



HOWMET  
AEROSPACE

# BobTail<sup>®</sup>

The Next Generation  
Small Diameter  
HuckBolt<sup>®</sup>



2

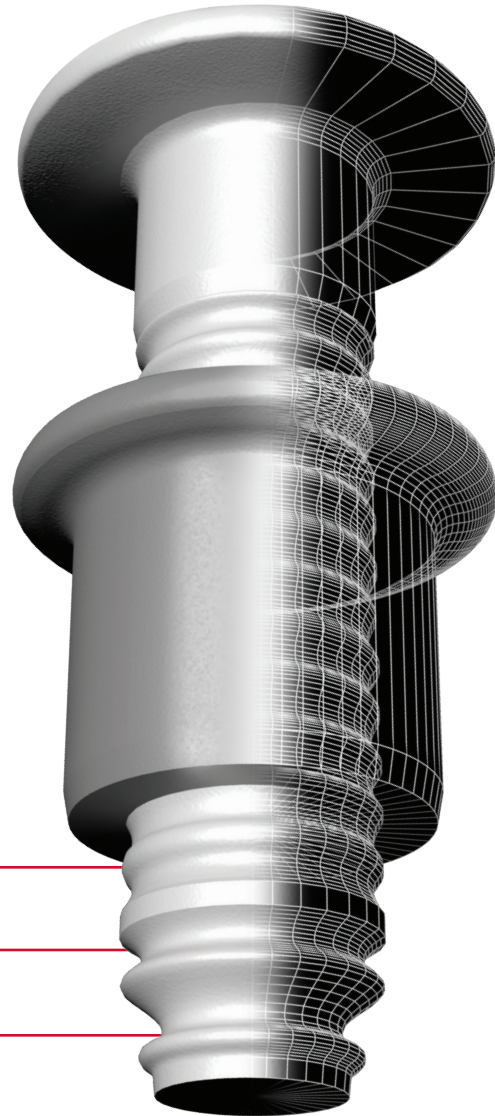
Huck® | BobTail®

# Huck® BobTail®

Engineered for the Highest Level of Performance and Reliability

The Huck® BobTail® system was developed to meet the unique challenges of a wide range of assembly applications, offering safe, quiet, swaged-on installation technology in an advanced HuckBolt® design.

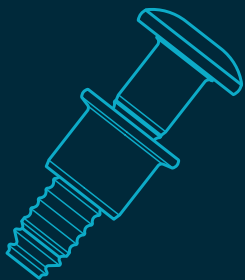
Offering up to 10 times the fatigue strength of conventional nuts and bolts, BobTail delivers ultimate strength, installation speed, and vibration resistance. It has been designed to provide superior joining strength in even the most extreme environments. Available in a wide range of sizes, grades, and materials, BobTail often provides an overall lower installed cost when you factor in the cost of the fasteners with installation speeds and inspection labor.



**Available Sizes** 1/4", 5/16", 3/8"

**Materials** Carbon Steel, Aluminum, Stainless Steel

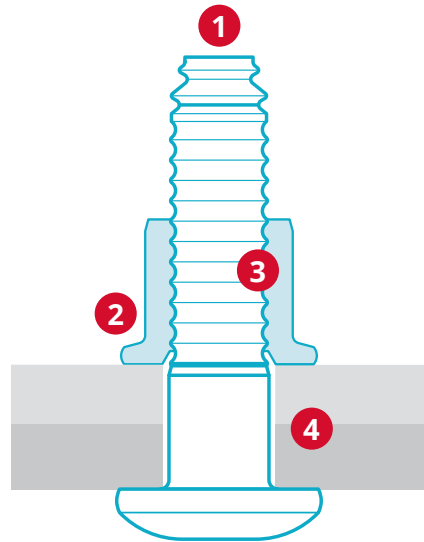
**Headstyles** Trazier, 98T, 90°



- ✓ No pintail
- ✓ Maintenance Free
- ✓ Low overall installed cost
- ✓ Superior strength (fatigue)
- ✓ Vibration resistance
- ✓ Quiet installation
- ✓ No repetitive stress injuries
- ✓ No special training or skills required for installation personnel
- ✓ Quick visual inspection is all that's needed for a quality-assured joint

## Unmatched Speed of Installation

- 1 Pintail-less design means reduced noise, no waste, and improved corrosion resistance.
- 2 Visual evidence of successful installation provided by installation indicator.
- 3 Collar material swaged into the lockgrooves forms a permanent, vibration-resistant connection.
- 4 Low-swage technology allows for faster, lighter, ergonomic tooling with parts that last longer.



**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.

## Quick, Easy Visual Inspection

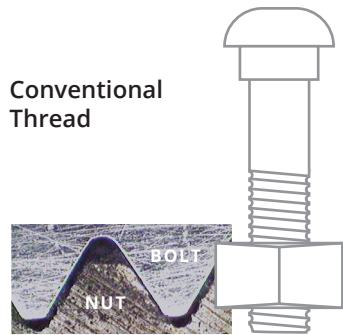


Before Swaging

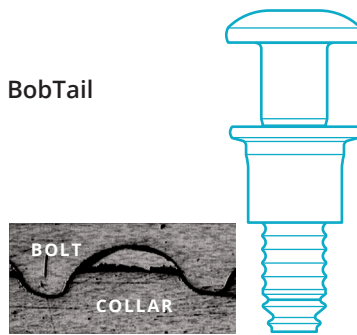
After Swaging

The swaging process deforms collar.

## Decreased Maintenance, Virtually Vibration Proof

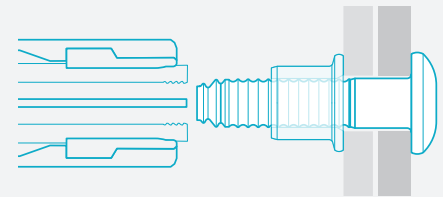


Transverse vibration loosens nut and bolt, requiring constant retightening or replacement.



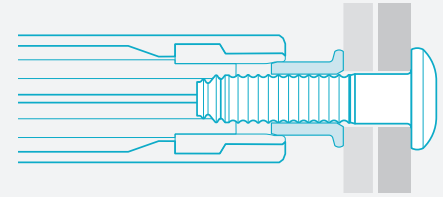
The swaged Bobtail collar forms over the bolt threads, eliminating the gap and reducing vibration.

## Howmet Fastening Systems



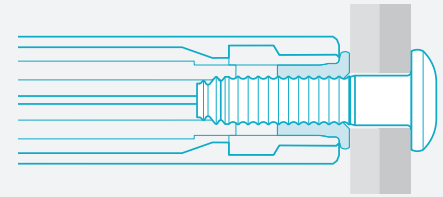
Insert pin into the prepared hole, spin the collar onto the pin.

1



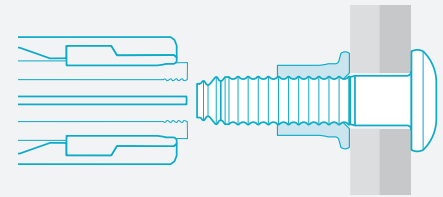
The installation tool is applied to annular pull grooves. When the tool is activated, a puller in the nose assembly draws the pin into the tool, causing the swaging anvil to press on the collar, drawing up any sheet gap.

2



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.

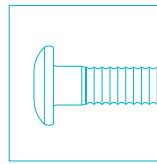
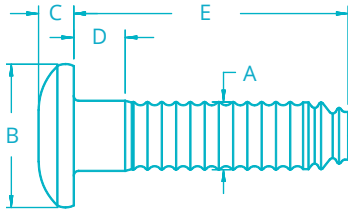
3



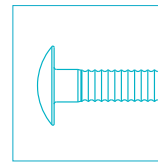
When swaging of the collar into the pin lockgrooves is complete, the tool ejects the fastener and releases the puller to complete the sequence.

4

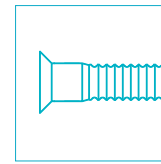
## Data and Dimensions



Trazier



98T



90°

### Fastener Dimensions

DIA.	A (MAX)	TRAZIER		98T		90°	
		B	C	B	C	B	C
1/4"	.249	.537 — .507	.140 — .120	.595 — .545	.155 — .135	.473 — .437	.113 — .104
5/16"	.313	.680 — .640	.175 — .150	—	—	.589 — .547	.141 — .127
3/8"	.374	.820 — .780	.210 — .190	.825 — .775	.210 — .190	.709 — .656	.168 — .152

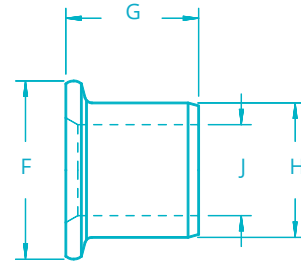
### Grip Tables

GRIP	GRIP RANGE	1/4" (8)		5/16" (10)		3/8" (12)	
		D	E	D	E	D	E
4	.125 — .375	0.187	1.000	0.187	1.156	0.187	1.310
6	.250 — .500	0.312	1.125	0.312	1.281	0.312	1.435
8	.375 — .625	0.437	1.250	0.437	1.406	0.437	1.560
10	.500 — .750	0.562	1.375	0.562	1.531	0.562	1.685
12	.625 — .875	0.687	1.500	0.687	1.656	0.687	1.810
14	.750 — 1.000	0.812	1.625	0.812	1.781	0.812	1.935
16	.875 — 1.125	0.937	1.750	0.937	1.906	0.937	2.060
18	1.000 — 1.250	1.062	1.875	1.062	2.031	1.062	2.185
20	1.125 — 1.375	1.187	2.000	1.187	2.156	1.187	2.310



## Collar Dimensions

DIAMETER	F	G	H	J
1/4"	0.485 — 0.515	0.360 — 0.380	0.396 MAX	0.250 — 0.255
5/16"	0.610 — 0.640	0.458 — 0.478	0.500 MAX	0.316 — 0.322
3/8"	0.730 — 0.770	0.545 — 0.565	0.600 MAX	0.376 — 0.384



## Installed Fastener Values - lbf (kN)

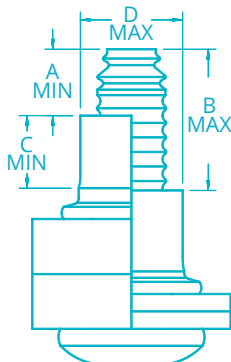
DIA.	CARBON STEEL								
	GRADE 2 R			GRADE 5 BR			GRADE 8 DT		
	CLAMP	TENSILE	SHEAR*	CLAMP	TENSILE	SHEAR*	CLAMP	TENSILE	SHEAR*
1/4"	1,805 (8.0)	3,000 (13.3)	3,050 (13.6)	2,300 (10.2)	3,700 (16.4)	4,300 (19.1)	—	—	—
5/16"	2,810 (12.5)	4,600 (20.5)	4,725 (21.0)	4,200 (18.7)	6,000 (26.7)	6,700 (29.8)	5,000 est (22.1)	7,850 (35.5)	6,550 est (29.9)
3/8"	4020 (17.9)	6,500 (28.9)	6,825 (30.3)	5,980 (26.6)	9,300 (41.4)	9,600 (42.7)	7,400 (33.8)	11,600 (52.4)	9,850 (44.1)

DIA.	ALUMINUM			STAINLESS STEEL					
	2024 C			305 U			430 4U		
	CLAMP	TENSILE	SHEAR*	CLAMP	TENSILE	SHEAR*	CLAMP	TENSILE	SHEAR*
1/4"	950 (4.2)	1,800 (8.0)	1,875 (8.3)	1,805 (8.0)	2,750 (12.2)	3,550 (15.8)	1,805 (8.0)	2,750 (8.0)	2,600 (11.6)
5/16"	1,500 (6.7)	2,850 (12.7)	2,925 (13.0)	2,810 (12.5)	4,250 (18.9)	5,525 (24.6)	2,810 (12.5)	4,250 (18.9)	4,950 (22.0)
3/8"	2,200 (9.8)	4,200 (18.7)	4,200 (18.7)	4,020 (17.9)	6,100 (27.1)	7,950 (35.4)	4,020 (17.9)	6,100 (27.1)	6,000 (26.7)

\* Shear test waived under 6 grip



Should "A" or "B" dimensions exceed the given values, the fastener is out-of-grip. A "C" dimension less than the given values indicates an incomplete swage. A "D" dimension greater than the given values indicates an incorrect or worn anvil on the installation tool.



### Inspection Data

DIA.	A MIN	B MAX	C MIN	D MAX
1/4"	0.225	0.535	0.260	0.361
5/16"	0.280	0.600	0.325	0.457
3/8"	0.345	0.665	0.390	0.542

### Hole Data

DIA.	MAX HOLE
1/4"	0.281
5/16"	0.359
3/8"	0.422

## Ordering Information

Follow the form below to construct a part number for ordering BobTail® pins and their respective collars. Refer to the Grip Tables (page 4) for grip numbers.

### Pins

BT (HEAD STYLE) - (MATERIAL) (DIAMETER) - (GRIP NUMBER) (FINISH)

**Example:** BT-BR8-8GA is a BobTail Pin, Grade 5 Carbon Steel, 1/4" Diameter, Grip 8, Zinc Plated

HEAD STYLE	PREFIX	MATERIAL	CODE	DIA.	CODE	GRIP	FINISH	SUFFIX
Trazier	BT	Grade 2 Carbon Steel	R	1/4"	8	Refer to Grip Table on page 4	Zinc, clear chromate	GA**
98T	BT98T	Grade 5 Carbon Steel	BR	5/16"	10		Geomet, 1 coat	NP
90°	BT90	Grade 8 Carbon Steel*	DT	3/8"	12		Geomet, 2 coats	D1
		2024 Aluminum	C					
		6061 Aluminum	F					
		305 Stainless Steel	U					
		430 Stainless Steel	4U					

\*\*Only available on Grade 2 and Grade 5

\*Grade 8, only available in 5/16", 3/8" on both pin and collar.

### Collars

BTC (GRADE) - (MATERIAL) (DIAMETER) (FINISH) (OPTIONS)

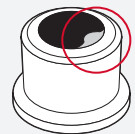
**Example:** BTC5-R8GAHL is a BobTail Collar, Grade 5 Carbon Steel, 1/4" Diameter, Zinc Plated with Tab-Lok

GRADE	PREFIX	MATERIAL	CODE	DIA.	CODE	FINISH	SUFFIX	OPTIONS	CODE
Grade 2	BTC	Low Carbon Steel	R	1/4"	8	Zinc Plate	GAH	Tab-Lok	L
Grade 5	BTC5	5052 Aluminum	2B	5/16"	10	Zinc Plate	UA		
Grade 8	BTC8	6061 Aluminum	I	3/8"	12	Zinc Plate	BL		
		305 Stainless Steel	U						
		430 Stainless Steel	4U						



### 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

## Lightweight, Technologically Advanced Tooling

BobTail tooling makes the installation process quicker and easier by reducing the force required to install each fastener. More compact and lighter weight than previous Huck lockbolt production tooling, BobTail installation tools also offer greater operator flexibility as well as extended reach into difficult areas.

For tight, space-constrained applications, BobTail tools allow the operator to position his or her hand at a safe distance from the working structure during installation.

### Tooling Selection

DIA.	TOOL	INSTALLATION NOSE	CUTTER NOSE
1/4"	BV4500-118	99-7932	99-7932CC
	244BT	99-7932	99-7932CC
	2480	99-7932	99-7932CC
	SFBTT8	99-7930	99-7930CC
5/16"	256BT	99-7923	99-7923CC
	SFBTT8	99-7929	99-7929CC
3/8"	256BT	99-7924	99-7924CC
	SFBTT8	99-7928	99-7928CC

### Tooling Weight and Dimensions

MODEL	TYPE	WEIGHT	LENGTH	HEIGHT	WIDTH
BV4500-118	Battery	5 lbs	14.25"	10.63"	3.75"
244BT	Pneudraulic	6.3 lbs	5.99"	12.79"	1.44"
256BT	Pneudraulic	11 lbs	6.99"	14.85"	1.50"
2480	Hydraulic	2.2 lbs	8.21"	6.55"	1.82"
SFBTT8	Hydraulic	4.0 lbs	3.69"	2.29"	1.70"

## Cost-Efficient Operation

The BobTail System's low swage technology directly contributes to longer tool and component life, while allowing extended tool maintenance cycles. As a result, costs for parts and overall support are reduced, while system uptime is increased.

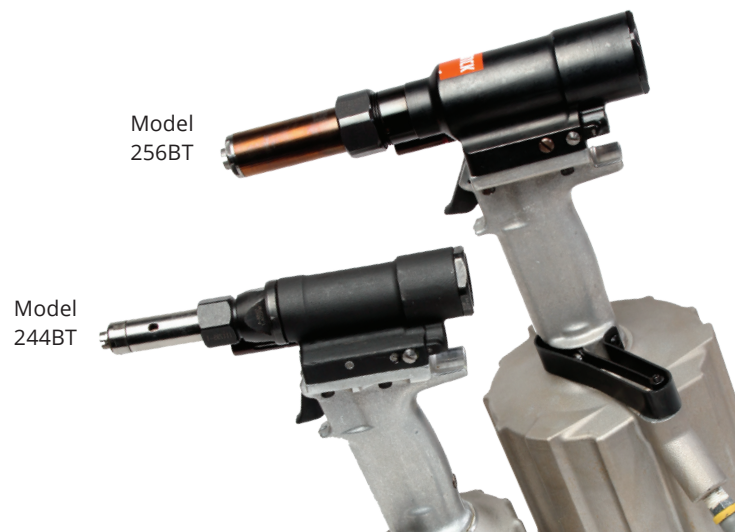
## Safe and Silent Performance

The BobTail fastener is installed without a pin break, contributing to a dramatic reduction of noise on the shop floor, and subsequently, improved worker hearing safety. Instances of foreign object damage (FOD) and loose pintail injuries are eliminated. Because BobTail tooling features a smooth, shock-free installation sequence, repetitive stress injuries are eliminated, and overall safety is increased.



Model SFBTT8

This BobTail installation tool was specifically designed to perform in tight spaces with less than 5-1/2" of clearance.



Model 256BT

Model 244BT



**HOWMET  
AEROSPACE**

# Howmet Fastening Systems

## Industrial Division Brands



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