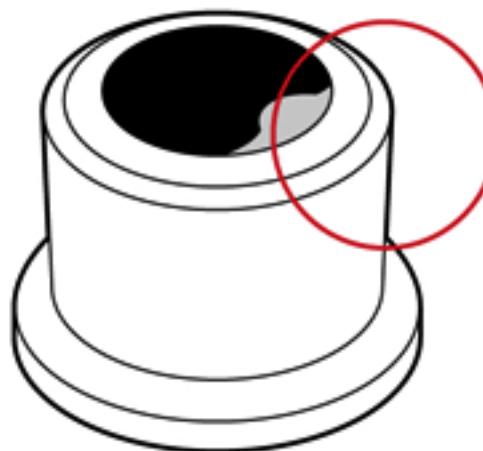
Example: **LC-2R16G** is a Standard Collar, Low Carbon Steel, 1/2" Diameter, Zinc Finish

Collar Style	Diameter
Standard LC	16
Flanged 3LC	20
Low Profile 8LC	24
	28

Material
Low Carbon Steel
Zinc Plated 2R
6061 Aluminum Aged F
6061 Aluminum I
Stainless Steel 2CU

Finishes
Zinc G

Options
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.

Huck C6L® / C120L®

The Original
Vibration-Resistant
LockBolt.



HUCK
®

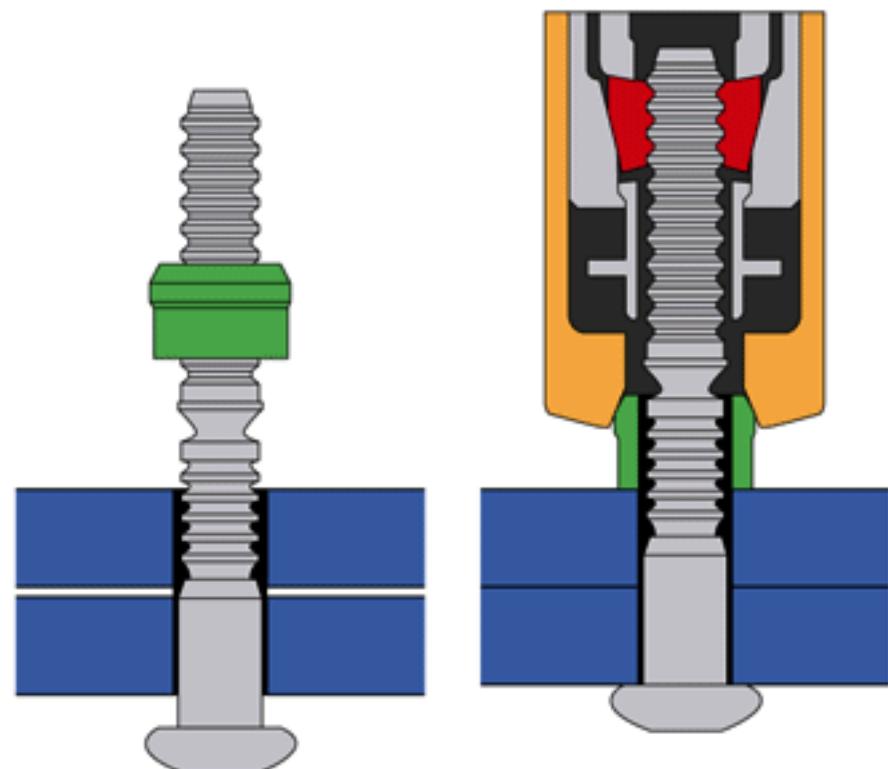
Huck C6L®. The classic 6-groove locking fastener built with staying power.

반세기 전 Huck International의 기술력이 집약되어 개발된 체결시스템 C6L® Lock Bolt는 현재까지도 강력하고 내진성이 요구되는 조건하에서 최고의 제품입니다. C6L만의 Locking Groove 구조는 풀림을 방지하고 지속적인 체결을 보장함으로써 일반 생산장비를 비롯한 HVAC, 트레일러와 컨테이너 Assy, 로터리와 회전식 장치, 철도시설과 전동차 등과 같이 강한 진동이 발생하는 장치에 이상적입니다.

C6L시스템은 재작업 비용, 유지/관리 비용 등 많은 작업 시간과 비용을 줄일 수 있습니다. 예를 들면, C6L은 수분 만에 누구나 아주 간단히 설치가 가능함으로 특별히 훈련된 기술자를 고용할 필요가 없습니다. C6L은 강하고 설치하기 쉬우며, 용접이나 접착 혹은 기존의 볼트/너트 체결시스템보다 훨씬 높은 체결력으로 장시간 변함 없이 체결을 유지 합니다.

일률적 설치와 쉬운 검사를 위한 디자인

C6L의 특별한 디자인은 작업자나 공구에 의한 불량이 없습니다. C6L은 컬러의 스웨이징(Swaging)이 완료되고 핀이 절단되면 C6L이 견고히 설치되었음을 의미 합니다. 재 작업이 필요 없습니다. C6L는 항상 믿을 수 있는 대단히 균일한 체결력을 제공합니다. 가끔의 차수 검사와 간편한 시각적 검사로 충분히 C6L의 설치를 확인할 수 있습니다.



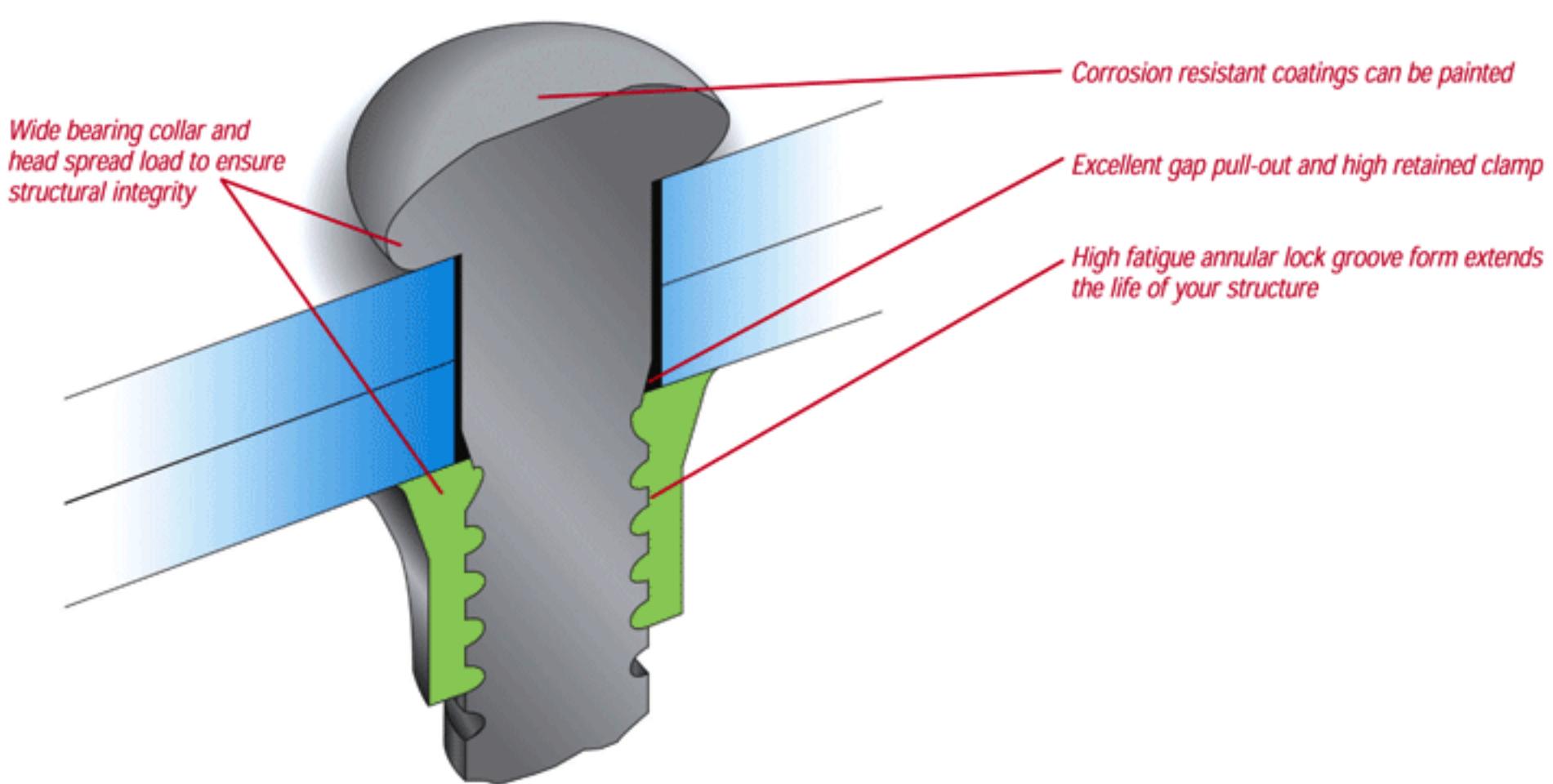
1

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

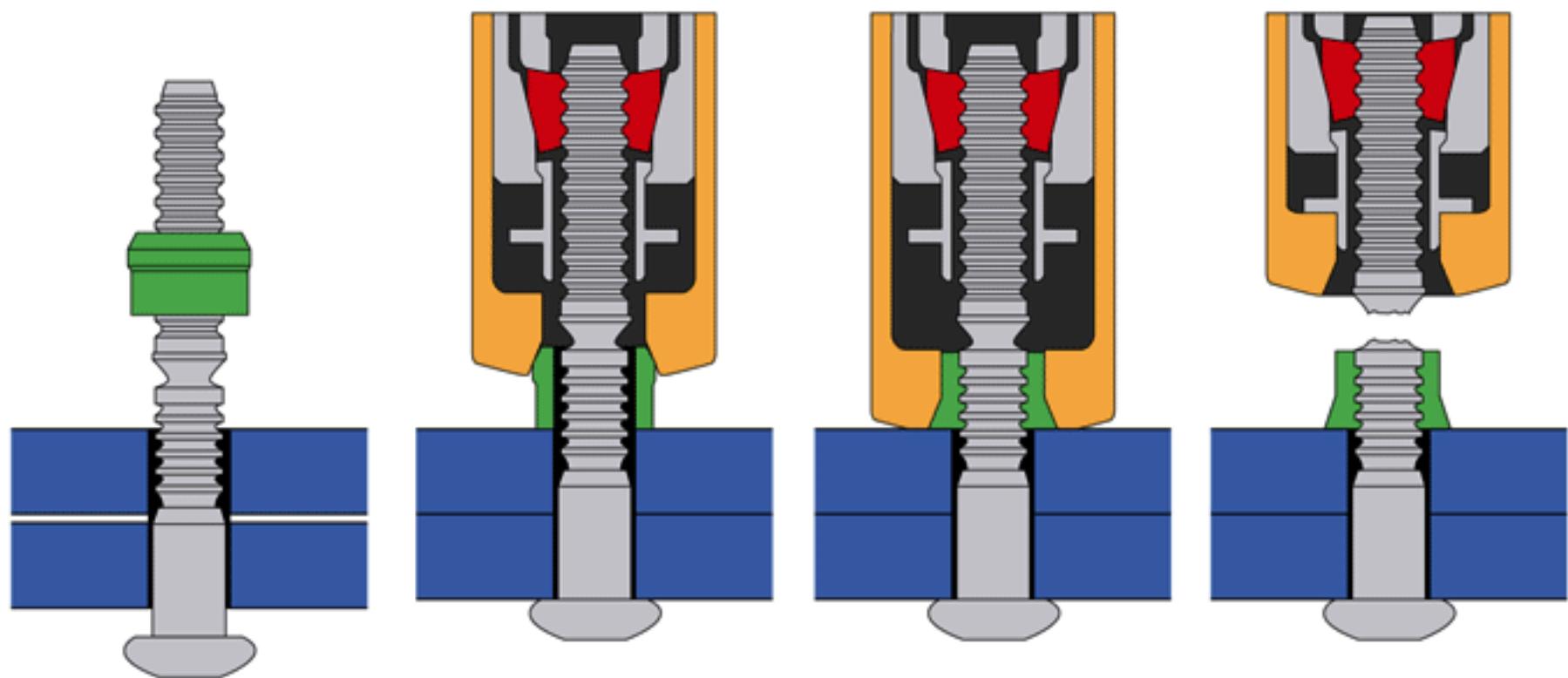
2

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.

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.

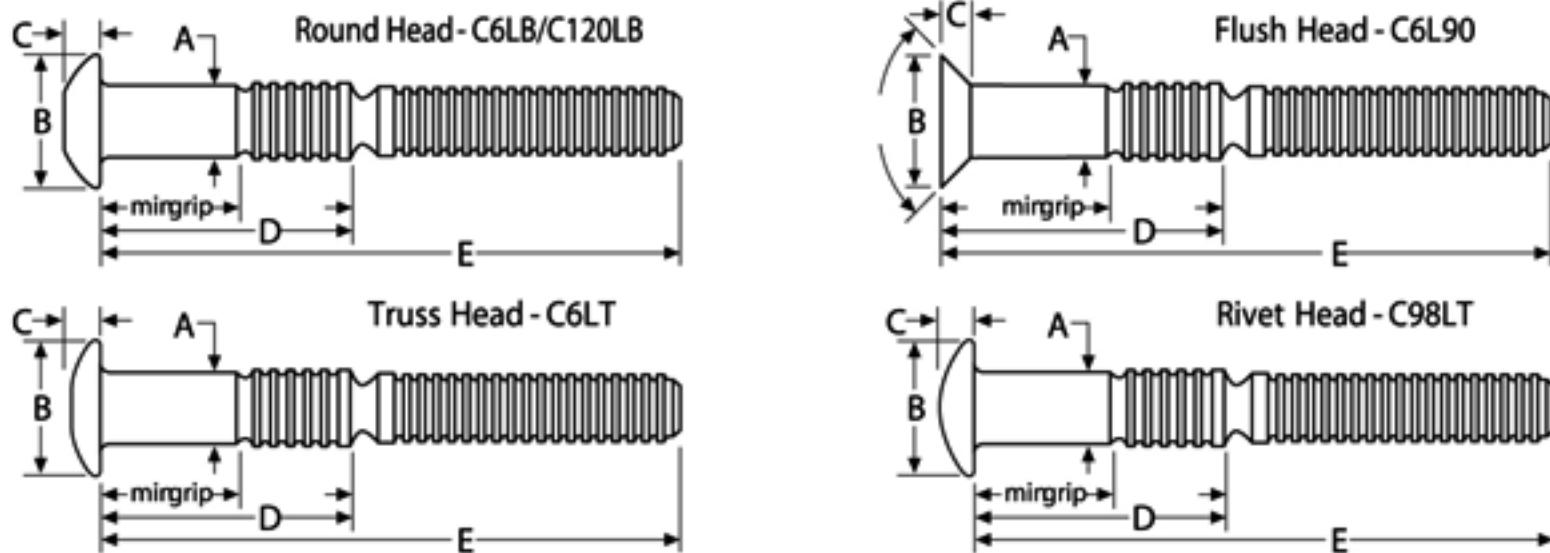
3

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.

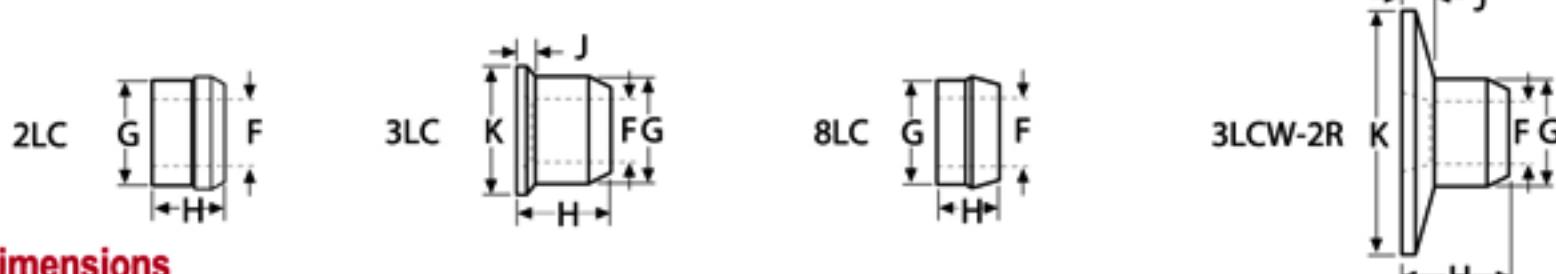
Huck C6L® /C120L®



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.

C6L HUCKBOLT® Fastener Values³ – Grade 2

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			
Dia.	Shear	Clamp	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

³ 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. Plated pins may result in reduced tensile values up to 15%. Use collars and pins together as shown in "values" tables, or contact Huck.

Huck C6L® /C120L®

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	1.591	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

Huck C6L® /C120L®

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 G
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 C6L Huckbolt Collar, Carbon Steel, 1/4 Diameter, Zinc Finish

Type	Material	Diameter	Finish
Standard 2LC	Carbon Steel 2R/R	3/16 6	Zinc G
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 G
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 collar, Carbon Steel, 1/4 Diameter, Zinc Finish

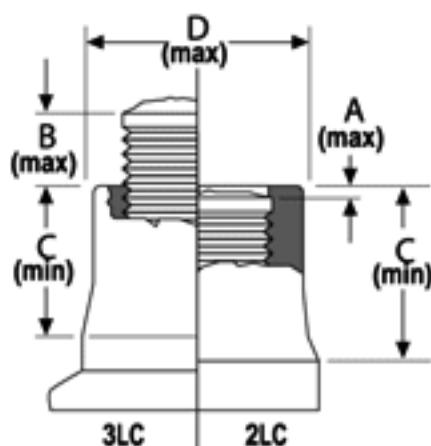
Type	Material	Diameter	Finish
Standard 2LC120	Carbon Steel 2R/R	3/16 6	Zinc G
Flange 3LC120		1/4 8	
		5/16 10	
		3/8 12	

Huck C6L® /C120L®

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

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

Weight:	8.8 lbs.
Length:	7.1"
Height:	14.9"
Width:	4.6"



Model 2025

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



Model 256

Weight:	11.1 lbs.
Length:	7.8"
Height:	14.9"
Width:	6.1"

Hydraulic Tools



Model 2480

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

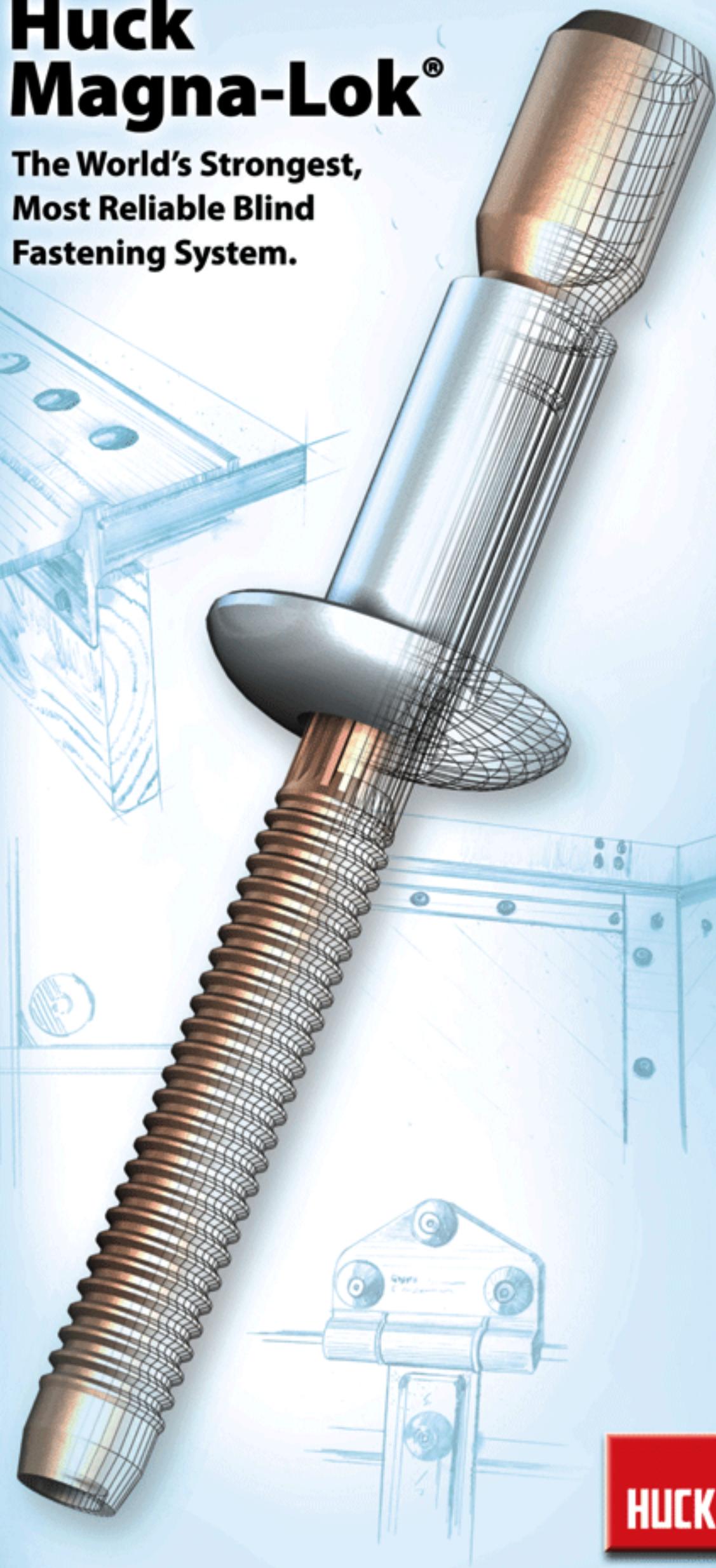


Model 2580

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

Huck Magna-Lok®

The World's Strongest,
Most Reliable Blind
Fastening System.



HUCK®

Magna-Lok®. For a variety of applications, nothing else will do.



20배의 강도

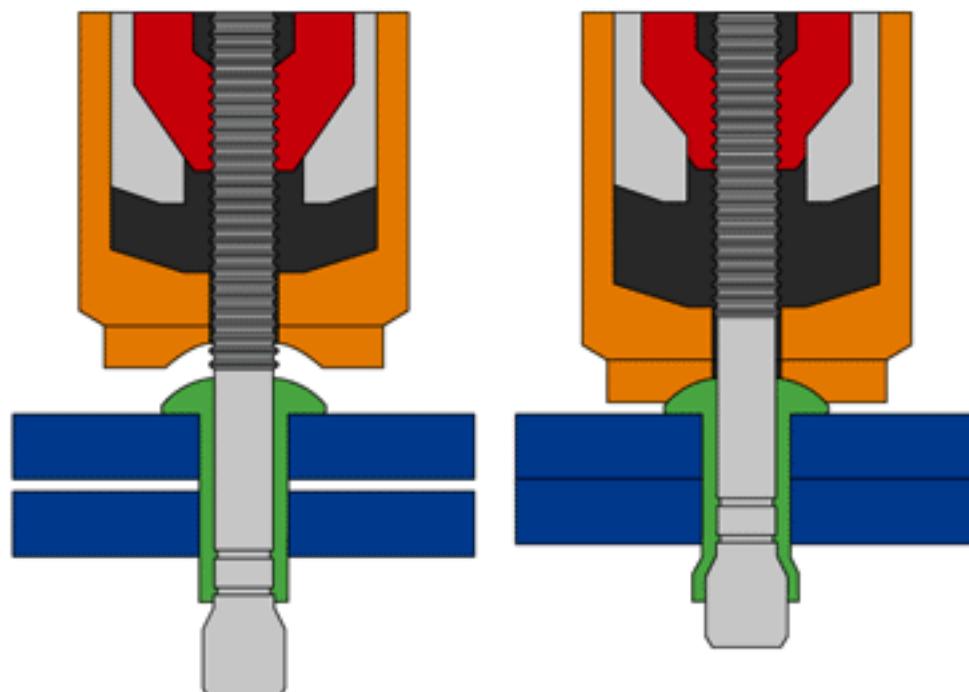
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빠르고 경제적인 설치와 검사

Magna-Lok의 설치는 매우 간단하여 사용자는 2초에 3개의 Magna-Lok을 체결할 수 있습니다. 이러한 속도라면 한 시간에 5,400개의 체결장치를 설치할 수 있습니다. 그리고 한쪽 방향에서만 설치함으로 한 명의 작업자만 요구됩니다. Magna-Lok 시스템을 사용하기 위해서 단지 수분의 교육이면 충분합니다. 사용자의 실수에 상관없이 일정한 정밀도를 구현합니다. 잠금은 반복적이며 부수적인 그라인딩이나 필링 작업이 요구되지 않으며 바로 페인트 칠이 가능합니다. 더욱이 한번 설치 된 후에는 추가적인 체결, X-ray검사가 필요 없습니다.

소음이 적으며 친환경적입니다.

Alcoa 체결 시스템은 작업장내의 소음을 줄이기 위해 회전공구를 사용하지 않습니다. 또한 강력한 공구를 사용하지 않음으로써 작업 피로 누적으로 인한 작업효율 저하를 예방하여 작업효율 높일 수 있습니다.



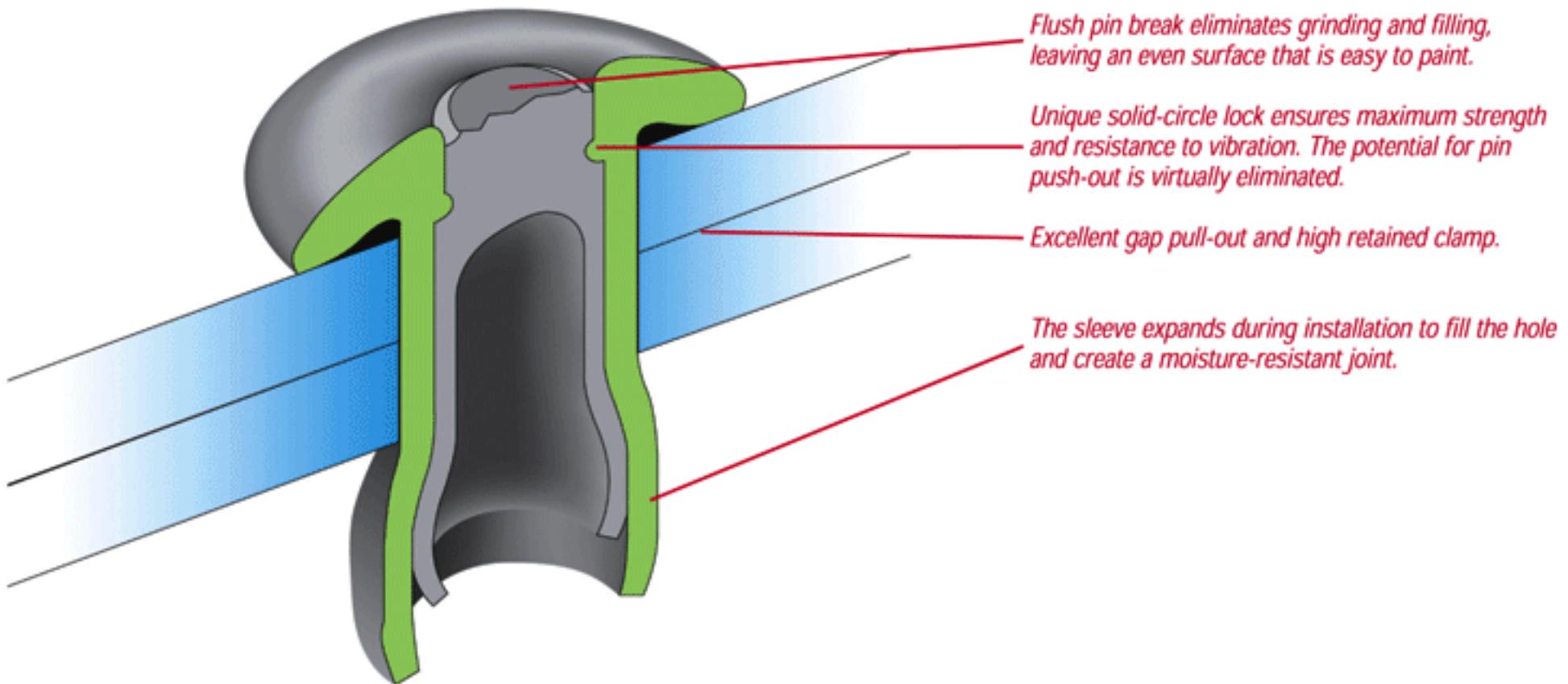
1

The fastener is inserted into the prepared hole. The installation tool and nose assembly is placed over the pintail. The jaws within the nose assembly grip the pintail.

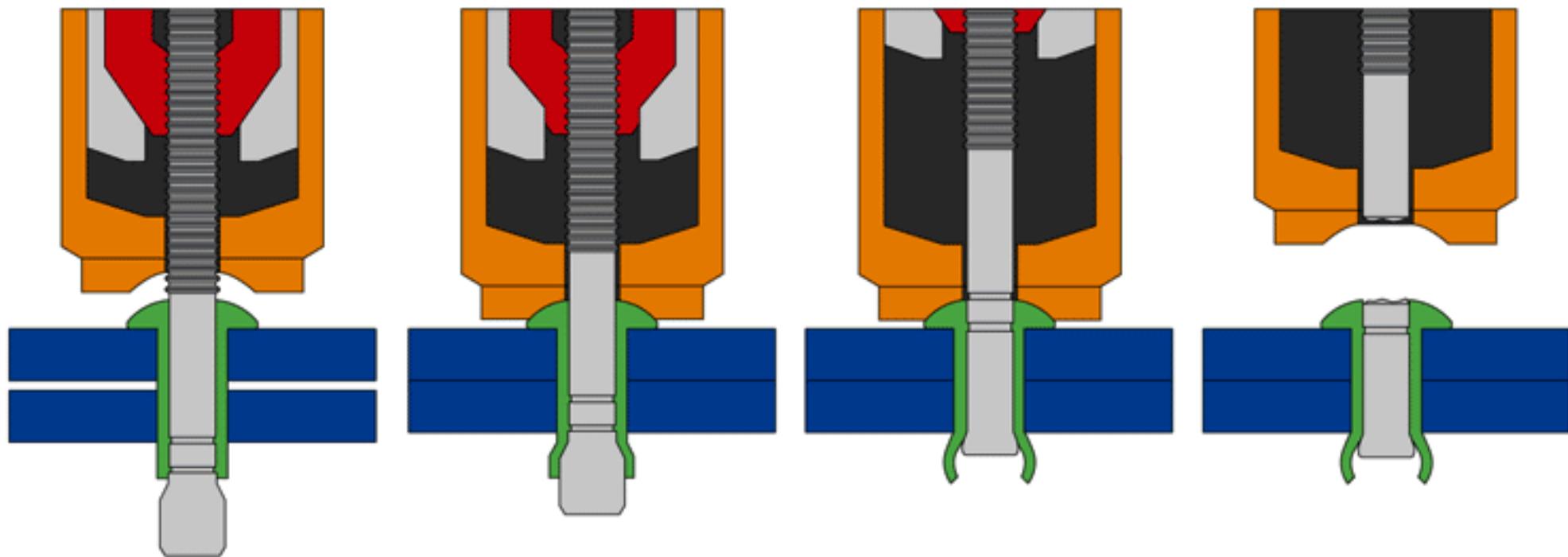
2

The installation tool piston moves rearward pulling the pintail, drawing the work pieces together, and forming an expanding sleeve on the blind side.

Huck Magna-Lok®



Installation Sequence



1

The fastener is inserted into the prepared hole. The installation tool and nose assembly is placed over the pintail. The jaws within the nose assembly grip the pintail.

2

The installation tool piston moves rearward pulling the pintail, drawing the work pieces together, and forming an expanding sleeve on the blind side.

3

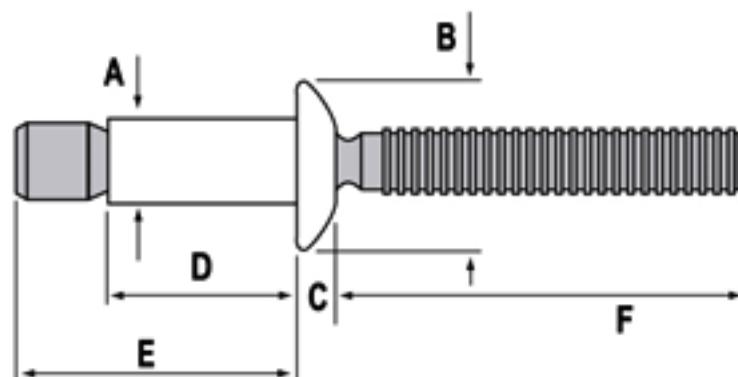
Continued pulling on the pintail draws the pin inside the sleeve completing expansion within the sleeve and hole. A solid circle lock between the pin and sleeve is formed after the pin is seated.

4

The tool piston continues moving rearward, breaking the pintail at the breakneck and completing the installation.

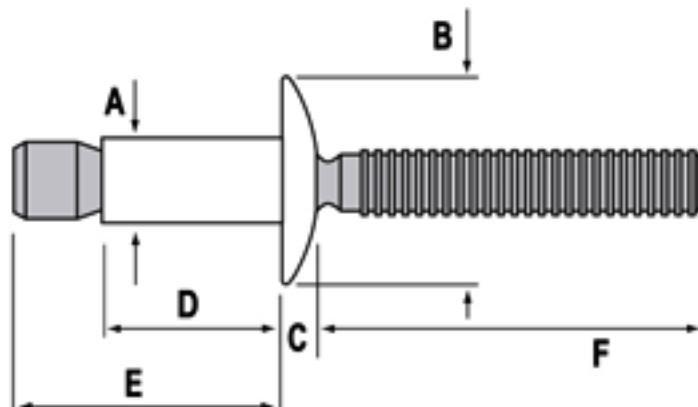
Huck Magna-Lok®

Grip Data and Dimensions : 6 (3/16"), 8 (1/4"), 12 (3/8")



Protruding Head

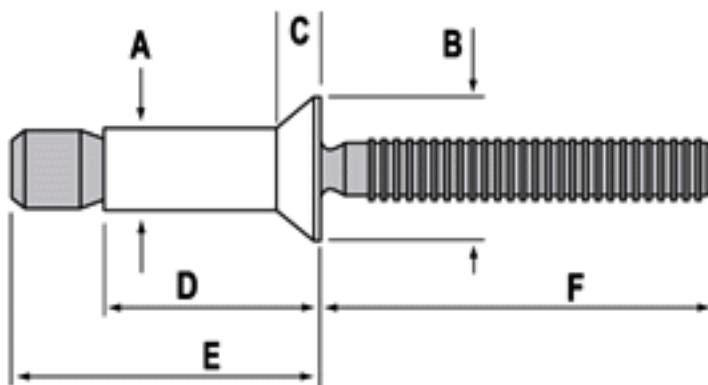
Dia.	Steel	Aluminum	Stainless	Grip Range	Hole Size	A	B	C	D	E	F
6 (3/16)	MGLP-R6-4	MGLP-B6-4	MGLP-U6-4	.062-.270	.191-.201	.187	.385	.085	.415	.675	1.00
	MGLP-R6-7	MGLP-B6-7	MGLP-U6-7	.214-.437	.191-.201	.187	.385	.085	.572	.825	1.00
	MGLP-R6-E	MGLP-B6-E	MGLP-U6-E	.062-.437	.191-.201	.187	.385	.085	.572	.950	1.00
	MGLP-R6-10		MGLP-U6-10	.455-.665	.191-.201	.187	.385	.085	.810	1.105	1.00
8 (1/4)	MGLP-R8-6	MGLP-B8-6	MGLP-U8-6	.080-.375	.261-.272	.253	.525	.117	.560	.970	1.00
	MGLP-R8-10	MGLP-B8-10	MGLP-U8-10	.350-.625	.261-.272	.253	.525	.117	.810	1.220	1.00
	MGLP-R8-14			.580-.875	.261-.272	.253	.525	.117	1.060	1.499	1.00
	MGLP-R8-18			.830-1.125	.261-.272	.253	.525	.117	1.310	1.799	1.00
12 (3/8)	MGLP-R8-22			1.080-1.375	.261-.272	.253	.525	.117	1.560	1.999	1.00
	MGLP-R8-E	MGLP-B8-E	MGLP-U8-E	.080-.625	.261-.272	.253	.525	.117	.810	1.405	1.00
	MGLP-R12-12	MGLP-B12-12	MGLP-U12-12	.120-.625	.392-.408	.386	.787	.175	.830	1.650	1.545
	MGLP-R12-18	MGLP-B12-18	MGLP-U12-18	.625-1.125	.392-.408	.386	.787	.175	1.40	2.215	1.545



Truss Head

Dia.	Steel	Aluminum	Grip Range	Hole Size	A	B	C	D	E	F
6 (3/16)	MGLT-R6-4	MGLT-B6-4	.062-.270	.191-.201	.187	.513	.085	.415	.710	1.00
	MGLT-R6-7	MGLT-B6-7	.214-.437	.191-.201	.187	.513	.085	.572	.865	1.00
	MGLT-R6-E	MGLT-B6-E	.062-.437	.191-.201	.187	.513	.085	.572	1.015	1.00
	MGLT-R8-6	MGLT-B8-6	.080-.375	.261-.272	.253	.588	.117	.560	.970	1.00
8 (1/4)	MGLT-R8-10	MGLT-B8-10	.350-.625	.261-.272	.253	.588	.117	.810	1.220	1.00
	MGLT-R8-E	MGLT-B8-E	.080-.625	.261-.272	.253	.588	.117	.810	1.405	1.00

Huck Magna-Lok®



100° Flush Head

Dia.	Steel	Aluminum	Stainless	Grip Range	Hole Size	A	B	C	D	E	F
6 (3/16)	MGL100-R6-6	MGL100-B6-6	MGL100-U6-6	.125-.331	.191-.201	.188	.345	.070	.486	.795	1.00
	MGL100-R6-9	MGL100-B6-9	MGL100-U6-9	.305-.500	.191-.201	.188	.345	.070	.653	.962	1.00
8 (1/4)	MGL100-R8-8	MGL100-B8-8	MGL100-U8-8	.160-.475	.261-.272	.253	.405	.079	.660	1.059	1.00
	MGL100-R8-12	MGL100-B8-12	MGL100-U8-12	.415-.725	.261-.272	.253	.405	.079	.910	1.309	1.00
				.470-1.000	.261-.272	.253	.405	.079	1.185	1.780	1.00
12 (3/8)	MGL100-R12-12			.240-.750	.392-.408	.386	.627	.127	1.02	1.670	1.00
				.740-1.250	.392-.408	.386	.627	.127	1.520	2.230	1.00

Typical Installed Values in Nominal Grip

Material	Diameter	Shear		Tensile		Pin Retention	
		Min	Typical	Min	Typical	Min	Typical
Steel	3/16	1300	1450	1000	1200	150	300
	8 (1/4)	2500	2750	1850	2200	300	400
	10 (3/8)	6000	6000	4000	4000	600	800
Aluminum	3/16	600	700	500	500	75	75
	8 (1/4)	1300	1300	890	890	100	100
	10 (3/8)	2550	3120	1500	1860	250	270
Stainless	3/16	1300	1600	950	1100	100	150
	8 (1/4)	2350	2500	1800	2000	200	250
	10 (3/8)	5300	5300	4000	4000	450	450



The grip range view:

For applications requiring a wide grip range, or multiple applications with similar requirements, the extended-grip Magna-Lok is capable of spanning the range of several conventional blind rivets. This versatility can eliminate as many as six standard rivets, reducing inventory, rework, and cost. Shown here, the MGLP-R8-E performs perfectly at .080 inch or .625 inch.



The installed view:

Magna-Lok's internal 360° solid-circle lock ensures a flush pin break each and every time. This unique feature also assures a uniform blind-side footprint throughout the grip range. Combined with the hole filling feature, the Magna-Lok produces consistent mechanical values.

Huck Magna-Lok®

Ordering Information

Follow the form below to construct a part number for ordering Huck Magna-Lok blind fasteners. Refer to the Grip Data chart for grip numbers.

MGL (STYLE) - (MATERIAL) (DIAMETER) (GRIP NUMBER)

Example: **MGLP-R6-4** is a Protruding Head Magna-Lok, Steel, 3/16" Diameter.

Style	Material	Diameter
Protruding Head P	Steel R	3/16 6
Truss Head T	Aluminum B	1/4 8
100° Flush Head 100	Stainless Steel U	3/8 12

Materials and Finishes

Material	Sleeve	Pin	Sleeve Finish	Pin Finish
Steel	Low Carbon Steel	Medium Carbon Steel	Zinc Plated Clear Chromate	Zinc Plated Clear Chromate
Aluminum	5000 Series	7000 Series	Clear Chromate	Clear Chromate
Stainless	300 Series	300 Series	Passivated	Dry Lubricated

Installation Tools

Tool Model	Size	Air Driven Tools					Hydraulic Tools	
		255/256	2015	2022	2024	2025	AK175-I	2480 2580
Nose Assembly	3/16"	99-3327	Included	99-3303	99-3303	99-3303	120982	99-3303
	3/16" & 1/4"	99-3487*		99-3487*	99-3487*	99-3487*		
	1/4"	99-3228	Included**	99-3305	99-3305	99-3305	202142	99-3305
	3/8"	99-3318						99-3318

* Not for high volume installation.

** Not for use with steel fasteners - aluminum only.

Hydraulic Tools



Model 2480

Weight:	2.2 lbs
Length:	8.6"
Height:	6.5"
Width:	1.9"



Model 2580

Weight:	6.6 lbs
Length:	8.4"
Height:	6.5"
Width:	2.2"

Huck Magna-Lok®

Air Driven Tools

**Model 2025**

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

**AK175-I Air Powered
Hydraulic Riveter Kit**

Weight:	28 oz.
Length:	7.2"
Height:	6"
Width:	1"

**Model 255 256**

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

**Model 2022**

Weight:	5.4 lbs.
Length:	9.2"
Height:	12.5"
Width:	4.36"

**Model 2015**

Weight:	4.9 lbs.
Length:	10.6"
Height:	12"
Width:	3.48"

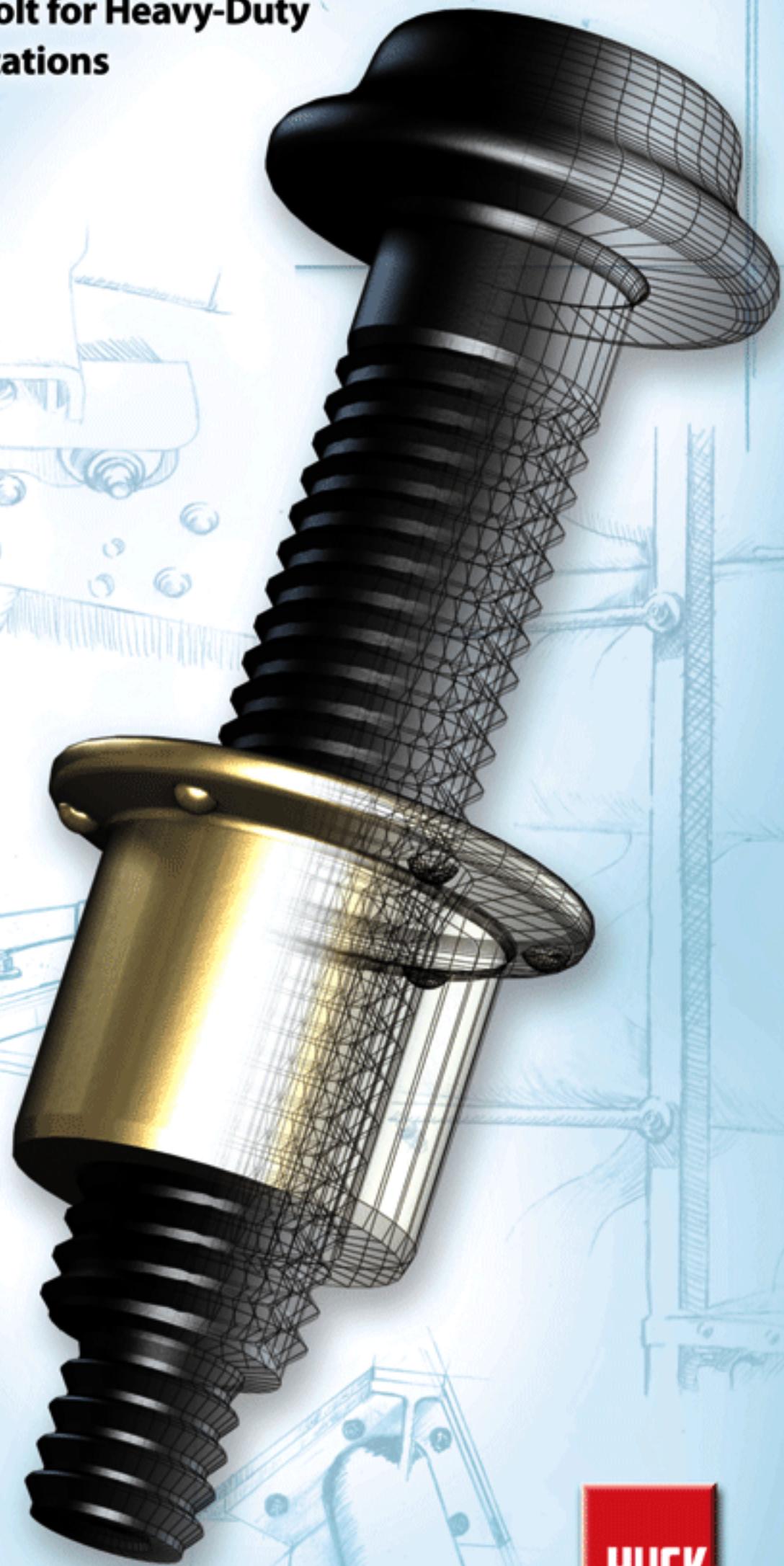
**Model 2024**

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

Recommended for high volume production.

Huck BobTail® System

The Next-Generation
LockBolt for Heavy-Duty
Applications



HUCK

Record installation times and precision engineered tooling make BobTail® the most advanced fastening system in the industry.

기록적인 설치시간과 정밀하게 엔지니어링 된 공구는 BobTail®을 업계에서 가장 첨단화된 체결 시스템으로 자리매김 하게 하였습니다.

트럭과 레일 산업 분야의 매우 무거운 중량물(Part, Assy)간의 결합(체결)을 위해 BobTail® 시스템은 최고성능을 발휘하는 제품으로 만들어졌습니다. 폭 넓은 사이즈와 등급으로 생산 되고 있으며, 낮은 설치비용과 조립 및 수리 시 높은 사용자 안전성을 제공하고 해당 장치에 매우 정밀하게 맞추어 집니다.



설치시간 2초

BobTail시스템은 2초라는 매우 빠른 설치시간을 달성하고 있습니다. 아울러 빠르고 간편한 육안 검사만으로도 체결상태를 검사할 수 있습니다.

경량, 진보된 기술력의 공구

Alcoa 체결시스템의 특허 Swageforward® 기술로 인하여 BobTail공구는 설치과정을 빠르고 간편하게 해 줍니다. BobTail 공구는 작업자에게 더 많은 접근성을 부여하며 어려운 작업 구역까지 접근이 가능하도록 해 줍니다.

안전하고 조용한 성능

정밀한 기술이 적용된 BobTail Tool은 핀 브레이크 없이 설치가 되어서 현장의 노이즈 감소 및 작업자 청력안전에 기여합니다. 이물질로 인한 손상(FOD)과 헐거워진 핀테일 부상이 없어집니다. 아울러 BobTail 공구는 부드럽고, 쇼크가 없는 설치를 가능하게 하며 작업자의 실수가 없어지고 전체적인 안전도가 높아집니다.

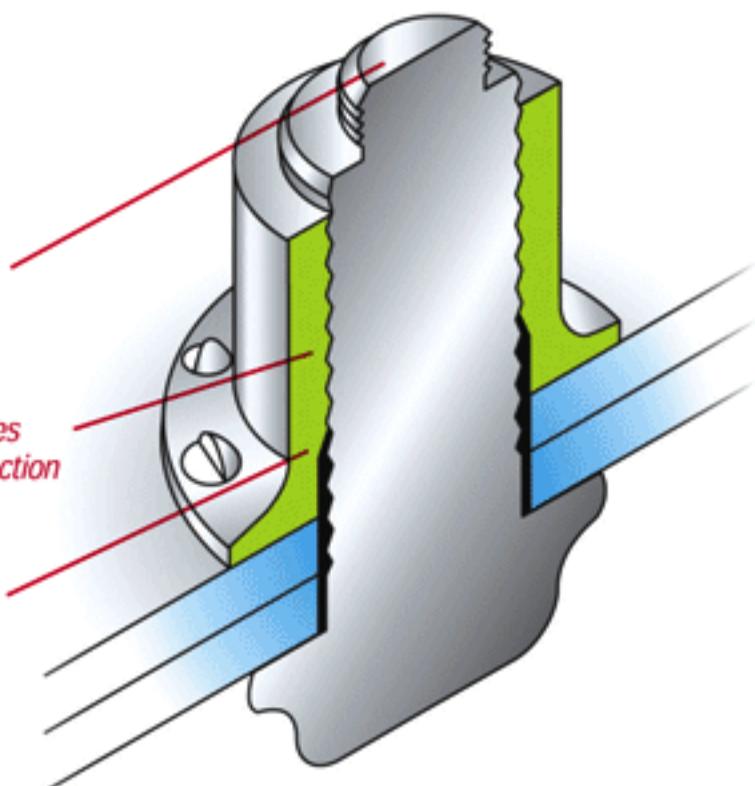
비용효율적인 운전

부드럽게 운전하는 BobTail 공구는 장시간 동안 점검과 부품의 교체 없이도 사용할 수 있도록 하여 공구의 유지관리 주기를 연장시켜 줍니다. 따라서 부품비용 및 전체적인 유지비용이 줄어들며 시스템 가동시간이 늘어납니다.

Pintailless design means 2 second installations, no noise and no waste. Without a break-away pintail, there is no initiation point for corrosion, eliminating secondary operations on the fastener.

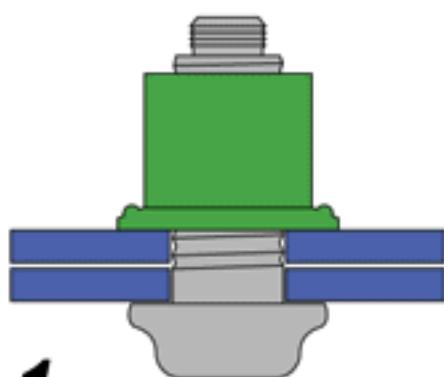
Collar material swaged into the lockgrooves forms a permanent, vibration-proof connection that ensures the integrity of the joint.

Low-swage technology allows for faster, lighter tooling with parts that last longer.

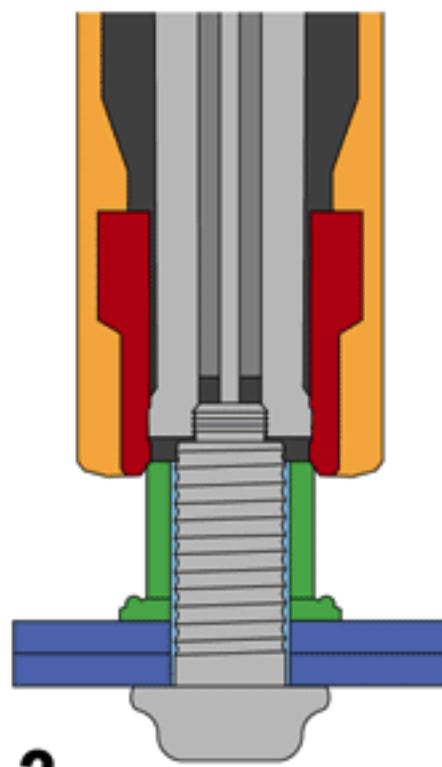


Huck BobTail® System

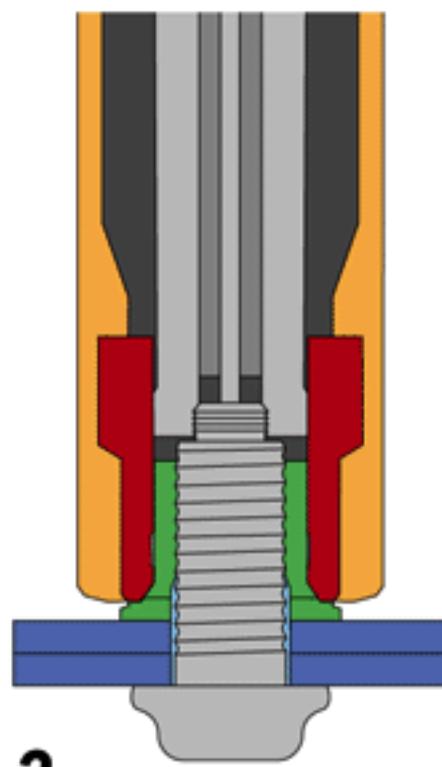
Installation Sequence

**1**

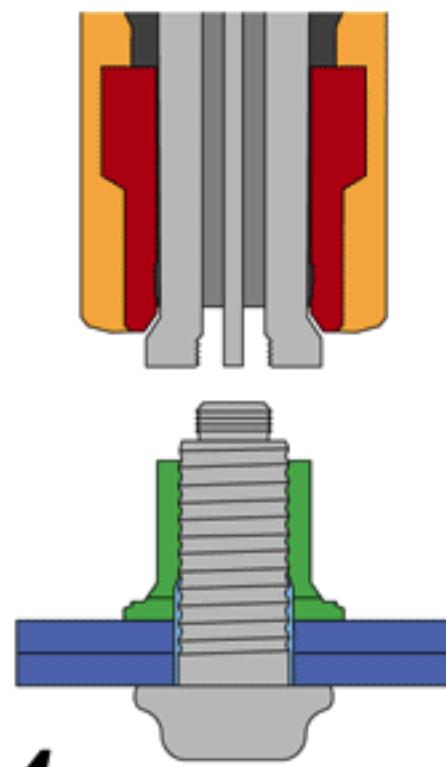
The pin is inserted into the prepared hole and the collar is spun onto the pin down to the sheet line.

**2**

The installation tool is applied to annular pull grooves. When the tool is activated, pullers in the nose assembly draw the pin into the tool, causing the swaging anvil to press on the collar, creating a standoff load that draws up any sheet gap.

**3**

At a predetermined force, the anvil begins to swage the collar into the pin's lockgrooves. Continued swaging elongates the collar and pin developing precise clamp.

**4**

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

Tool Specifications

Model	Weight lbs.	Length in. (cm)	Height in. (cm)	Width in. (cm)
Model BTT20SF	11.5	16.61 (6.54)	23.19 (9.13)	7.3 (2.88)
Model BTT25 (12mm nose)	10.5	34.77 (13.69)	6.32 (2.49)	—
Model BTT25 (14mm nose)	10.5	34.95 (13.76)	6.32 (2.49)	—
Model BTT35	14.0	32.11 (12.64)	6.03 (2.37)	—
Model BTT35R	16.0	50.65 (19.94)	6.99 (2.75)	—
Model BTT57 (20mm nose)	26.0	48.01 (18.90)	8.99 (3.54)	—
Model BTT57 (22mm nose)	28.5	48.01 (18.90)	8.99 (3.54)	—



Model BTT20SF

Model BTT35



For the Long Haul™

The Benefits of Huck Fastening Systems

Huck fastening systems deliver a number of important benefits, making them the worldwide leader.

- Easy to use – consistent accuracy with little operator training required
 - High productivity – reducing installation time by 25% to 50%
 - Reduced QC procedures – a visual inspection is sufficient to verify a correct installation
 - Consistent high-clamp performance – typically much higher than with conventional fasteners
 - Durability – extremely high clamp force retention, with 10% to 20% greater fatigue life than conventional threaded fasteners
-

**Alcoa
Fastening
Systems**



One Great Connection™

SHIN SUNG MACHINERY TOOLS Co.

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Authorized Distributor of Alcoa Fastening Systems