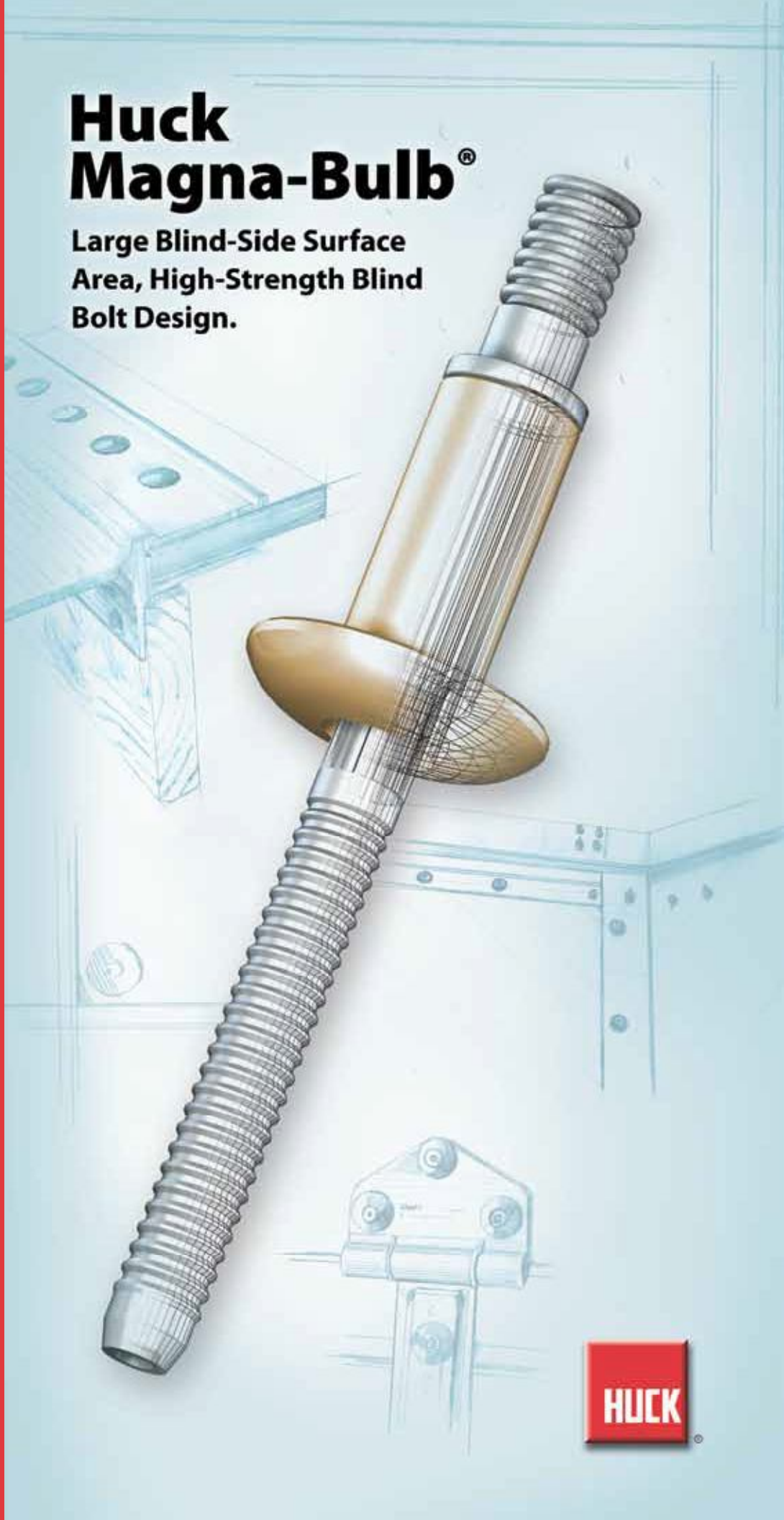
Alcoa Fastening Systems

ALCOA

Huck Magna-Bulb®

Large Blind-Side Surface Area, High-Strength Blind Bolt Design.



HUCK®

Alcoa Fastening Systems

The unique design of Magna-Bulb® ensures a tight fit, no matter what the application.

The Magna-Bulb® blind fastening system from Alcoa was designed to ensure a strong hold and tight joints within a wide variety of materials, including plastic, fiberglass, metal, and composite fabrication.

The wide, blind footprint design is the key. Magna-Bulb was engineered specifically for blind side sheets, featuring a broader bearing surface which helps to spread the load over more area. Ultimately, this creates a stronger, longer-lasting connection.

What's more, an internal mechanical solid-circle lock design adds pin retention strength. And the wide bulb on the blind side eliminates pull-through with thin materials. So even on low-strength materials, Magna-Bulb creates a full-strength joint.

Environment and budget friendly installation.

Because Magna-Bulb fasteners aren't installed with torque wrenches, welding equipment, or riveters' hammers, they offer an inherently quieter work environment.

And since workers experience fewer injuries and less fatigue using our revolutionary tooling system, you'll experience added cost savings.

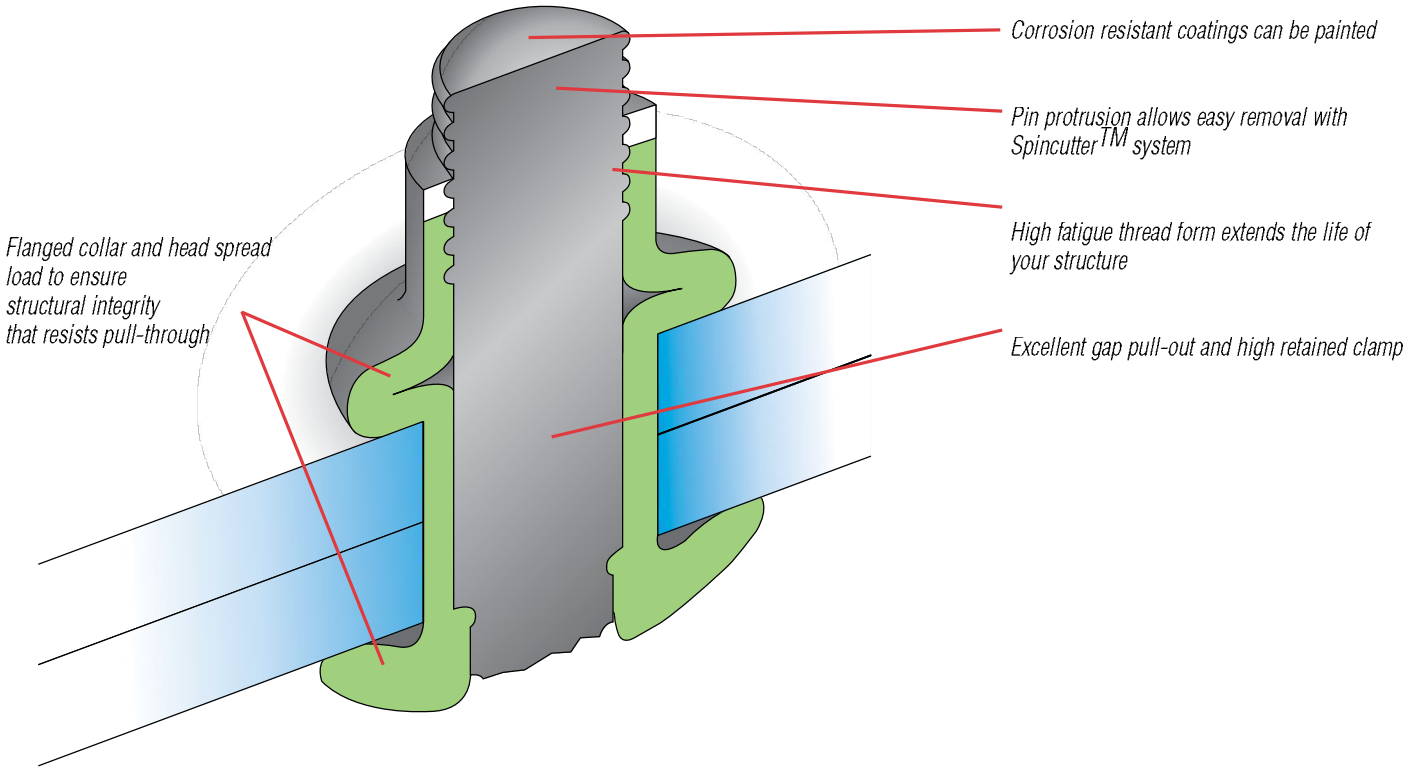
Easy, one-step operation and inspection.

The Magna-Bulb system eliminates the need to hire certified welders or specially trained employees, because workers can be instructed to install these foolproof fasteners in 10 minutes. Installations are more accurate than other fasteners of the same kind, because the element of human error is not an issue. In other words, correct installation doesn't depend on operator skill or specialized tools. If the core pin is flush, then the installation is successful; a quick visual inspection is all you need. Torque inspections or x-rays aren't necessary. And the lock is repeatable –there's no need to grind or fill.

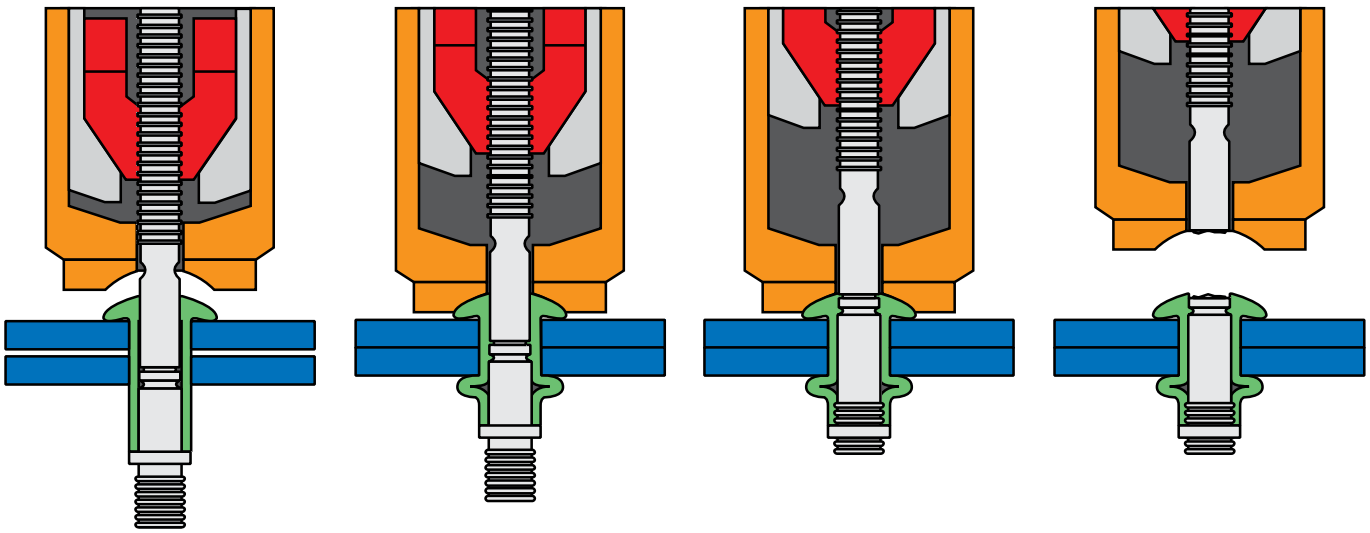
Strong support.

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

Huck Magna-Bulb®



Installation Sequence



1

The pin is inserted into the prepared hole while the collar is threaded onto the pin by hand.

2

The installation tool spins onto the threaded pin, clamping the work together tightly.

3

The tool simultaneously pulls up on the pin while pushing down the collar, pressing or swaging the collar material into the threads of the fastener for a secure, permanent joint.

4

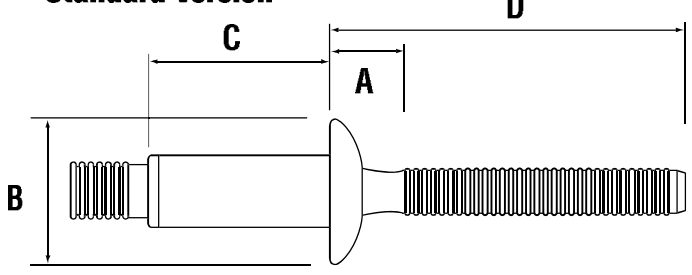
The pintail breaks off and the tool spins off, completing the installation in about half the time required for an ordinary torqued fastener.

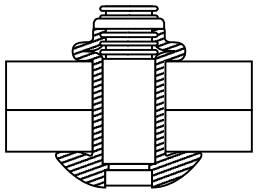
Small Diameter Blind Rivet

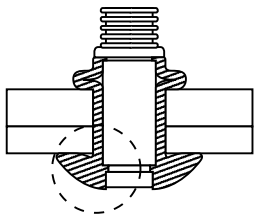
Diameter	Pin/Part Number Standard	Pin/Part Number Clearance	Grip Range	A Shank Length (ref.) Standard	A Shank Length (ref.) Clearance	B Underhead Length (max.) Standard	B Underhead Length (max.) Clearance	C Head Height (max.)
3/16"	MBP-R6-M 2	N/A	.075 - .110			0.608		0.101
3/16"	MBP-R6-M 3	N/A	.087 - .150			0.688		0.101
3/16"	MBP-R6-M 4	N/A	.126 - .189			0.711		0.101
3/16"	MBP-R6-M 5	N/A	.165 - .228			0.750		0.101
3/16"	MBP-R6-M 6	N/A	.205 - .268			0.790		0.101
3/16"	MBP-R6-M 7	N/A	.244 - .307			0.829		0.101
3/16"	MBP-R6-M 8	N/A	.283 - .347			0.869		0.101
3/16"	MBP-R6-M 9	N/A	.323 - .386			0.908		0.101
3/16"	MBP-R6-M10	N/A	.362 - .425			0.947		0.101
3/16"	MBP-R6-M11	N/A	.402 - .465			0.987		0.101
3/16"	MBP-R6-M12	N/A	.441 - .504			1.026		0.101
3/16"	MBP-R6-M13	N/A	.481 - .544			1.066		0.101
3/16"	MBP-R6-M14	N/A	.520 - .583			1.105		0.101
1/4"	MBP-R8-M 2	N/A	.060 - .138			0.795		0.125
1/4"	MBP-R8-M 3	N/A	.110 - 189			0.882		0.125
1/4"	MBP-R8-M 4	N/A	.150 - .229			0.962		0.125
1/4"	MBP-R8-M 5	N/A	.189 - .268			0.934		0.125
1/4"	MBP-R8-M 6	N/A	.229 - .308			0.969		0.125
1/4"	MBP-R8-M 7	N/A	.268 - .346			1.008		0.125
1/4"	MBP-R8-M 8	N/A	.308 - .387			1.048		0.125
1/4"	MBP-R8-M 9	N/A	.346 - .425			1.087		0.125
1/4"	MBP-R8-M10	N/A	.387 - .466			1.121		0.125
1/4"	MBP-R8-M11	N/A	.425 - .504			1.166		0.125
1/4"	MBP-R8-M12	N/A	.466 - .545			1.206		0.125
1/4"	MBP-R8-M13	N/A	.504 - .583			1.245		0.125
1/4"	MBP-R8-M18	N/A	.701 - .780			1.441		0.125
1/4"	MBP-R8-M19	N/A	.741 - .820			1.452		0.125
1/4"	MBP-R8-M32	N/A	1.252 - 1.331			1.994		0.125
5/16"	MBP-R10- 3	N/A	.150 - .250			1.105		0.152
5/16"	MBP-R10- 4	N/A	.200 - .300			1.155		0.152
5/16"	MBP-R10- 5	N/A	.250 - .350			1.205		0.152
5/16"	MBP-R10- 6	N/A	.300 - .400			1.255		0.152
5/16"	MBP-R10- 7	N/A	.350 - .450			1.305		0.152
5/16"	MBP-R10- 8	N/A	.400 - 500			1.355		0.152
5/16"	MBP-R10- 9	N/A	.450 - .550			1.405		0.152
5/16"	MBP-R10-10	N/A	.500 - .600			1.455		0.152

Magna-Bulb meets SAE, J429, ASTM A490, and SAE Grade 8 material values.
Also available in SAE Grade 2 and 5. Contact factory for details.

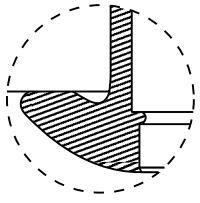
Standard Version







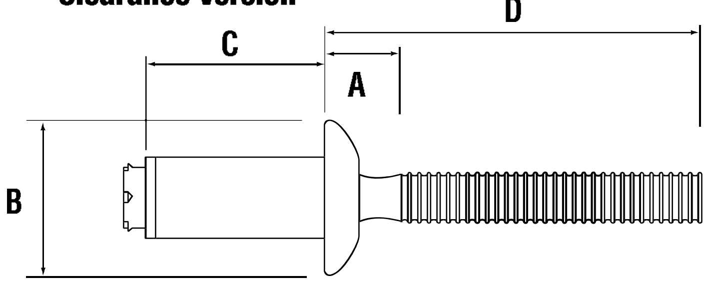
Internal mechanical solid lock ensures unmatched pin retension strength

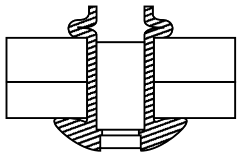


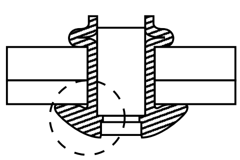
Magna-Bulb®

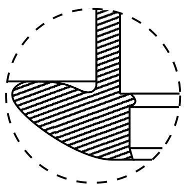
D Head Diameter (max.)	H Collar O D (max.)	Maximum Hole Size (In.)	Tensile Strength (lbs.)	Clamp Strength (lbs.)	Shear Strength (lbs.)	Nose Assembly Number	Tool Number
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.395	0.187	0.201	1,050	150	1,900	99-3303	202, 2015*, 2022, 212, 2025, AK175, 2480
0.530	0.253	0.272	2,000		2,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		2,700	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		2,760	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,000	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,200	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.530	0.253	0.272	2,000		3,600	99-3305	202, 2022, 212, 2025, AK175*, 2480
0.655	0.316	0.34	3,000	450	5,000	99-3307	245, 255, 246, 256, 2580
0.655	0.316	0.34	3,000	450	5,000	99-3307	245, 255, 246, 256, 2580
0.655	0.316	0.34	3,000	450	5,000	99-3307	245, 255, 246, 256, 2580
0.655	0.316	0.34	3,000	450	5,000	99-3307	245, 255, 246, 256, 2580
0.655	0.316	0.34	3,000	450	5,000	99-3307	245, 255, 246, 256, 2580
0.655	0.316	0.34	3,000	450	5,000	99-3307	245, 255, 246, 256, 2580
0.6	0.316	0.34	3,000	450	5,000	99-3307	245, 255, 246, 256, 2580
0.655	0.316	0.34	3,000	450	5,000	99-3307	245, 255, 246, 256, 2580

Clearance Version









Internal mechanical solid lock ensures unmatched pin retension strength

Installation Tools

		Pneudraulic Tools							Hydraulic Tools		
Tool Model	**Size**	**202**	**212**	**245/255**	**246/256**	**2015***	**2022**	**2025**	**AK 175 I****	**2480**	**2580**
Nose Assembly	3/16"	99-3303	99-3303			NT	99-3303	99-3303	NT	99-3303	
	1/4"	99-3305	99-3305				99-3305	99-3305	NT	99-3305	
	5/16"			99-3307	99-3307						99-3307

* Countersunk nose inserts are furnished with tool
** Compatible with AK 175-1

Pneudraulic Tools

Model 202

Weight:	5.1 lbs
Length:	8.6"
Height:	11.5"
Width:	4.105"

Model 246/256 Air Tool

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

Model 212

Weight:	8.50 lbs.
Length:	9.01"
Height:	13"
Width:	1.44"

Model 2015 Air Tool

Weight:	5.6 lbs.
Length:	10.6"
Height:	12"
Width:	3.48"

Model 2022 Air Tool

Weight:	5.4 lbs.
Length:	9.51"
Height:	12.54"
Width:	4.36"

Model 245/255 Air Tool

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

Magna-Bulb® Tooling

Pneudraulic Tools

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

AK 175 I Air Powered Hydraulic Riveter Kit	
Weight:	26 oz.
Length:	7.2"
Height:	6"
Width:	1"

Hydraulic Tools

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

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

MATERIALS AND FINISHES

Material	Sleeve	Pin	Sleeve Finish	Pin Finish
Steel	Low Carbon Steel	Medium Carbon Steel	Zinc Plated Clear Chromate	Zinc Plated Gold Chromate
Aluminum	5056	7075	Clear Chromate	Gold Chromate
Stainless	302	305/304	Passivated	Dry Lubricated

ORDERING INFORMATION

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

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

Example: ***MBP-R10-4*** *is a Standard Collar, Protruding Head, Low Carbon Steel, Zinc Plated, 5/16" Diameter, Grip Range: 4*

Style	
Protruding Head	**P**
Truss Head	**T**
100° Flush Head	**100**

Material	
Steel	**R**
Aluminum	**B**
Stainless Steal	**U**

Diameter	
3/16	**6**
1/4	**8**
5/16	**10**