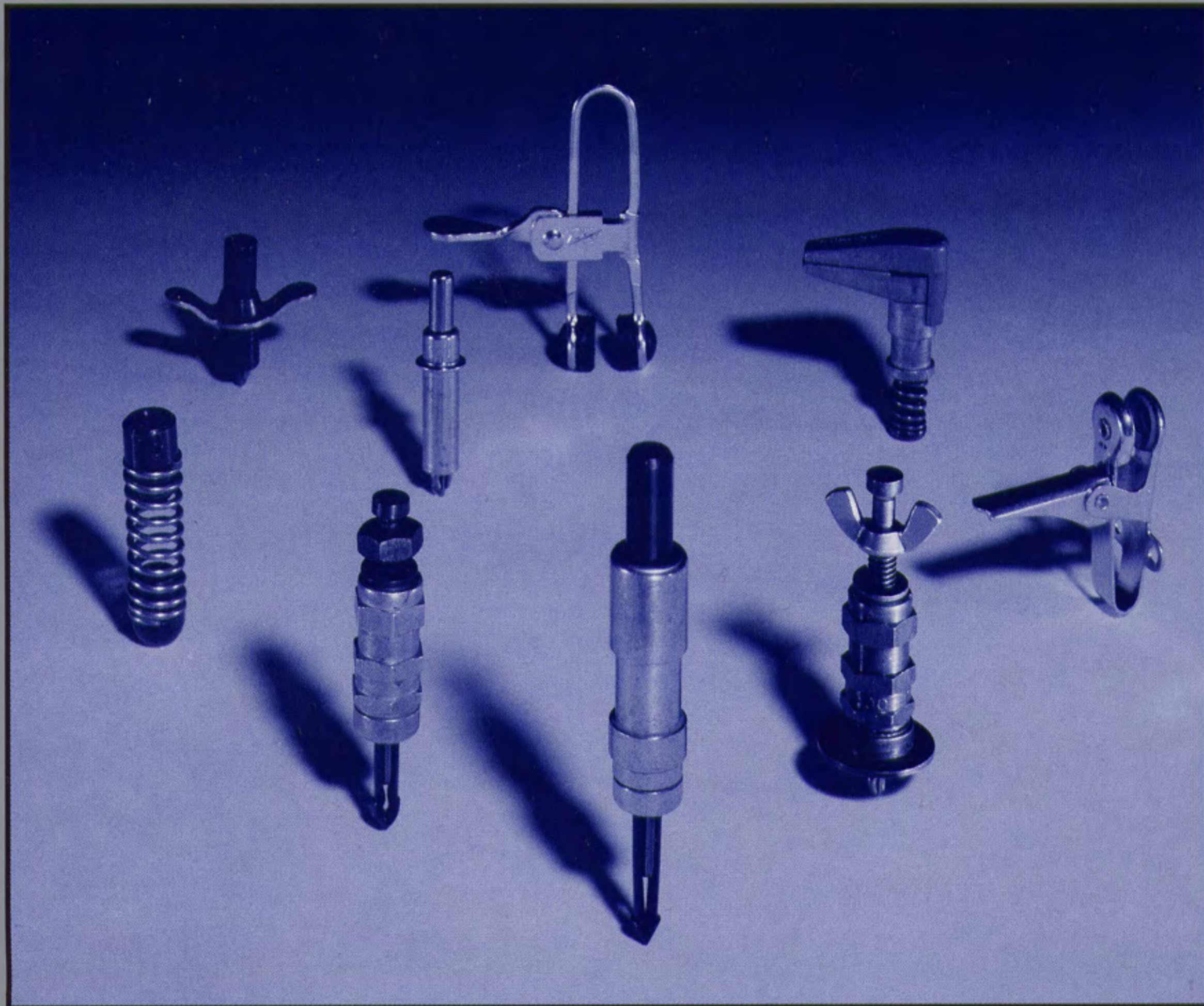


WEDGELOCK

TEMPORARY FASTENING SYSTEMS & DRILLING AIDS



MONOGRAM AEROSPACE FASTENERS



WEDGELOCK TEMPORARY FASTENERS

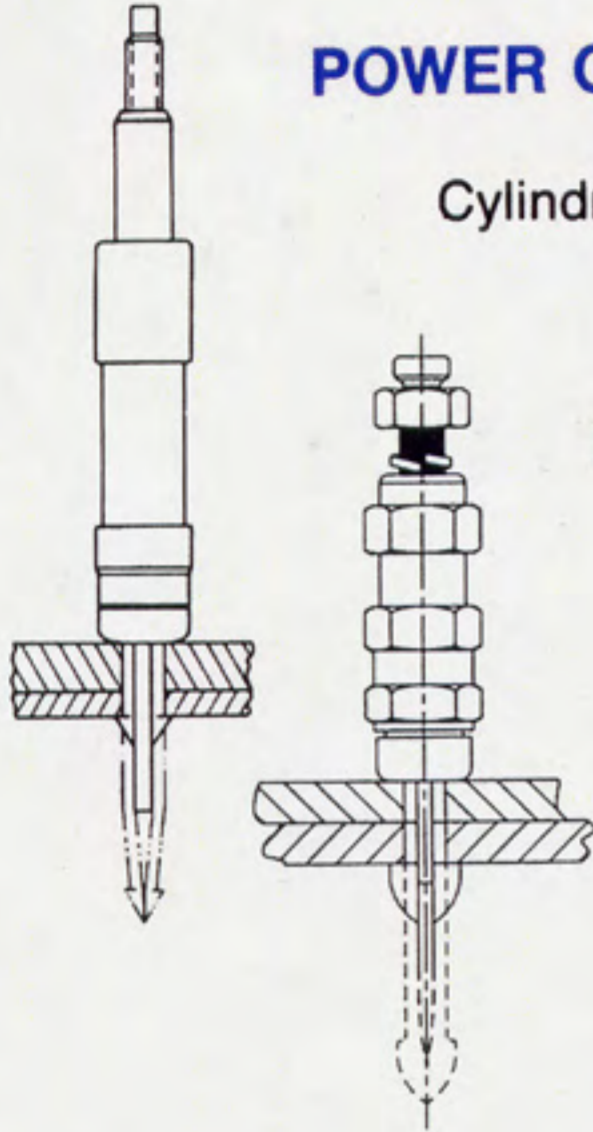
PRODUCT LOCATOR

POWER OPERATED FASTENERS:

PAGES

Cylindrical Body 2 - 4

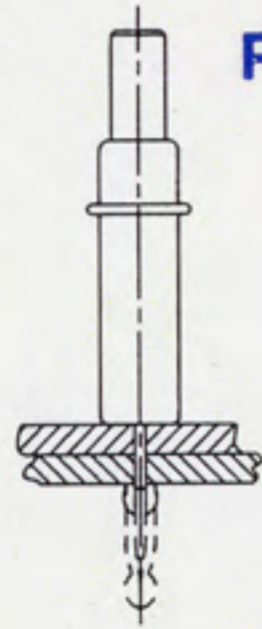
Hex Body 5 & 6



PLIER OPERATED FASTENERS:

Standard, Miniature & Heavy Duty 7 & 8

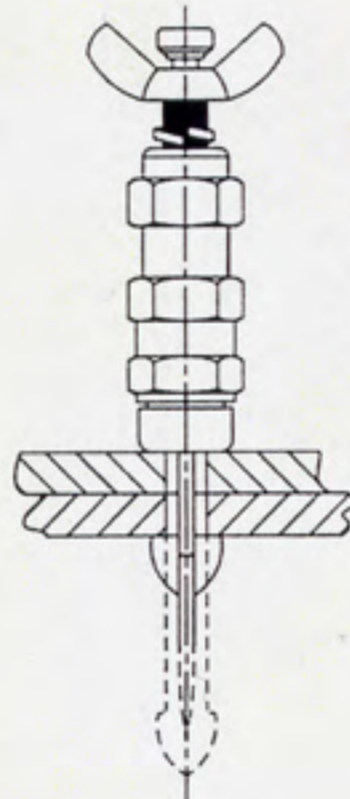
Side Grip Clamps 8



MANUAL OPERATED FASTENERS:

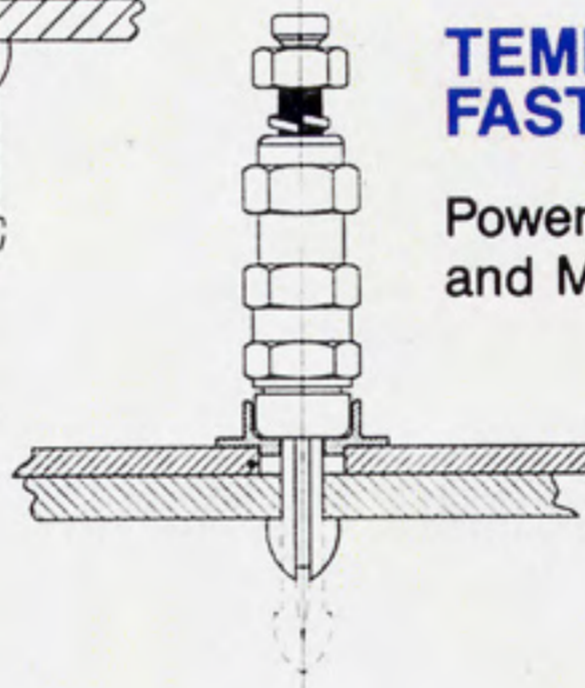
Wing Nut, Bar Nut & Hand Operated 9 & 10

Handy Clamps 10



TEMPLATE FASTENERS:

Power, Plier and Manual Operated 13



ACCESSORIES: Protective Caps 6

DRILLING AIDS: Anchor Nut Plate Drill Jigs 11 & 12

Drill Stops 13

MONOGRAM PRODUCT LINE SUMMARY 14

POWER OPERATED CYLINDRICAL BODY FASTENERS



FOR COMPOSITE AND METALLIC APPLICATIONS

DESCRIPTION

The cylindrical configuration of this new temporary blind fastener eliminates tedious fastener-to-tool orientation problems. The result is a reduction of over 50% in installation and removal time as well as providing a "robot ready" unit.

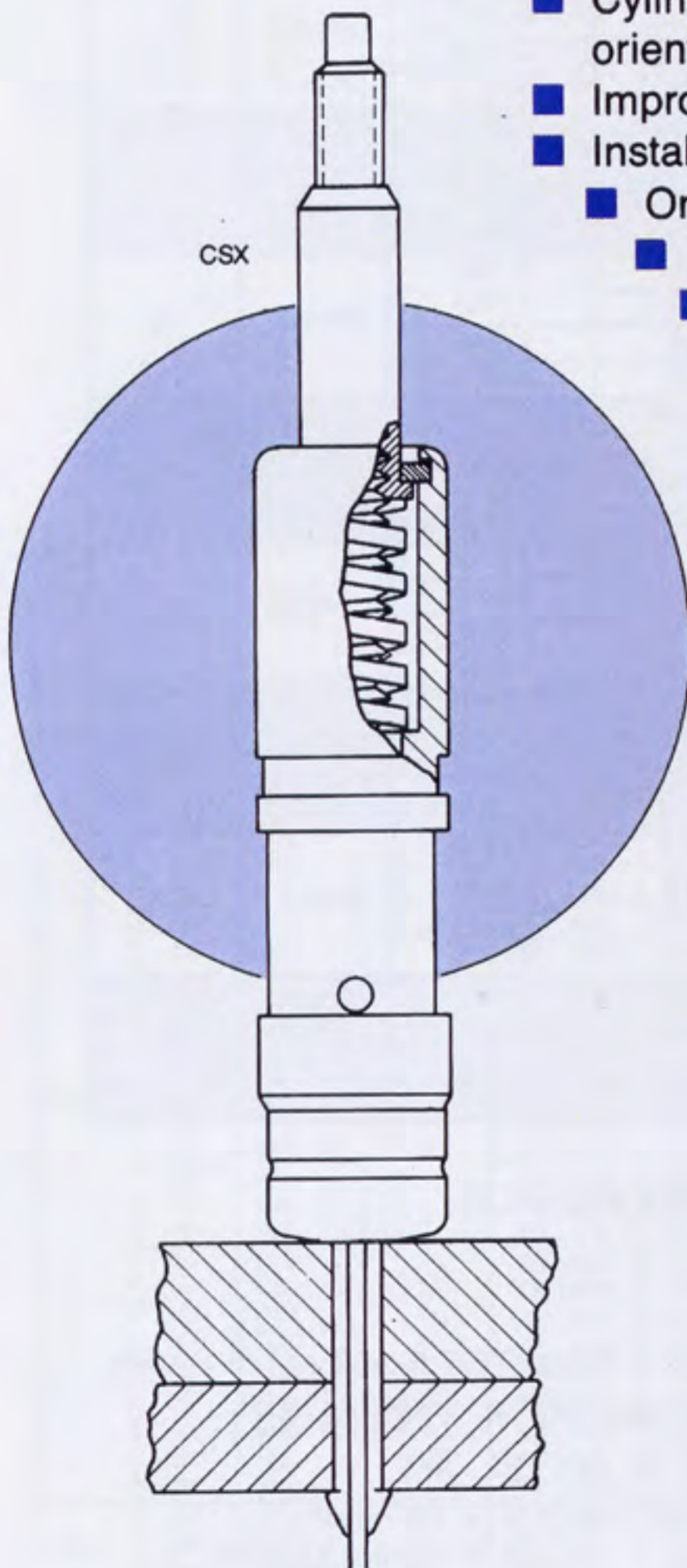
The revolutionary Cylindrical Body Wedgelock design concept is complimented by the introduction of a captive nut, double lead thread, and larger geometry bearing wires. Utilization of a captive nut provides positive disengagement, allowing unobstructed removal of the fastener even when used in wet sealant applications.

The double lead thread design further enhances overall installation and removal efficiency while the larger bearing area makes the fastener the optimum choice for both composite and metallic structures.



FEATURES/ADVANTAGES

- Cylindrical design eliminates fastener-to-tool orientation problems.
- Improves installation and removal efficiency by over 50%.
- Installation tooling is compact and lightweight.
- One tool drives all diameters and grip accommodations.
 - Reusable fastener life significantly increased.
 - Larger blind side bearing area reduces potential material damage.
 - Ideal for manual, automatic and robotic operation.



NOW AVAILABLE IN SPRING LOADED DESIGN

Designed specifically for use in wet sealant or liquid shim applications.

The CSX utilizes an internal spring to retain a maximum of 100 lbs. of clamping pressure even with minor structure thickness variations due to sealant flow.

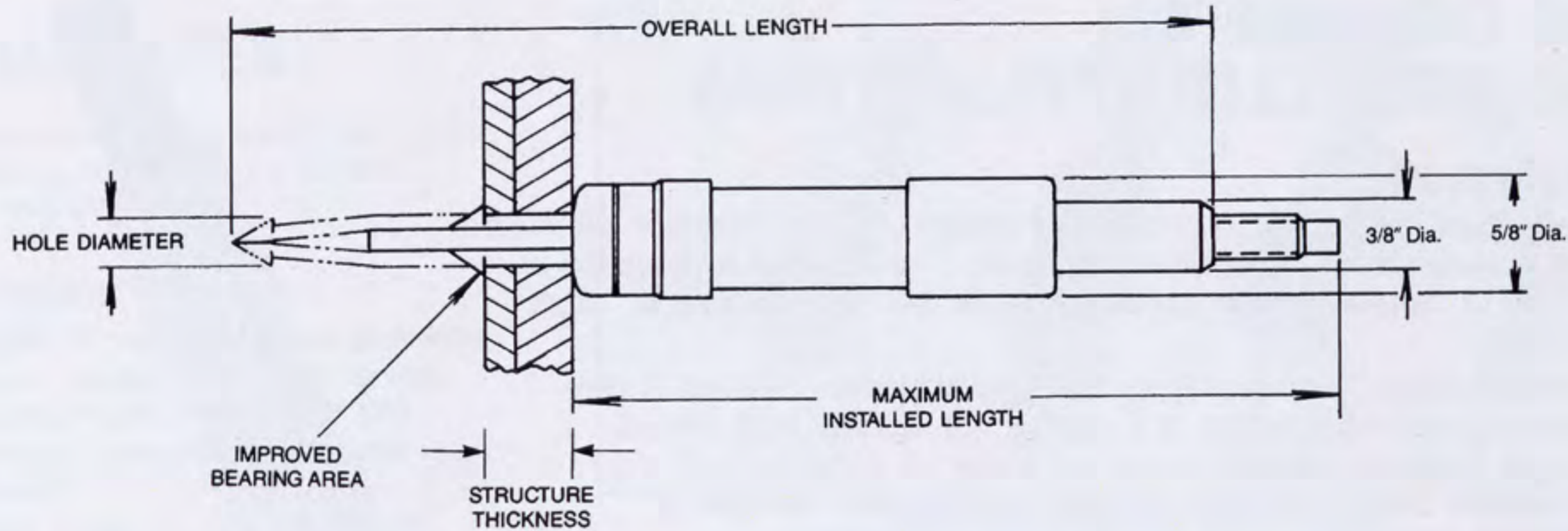
- Saves time and labor.
- Eliminates the need for re-torquing after installation.

LOW PROFILE VERSION

Monogram's Low Profile cylindrical body fastener allows for "closer proximity" to the skin surface of a structure, so that additional steps, such as drilling, may be easily completed without interference from fastener protrusion. Contact Monogram for additional information.



POWER OPERATED CYLINDRICAL BODY FASTENERS



FRACTIONAL SIZES — CYLINDRICAL BODY SERIES

HOLE DIA. (inches)	STANDARD				SPRING LOADED				COLOR CODE	DRILL SIZE
	GRIP RANGE (inches)	PART NO.	BODY LENGTH		GRIP RANGE (inches)	PART NO.	BODY LENGTH			
			OVERALL (inches)	INSTALLED (inches)			OVERALL (inches)	INSTALLED (inches)		
3/32	0—1/2	CBX-BF-3/32	4-1/32	3-23/64	0—1/2	CSX-BF-5/32	4-17/32	3-27/32	ZINC	#40
	0—1	CBXL-BF-3/32	5-1/32	4-23/64	1/2—1	CSXL-BF-5/32	5-1/32	3-27/32		
	1/2—1-1/2	CBXEL-BF-3/32	5-17/32	4-23/64	1—1-1/2	CSXEL-BF-5/32	5-17/32	3-27/32		
1/8	0—1/2	CBX-BF-1/8	4-1/16	3-23/64	0—1/2	CSX-BF-1/8	4-9/16	3-27/32	COPPER	#30
	0—1	CBXL-BF-1/8	5-1/16	4-23/64	1/2—1	CSXL-BF-1/8	5-1/16	3-27/32		
	1/2—1-1/2	CBXEL-BF-1/8	5-9/16	4-23/64	1—1-1/2	CSXEL-BF-1/8	5-9/16	3-27/32		
	1-1/2—2-1/2	CBXK-BF-1/8	6-9/16	4-23/64	2—2-1/2	CSXK-BF-1/8	6-9/16	3-27/32		
5/32	0—1/2	CBX-BF-5/32	4-3/32	3-23/64	0—1/2	CSX-BF-5/32	4-19/32	3-27/32	BLACK	#20
	0—1	CBXL-BF-5/32	5-3/32	4-23/64	1/2—1	CSXL-BF-5/32	5-3/32	3-27/32		
	1/2—1-1/2	CBXEL-BF-5/32	5-9/16	4-23/64	1—1-1/2	CSXEL-BF-5/32	5-19/32	3-27/32		
	1-1/2—2-1/2	CBXK-BF-5/32	6-5/8	4-23/64	2—2-1/2	CSXK-BF-5/32	6-5/8	3-27/32		
3/16	0—1/2	CBX-BF-3/16	4-1/8	3-23/64	0—1/2	CSX-BF-3/16	4-5/8	3-27/32	BRASS	#10
	0—1	CBXL-BF-3/16	5-1/8	4-23/64	1/2—1	CSXL-BF-3/16	5-1/8	3-27/32		
	1/2—1-1/2	CBXEL-BF-3/16	5-5/8	4-23/64	1—1-1/2	CSXEL-BF-3/16	5-5/8	3-27/32		
	1-1/2—2-1/2	CBXK-BF-3/16	6-5/8	4-23/64	2—2-1/2	CSXK-BF-3/16	6-5/8	3-27/32		
7/32	0—1/2	CBX-BF-7/32	4-9/64	3-23/64	0—1/2	CSX-BF-7/32	4-39/64	3-27/32	ZINC	#2
	0—1	CBXL-BF-7/32	5-9/64	4-23/64	1/2—1	CSXL-BF-7/32	5-7/64	3-27/32		
	1/2—1-1/2	CBXEL-BF-7/32	5-41/64	4-23/64	1—1-1/2	CSXEL-BF-7/32	5-39/64	3-27/32		
	1-1/2—2-1/2	CBXK-BF-7/32	6-41/64	4-23/64	2—2-1/2	CSXK-BF-7/32	6-41/64	3-27/32		
1/4	0—1/2	CBX-BF-1/4	4-5/32	3-23/64	0—1/2	CSX-BF-1/4	4-21/32	3-27/32	COPPER	1/4"
	0—1	CBXL-BF-1/4	5-5/32	4-23/64	1/2—1	CSXL-BF-1/4	5-5/32	3-27/32		
	1/2—1-1/2	CBXEL-BF-1/4	5-21/32	4-23/64	1—1-1/2	CSXEL-BF-1/4	5-21/32	3-27/32		
	1-1/2—2-1/2	CBXK-BF-1/4	6-21/32	4-23/64	2—2-1/2	CSXK-BF-1/4	6-21/32	3-27/32		
9/32	0—1/2	CBX-BF-9/32	4-5/32	3-23/64	0—1/2	CSX-BF-9/32	4-21/32	3-27/32	BRASS	9/32"
	0—1	CBXL-BF-9/32	5-5/32	4-23/64	1/2—1	CSXL-BF-9/32	5-5/32	3-27/32		
	1/2—1-1/2	CBXEL-BF-9/32	5-21/32	4-23/64	1—1-1/2	CSXEL-BF-9/32	5-21/32	3-27/32		
	1-1/2—2-1/2	CBXK-BF-9/32	6-21/32	4-23/64	2—2-1/2	CSXK-BF-9/32	6-21/32	3-27/32		
5/16	0—1/2	CBX-BF-5/16	4-5/32	3-23/64	0—1/2	CSX-BF-5/16	4-21/32	3-27/32	BLACK	5/16"
	0—1	CBXL-BF-5/16	5-5/32	4-23/64	1/2—1	CSXL-BF-5/16	5-5/32	3-27/32		
	1/2—1-1/2	CBXEL-BF-5/16	5-21/32	4-23/64	1—1-1/2	CSXEL-BF-5/16	5-21/32	3-27/32		
	1-1/2—2-1/2	CBXK-BF-5/16	6-21/32	4-23/64	2—2-1/2	CSXK-BF-5/16	6-21/32	3-27/32		
3/8	0—1/2	CBX-BF-3/8	4-1/4	3-23/64	0—1/2	CSX-BF-3/8	4-3/4	3-7/8	BLACK WITH BRASS CAP	3/8"
	0—1	CBXL-BF-3/8	5-1/4	4-23/64	1/2—1	CSXL-BF-3/8	5-1/4	3-7/8		
	1/2—1-1/2	CBXEL-BF-3/8	5-3/4	4-23/64	1—1-1/2	CSXEL-BF-3/8	5-3/4	3-7/8		
	1-1/2—2-1/2	CBXK-BF-3/8	6-3/4	4-23/64	2—2-1/2	CSXK-BF-3/8	6-3/4	3-7/8		

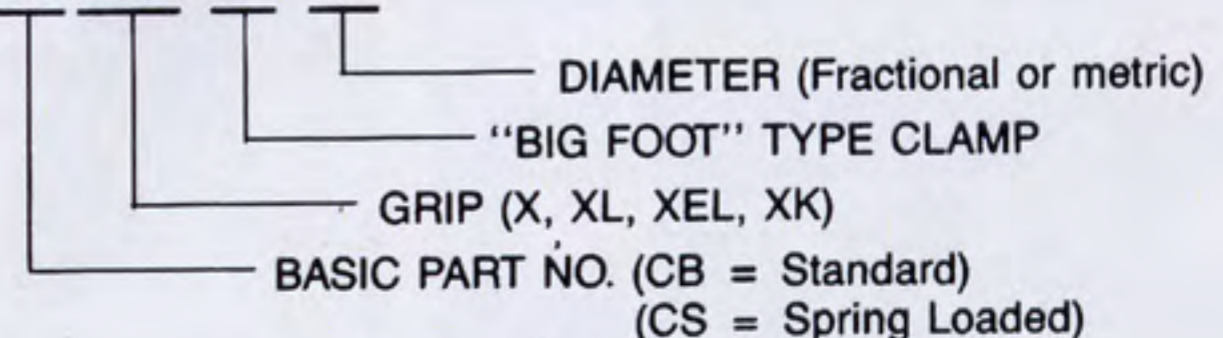
PROTECTIVE CAPS

Vinyl, Hard Plastic and Aluminum Protective caps are available for use with Monogram's Cylindrical Body Wedglock series. These caps are designed to protect structure surfaces from galvanic corrosion and scratches.

See page 6 for Ordering Information.

PART NUMBER EXAMPLE:

CBXEL-BF-1/8



POWER OPERATED CYLINDRICAL BODY FASTENERS



METRIC SIZES — CYLINDRICAL BODY SERIES

HOLE DIA. (mm)	STANDARD				SPRING LOADED				COLOR CODE		DRILL SIZE (mm)
	GRIP RANGE (mm)	PART NO.	BODY LENGTH		GRIP RANGE (mm)	PART NO.	BODY LENGTH		BODY	NUT	
			OVERALL (mm)	INSTALLED (mm)			OVERALL (mm)	INSTALLED (mm)			
2.5	0—13	CBX-BF-2.5	102.4	85.3	0—13	CSX-BF-2.5	115.1	97.7	Black	Zinc	2.5
	0—25	CBXL-BF-2.5	127.8	110.7	13—25	CSXL-BF-2.5	128.8	97.7			
3.0	0—13	CBX-BF-3.0	103.2	85.3	0—13	CSX-BF-3.0	115.9	97.7	Copper	Copper	3.0
	0—25	CBXL-BF-3.0	128.6	110.7	13—25	CSXL-BF-3.0	128.6	97.7			
3.5	0—13	CBX-BF-3.5	103.6	85.3	0—13	CSX-BF-3.5	116.3	97.7	Copper	Brass	3.5
	0—25	CBXL-BF-3.5	129.0	110.7	13—25	CSXL-BF-3.5	129.0	97.7			
	13—38	CBXEL-BF-3.5	141.7	110.7	25—38	CSXEL-BF-3.5	147.7	97.7			
4.0	0—13	CBX-BF-4.0	104.0	85.3	0—13	CSX-BF-4.0	116.7	97.7	Black	Black	4.0
	0—25	CBXL-BF-4.0	129.8	110.7	13—25	CSXL-BF-4.0	129.4	97.7			
	13—38	CBXEL-BF-4.0	143.3	110.7	25—38	CSXEL-BF-4.0	142.1	97.7			
	38—64	CBXK-BF-4.0	164.4	110.7	51—64	CSXK-BF-4.0	155.1	97.7			
4.5	0—13	CBX-BF-4.5	104.4	85.3	0—13	CSX-BF-4.5	117.1	97.7	Brass	Zinc	4.5
	0—25	CBXL-BF-4.5	129.8	110.7	13—25	CSXL-BF-4.5	129.8	97.7			
	13—38	CBXEL-BF-4.5	142.5	110.7	25—38	CSXEL-BF-4.5	142.5	97.7			
	38—64	CBXK-BF-4.5	167.4	110.7	51—64	CSXK-BF-4.5	155.5	97.7			
5.0	0—13	CBX-BF-5.0	104.8	85.3	0—13	CSX-BF-5.0	117.5	97.7	Brass	Copper	5.0
	0—25	CBXL-BF-5.0	130.2	110.7	13—25	CSXL-BF-5.0	130.2	97.7			
	13—38	CBXEL-BF-5.0	142.9	110.7	25—38	CSXEL-BF-5.0	142.9	97.7			
	38—64	CBXK-BF-5.0	168.4	110.7	51—64	CSXK-BF-5.0	155.9	97.7			
5.5	0—13	CBX-BF-5.5	105.2	85.3	0—13	CSX-BF-5.5	117.9	97.7	Zinc	Black	5.5
	0—25	CBXL-BF-5.5	130.6	110.7	13—25	CSXL-BF-5.5	130.6	97.7			
	13—38	CBXEL-BF-5.5	143.3	110.7	25—38	CSXEL-BF-5.5	143.3	97.7			
	38—64	CBXK-BF-5.5	156.3	110.7	51—64	CSXK-BF-5.5	156.0	97.7			
6.0	0—13	CBX-BF-6.0	105.6	85.3	0—13	CSX-BF-6.0	118.3	97.7	Copper	Copper	6.0
	0—25	CBXL-BF-6.0	131.0	110.7	13—25	CSXL-BF-6.0	131.0	97.7			
	13—38	CBXEL-BF-6.0	143.7	110.7	25—38	CSXEL-BF-6.0	143.7	97.7			
	38—64	CBXK-BF-6.0	156.7	110.7	51—64	CSXK-BF-6.0	156.4	97.7			
6.5	0—13	CBX-BF-6.5	105.6	85.3	0—13	CSX-BF-6.5	118.3	97.7	Copper	Black	6.5
	0—25	CBXL-BF-6.5	131.0	110.7	13—25	CSXL-BF-6.5	131.0	97.7			
	13—38	CBXEL-BF-6.5	143.7	110.7	25—38	CSXEL-BF-6.5	143.7	97.7			
	38—64	CBXK-BF-6.5	155.7	110.7	51—64	CSXK-BF-6.5	156.4	97.7			
7.0	0—13	CBX-BF-7.0	105.6	85.3	0—13	CSX-BF-7.0	118.3	97.7	Copper	Zinc	7.0
	0—25	CBXL-BF-7.0	131.0	110.7	13—25	CSXL-BF-7.0	131.0	97.7			
	13—38	CBXEL-BF-7.0	143.7	110.7	25—38	CSXEL-BF-7.0	143.7	97.7			
	38—64	CBXK-BF-7.0	146.7	110.7	51—64	CSXK-BF-7.0	156.4	97.7			
7.5	0—13	CBX-BF-7.5	105.6	85.3	0—13	CSX-BF-7.5	118.3	97.7	Black	Brass	7.5
	0—25	CBXL-BF-7.5	131.0	110.7	13—25	CSXL-BF-7.5	131.0	97.7			
	13—38	CBXEL-BF-7.5	144.0	110.7	25—38	CSXEL-BF-7.5	143.7	97.7			
	38—64	CBXK-BF-7.5	157.0	110.7	51—64	CSXK-BF-7.5	156.4	97.7			
8.0	0—13	CBX-BF-8.0	105.6	85.3	0—13	CSX-BF-8.0	118.3	97.7	Black	Black	8.0
	0—25	CBXL-BF-8.0	131.0	110.7	13—25	CSXL-BF-8.0	131.0	97.7			
	13—38	CBXEL-BF-8.0	144.0	110.7	25—38	CSXEL-BF-8.0	143.7	97.7			
	38—64	CBXK-BF-8.0	157.0	110.7	51—64	CSXK-BF-8.0	156.4	97.7			

SIMPLIFIED INSTALLATION TOOLING

- Patented roller bearing drive system allows for faster installation and removal of the fastener.
- No "fastener to tool" orientation problems.
- Drives all diameters and grip accommodations.
- Adaptable to most "speedrunners" currently used for hex body installation.
- Adjustable clamping loads from 100 to 600 pounds.
- Lightweight and compact.

Ordering Information

Complete installation tool as depicted: W500-28-931-GB
Speedrunner (nosepiece) only: W931-CB-GB

For additional information on Speedrunner adaptability, contact Monogram Headquarters.





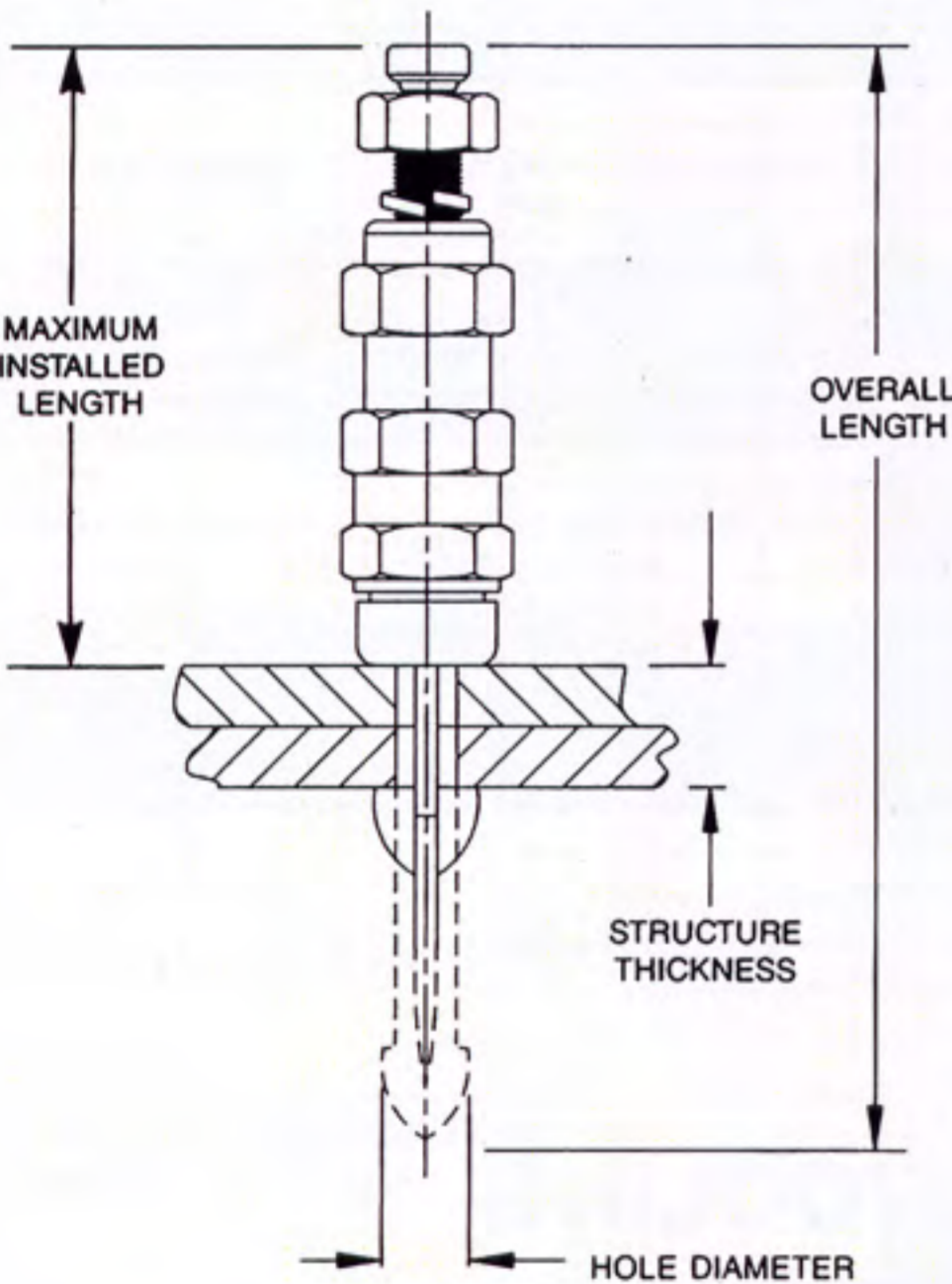
POWER OPERATED HEX BODY FASTENERS

HNX Series

Used for clamping two or more pieces of structure at desired clamp load forces utilizing industry standard "cleco" type pneumatic tooling.

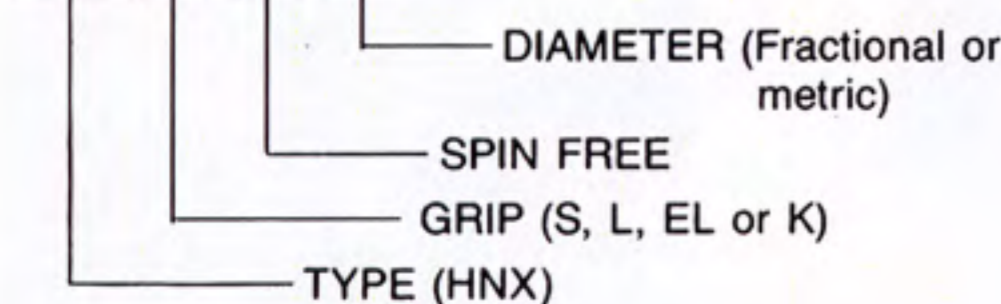
FEATURES

- High clamping loads
- Spin-free design allows nut to completely back off stud while remaining intact on stud body
- 3/32" through 3/8" diameters
- Wide variety of grip ranges
- Easy installation



PART NUMBER EXAMPLE:

HNXEL-SF-1/8



FRACTIONAL SIZES — HNX SERIES

HOLE DIA. (inches)	GRIP RANGE (inches)	PART NO.	BODY LENGTH (ref.)		COLOR CODE	DRILL SIZE
			OVERALL (inches)	INSTALLED (inches)		
3/32	0—5/16	HNXS-SF-3/32	2-7/32	2-3/8	ZINC	#40
	0—1/2	HNX-SF-3/32	2-11/16	2-7/8		
	0—1	HNXL-SF-3/32	3-11/16	3-7/8		
	1/2—1-1/2	HNXEL-SF-3/32	3-47/64	4-3/8		
1/8	0—5/16	HNXS-SF-1/8	2-7/32	2-3/8	COPPER	#30
	0—1/2	HNX-SF-1/8	2-11/16	2-7/8		
	0—1	HNXL-SF-1/8	3-11/16	3-7/8		
	1/2—1-1/2	HNXEL-SF-1/8	3-47/64	4-3/8		
	1-1/2—2-1/2	HNXK-SF-1/8	3-47/64	5-3/8		
5/32	0—5/16	HNXS-SF-5/32	2-7/32	2-3/8	BLACK	#20
	0—1/2	HNX-SF-5/32	2-11/16	2-7/8		
	0—1	HNXL-SF-5/32	3-11/16	3-7/8		
	1/2—1-1/2	HNXEL-SF-5/32	3-47/64	4-3/8		
	1-1/2—2-1/2	HNXK-SF-5/32	3-47/64	5-3/8		
3/16	0—5/16	HNXS-SF-3/16	2-7/32	2-3/8	BRASS	#10
	0—1/2	HNX-SF-3/16	2-11/16	2-7/8		
	0—1	HNXL-SF-3/16	3-11/16	3-7/8		
	1/2—1-1/2	HNXEL-SF-3/16	3-47/64	4-3/8		
	1-1/2—2-1/2	HNXK-SF-3/16	3-47/64	5-3/8		
7/32	0—1/2	HNX-SF-7/32	2-11/16	2-7/8	ZINC	#2
	0—1	HNXL-SF-7/32	3-11/16	3-7/8		
	1/2—1-1/2	HNXEL-SF-7/32	3-47/64	4-3/8		
1/4	0—5/16	HNXS-SF-1/4	2-7/32	2-3/8	COPPER	1/4"
	0—1/2	HNX-SF-1/4	2-11/16	2-7/8		
	0—1	HNXL-SF-1/4	3-11/16	3-7/8		
	1/2—1-1/2	HNXEL-SF-1/4	3-47/64	4-3/8		
	1-1/2—2-1/2	HNXK-SF-1/4	3-47/64	5-3/8		
9/32	1-1/2—2-1/2	HNXK-SF-9/32	3-47/64	5-3/8	BRASS	9/32"
5/16	0—1/2	HNX-SF-5/16	2-11/16	2-7/8	BLACK	5/16"
	0—1	HNXL-SF-5/16	3-11/16	3-7/8		
	1/2—1-1/2	HNXEL-SF-5/16	3-47/64	4-3/8		
	1-1/2—2-1/2	HNXK-SF-5/16	3-47/64	5-3/8		
3/8	0—1	HNXL-SF-3/8	3-11/16	3-7/8	BLACK WITH BRASS CAP	3/8"
	1/2—1-1/2	HNXEL-SF-3/8	3-47/64	4-3/8		
	1-1/2—2-1/2	HNXK-SF-3/8	3-47/64	5-7/8		

NOTE: A spring loaded version of this Hex Body Fastener is available in fractional and metric sizes upon request.

POWER OPERATED HEX BODY FASTENERS



METRIC SIZES - HNX SERIES

HOLE DIA. (mm)	GRIP RANGE (mm)	PART NO.	BODY LENGTH (ref.)		COLOR CODE		DRILL SIZE (mm)
			INSTALLED (mm)	OVERALL (mm)	NUT	BODY	
2.5	0-13	HNX-SF-2.5	68.8	73.7	Silver	Silver	2.5
	0-25	HNXL-SF-2.5	94.5	99.3			
3.0	0-13	HNX-SF-3.0	68.8	73.7	Copper	Copper	3.0
	0-25	HNXL-SF-3.0	94.5	99.3			
3.5	0-13	HNX-SF-3.5	68.8	73.7	Brass	Copper	3.5
	0-25	HNXL-SF-3.5	94.5	99.3			
	13-38	HNXEL-SF-3.5	95.6	112.2			
4.0	0-13	HNX-SF-4.0	68.8	73.7	Black	Black	4.0
	0-25	HNXL-SF-4.0	94.5	99.3			
	13-38	HNXEL-SF-4.0	95.6	112.2			
4.5	0-13	HNX-SF-4.5	68.8	73.7	Silver	Brass	4.5
	0-25	HNXL-SF-4.5	94.5	99.3			
	13-38	HNXEL-SF-4.5	95.6	112.2			
	38-63	HNXK-SF-4.5	95.6	137.8			
5.0	0-13	HNX-SF-5.0	68.8	73.7	Copper	Brass	5.0
	0-25	HNXL-SF-5.0	94.5	99.3			
	13-38	HNXEL-SF-5.0	95.6	112.2			
5.5	0-13	HNX-SF-5.5	68.8	73.7	Black	Silver	5.5
	0-25	HNXL-SF-5.5	94.5	99.3			
	13-38	HNXEL-SF-5.5	95.6	112.2			
6.0	0-13	HNX-SF-6.0	68.8	73.7	Copper	Copper	6.0
	0-25	HNXL-SF-6.0	94.5	99.3			
	13-38	HNXEL-SF-6.0	95.6	112.2			
6.5	0-13	HNX-SF-6.5	68.8	73.7	Black	Copper	6.5
	0-25	HNXL-SF-6.5	94.5	99.3			
	13-38	HNXEL-SF-6.5	95.6	112.2			
7.0	0-13	HNX-SF-7.0	68.8	73.7	Silver	Copper	7.0
	0-25	HNXL-SF-7.0	94.5	99.3			
	13-38	HNXEL-SF-7.0	95.6	112.2			
7.5	0-13	HNX-SF-7.5	68.8	73.7	Brass	Black	7.5
	0-25	HNXL-SF-7.5	94.5	99.3			
	13-38	HNXEL-SF-7.5	95.6	112.2			
	38-63	HNXK-SF-7.5	95.6	137.8			
8.0	0-13	HNX-SF-8.0	68.8	73.7	Black	Black	8.0
	0-25	HNXL-SF-8.0	94.5	99.3			
	13-38	HNXEL-SF-8.0	95.6	112.2			
	38-63	HNXK-SF-8.0	95.6	137.8			

PROTECTIVE CAPS

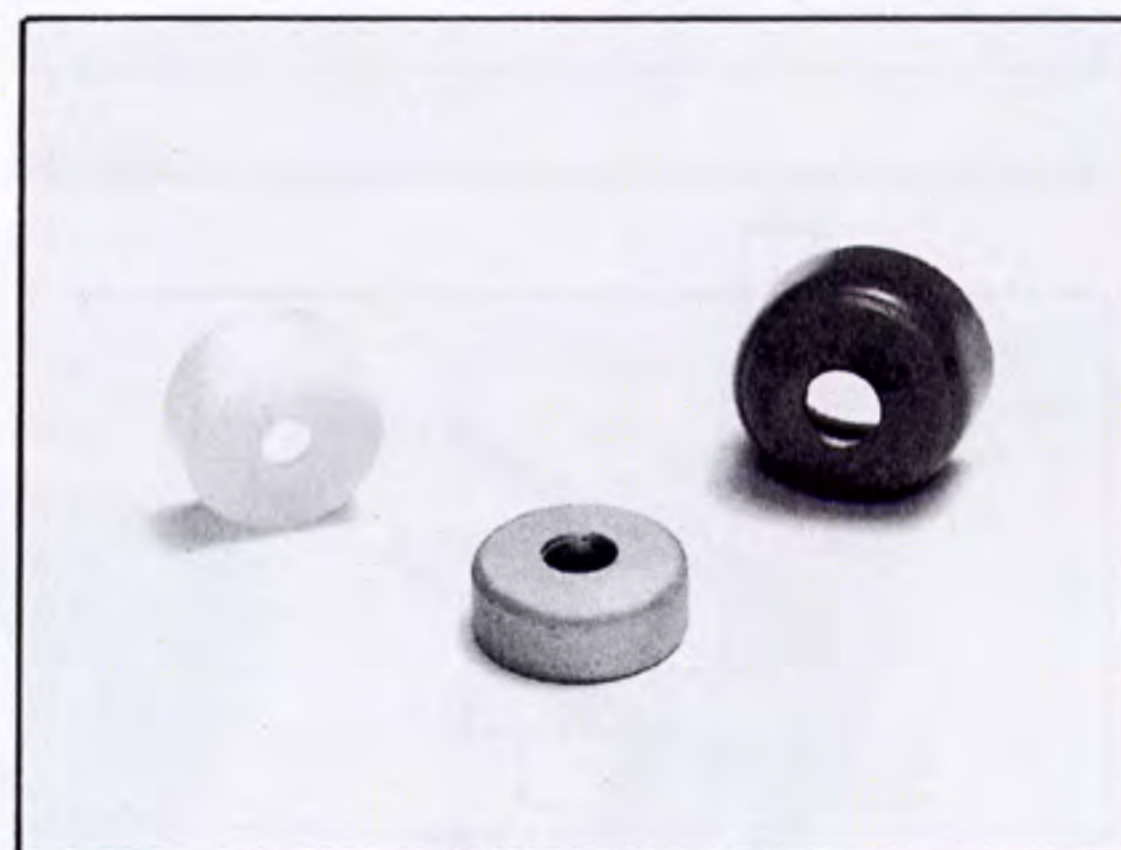
Protective caps are offered for any of Monogram's hex body, cylindrical body, or M-type fasteners.

Their purpose is to protect the surface of a structure from galvanic corrosion and scratches.

TYPES OF CAPS AVAILABLE:

VINYL: Vinyl caps may be easily installed onto the fastener by the customer. Therefore, they may be purchased as a separate item or ordered as an assembly on a particular fastener.

HARD PLASTIC & ALUMINUM: These caps are supplied only as an assembly on a fastener. They provide additional durability over vinyl caps and are permanently affixed to the body of the fastener.



ORDERING INFORMATION

CAP MATERIAL	SUFFIX	FOR USE WITH FASTENER TYPE	CAP		COMPLETE ASSEMBLY ORDERING INFORMATION
			HOLE DIA. (inches)	PART NO.	
VINYL	VC	CBX CSX HNX HSX	3/32-3/16	NX-CAP-1	When ordering a fastener with a vinyl cap, simply specify VC at the end of the part number. EXAMPLES: CBX-BF-3/16-VC MHD-1/4-VC
			3/16-1/4	NX-CAP-2	
			3/8 ONLY	NX-CAP-3	
		M	3/32-3/16	M-CAP-1	
			7/32-1/4	MHD-CAP-2	
			MHD	3/32-3/16	
7/32-1/4	MHD-CAP-2				
HARD PLASTIC*	PC	CBX CSX HNX HSX	AVAILABLE AS ASSEMBLY ONLY		When a Hard Plastic cap (PC) or Aluminum cap (ALC) is desired simply add the appropriate suffix to the end of the part number. EXAMPLE: HNX-SF-1/4-PC
ALUMINUM*	ALC				

*These caps are currently not available for M and MHD fasteners.



PLIER OPERATED TEMPORARY FASTENERS

M Series

These fasteners are dedicated to light clamping forces of no more than 25 pounds. Quick installation and removal is achieved with Monogram's #200 pliers, offering a fast and inexpensive alternative to competitive fastening systems.

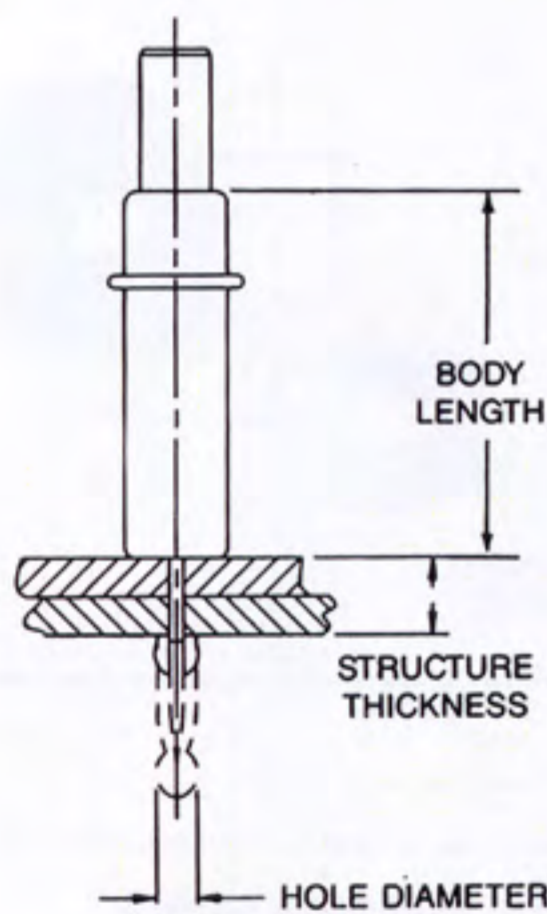
M – Standard fasteners for normal clamping force requirements.

MM – Designed for normal clamping force in more confined work areas

MHD – For use when a wider grip range is necessary

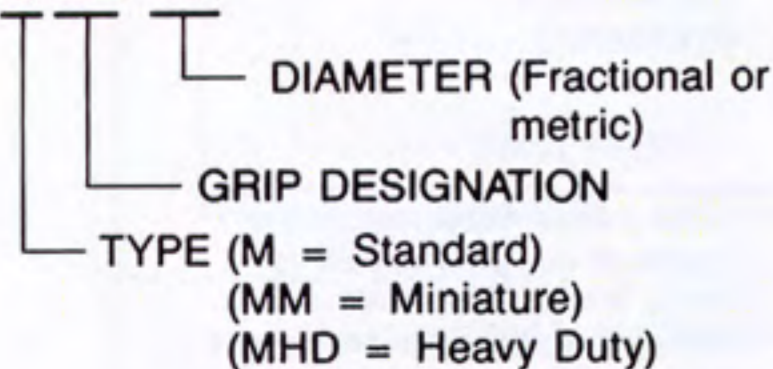
FEATURES

- A maximum of twenty-five pounds of spring-loaded clamping force
- Easy installation
- Minimal surface marring
- Color-coded for easy identification
- Available in a variety of diameters and grip accommodations
- Lightweight — approximately 40 pounds per thousand pieces



PART NUMBER EXAMPLE:

MEL 1/8



FRACTIONAL SIZES — M SERIES

HOLE DIA. (inches)	GRIP RANGE (inches)	STANDARD		MINIATURE		HEAVY DUTY		COLOR CODE	DRILL SIZE
		PART NUMBER	BODY LENGTH (inches)	PART NUMBER	BODY LENGTH (inches)	PART NUMBER	BODY LENGTH (inches)		
1/16	0—1/4	M-1/16	1-29/64	MM-1/16	53/64	MHD-1/16	1-7/64	Black	#50
	1/2—1					MHDL-1/16	1-7/64		
3/32	0—1/4	M-3/32	1-29/64	MM-3/32	53/64			Zinc	#40
	1/4—1/2	ML-3/32	1-29/64	MML-3/32	53/64				
	1/2—3/4	MEL-3/32	1-29/64	MMEL-3/32	53/64				
	0—1/2					MHD-3/32	1-7/64		
	1/2—1					MHDL-3/32	1-7/64		
1/8	0—1/4	M-1/8	1-29/64	MM-1/8	53/64			Copper	#30
	1/4—1/2	ML-1/8	1-29/64	MML-1/8	53/64				
	1/2—3/4	MEL-1/8	1-29/64	MMEL-1/8	53/64				
	0—1/2					MHD-1/8	1-7/64		
	1/2—1					MHDL-1/8	1-7/64		
5/32	0—1/4	M-5/32	1-29/64	MM-5/32	53/64			Black	#20
	1/4—1/2	ML-5/32	1-29/64	MML-5/32	53/64				
	1/2—3/4	MEL-5/32	1-29/64	MMEL-5/32	53/64				
	0—1/2					MHD-5/32	1-7/64		
	1/2—1					MHDL-5/32	1-7/64		
3/16	0—1/4	M-3/16	1-29/64	MM-3/16	53/64			Brass	#10
	1/4—1/2	ML-3/16	1-29/64	MML-3/16	53/64				
	1/2—3/4	MEL-3/16	1-29/64	MMEL-3/16	53/64				
	0—1/2					MHD-3/16	1-7/64		
	1/2—1					MHDL-3/16	1-7/64		
7/32	0—1/4	M-7/32	1-31/64					Zinc	#2
	0—1/2					MHD-7/32	1-47/64		
	1/2—1					MHDL-7/32	1-47/64		
1/4	0—1/4	M-1/4	1-31/64					Copper	1/4"
	0—1/2					MHD-1/4	1-47/64		
	1/2—1					MHDL-1/4	1-47/64		

PLIER OPERATED TEMPORARY FASTENERS



HOLE DIA. (mm)	GRIP RANGE (mm)	STANDARD		MINIATURE		HEAVY DUTY		COLOR CODE		DRILL SIZE (mm)
		PART NUMBER	BODY LENGTH (mm)	PART NUMBER	BODY LENGTH (mm)	PART NUMBER	BODY LENGTH (mm)	RIVET	BODY	
2.0	0-6.5	M-2.0	36.9	MM-2.0	21			Brass	Black	2.0
	0-13					MHD-2.0	28.1			
2.5	0-6.5	M-2.5	36.9	MM-2.5	21			Silver	Silver	2.5
	0-13					MHD-2.5	28.1			
3.0	0-6.5	M-3.0	36.9	MM-3.0	21			Copper	Copper	3.0
	0-13					MHD-3.0	28.1			
3.5	0-6.5	M-3.5	36.9	MM-3.5	21			Brass	Copper	3.5
	0-13					MHD-3.5	28.1			
4.0	0-6.5	M-4.0	36.9	MM-4.0	21			Black	Black	4.0
	0-13					MHD-4.0	28.1			
4.5	0-6.5	M-4.5	36.9	MM-4.5	21			Silver	Brass	4.5
	0-13					MHD-4.5	28.1			
5.0	0-6.5	M-5.0	36.9	MM-5.0	21			Copper	Brass	5.0
	0-13					MHD-5.0	28.1			

PLIERS

Monogram's #200 plier offers a straight forward approach for fastening "M" type fasteners. A specially designed "body seat" holds the fastener body still while the plunger is being depressed. Installation and removal time is minimal.

PROTECTIVE CAPS

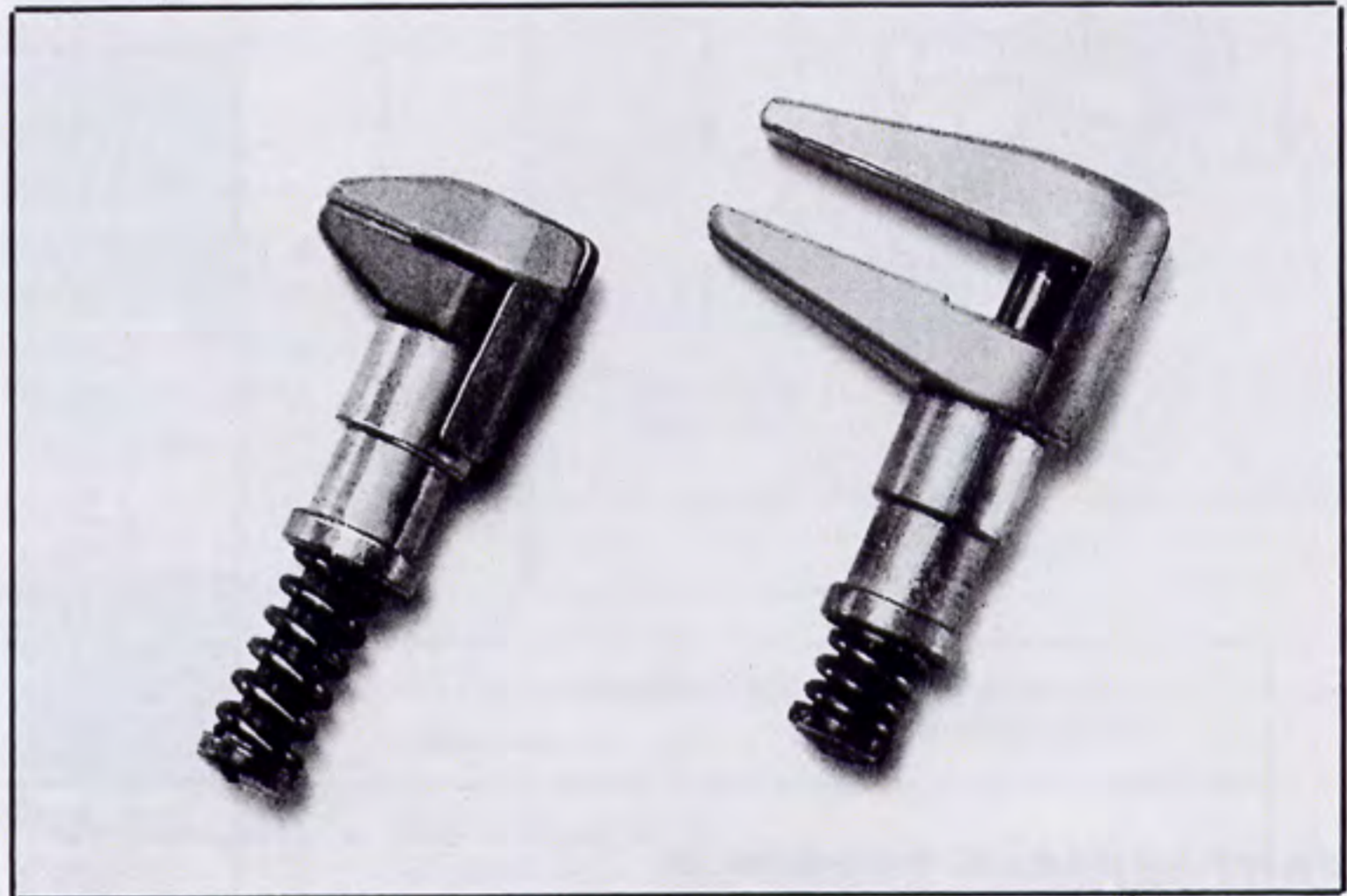
Vinyl Protective caps are available for use with Monogram's M & MHD fasteners. The caps protect structure surfaces from galvanic corrosion and scratches. See page 6 for Ordering Information.

SIDE-GRIP CLAMPS

Designed to clamp at edge of the work area. Ideal for holding together workpieces of all types, including during bonding, sealing or gluing operations.

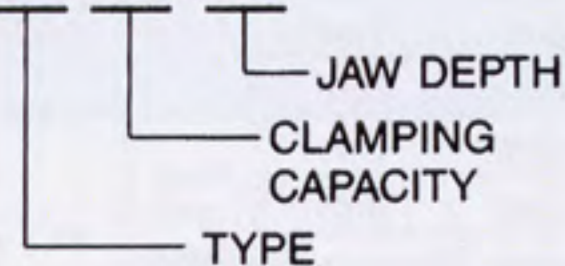
FEATURES

- Plier-operated
- Spring-loaded
- Minimized surface marring
- No overtightening possible
- Wide range of clamping capacities, jaw depth and body lengths



PART NUMBER EXAMPLE:

SG-1/2x1/2



FRACTIONAL — ORDERING INFORMATION

CLAMPING CAPACITY (inches)	EFFECTIVE JAW DEPTH (inches)	PART NO.	BODY LENGTH (inches)	CLAMPING FORCE	COLOR CODE
0-1/2	1/2	SG 1/2" x 1/2"	2-3/16	60 lbs.	copper
0-1/2	1	SG 1/2" x 1"	2-3/16	60 lbs.	copper
0-3/4	1/2	SG 3/4" x 1/2"	2-7/16	60 lbs.	brass
0-3/4	1	SG 3/4" x 1"	2-7/16	60 lbs.	brass

NOTE: The Side Grip Series "SG" is also available in metric measurements upon request.



MANUAL OPERATED TEMPORARY FASTENERS

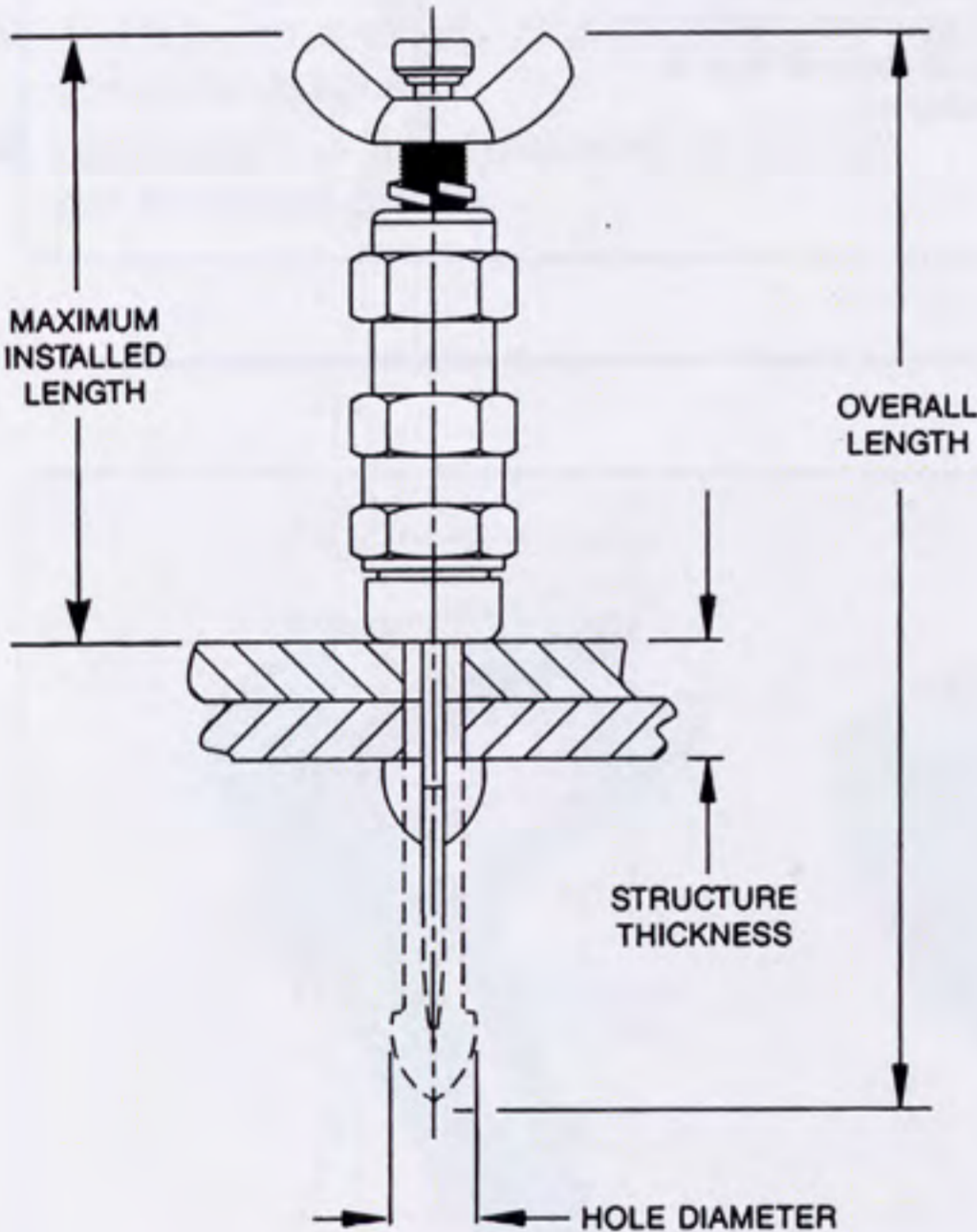
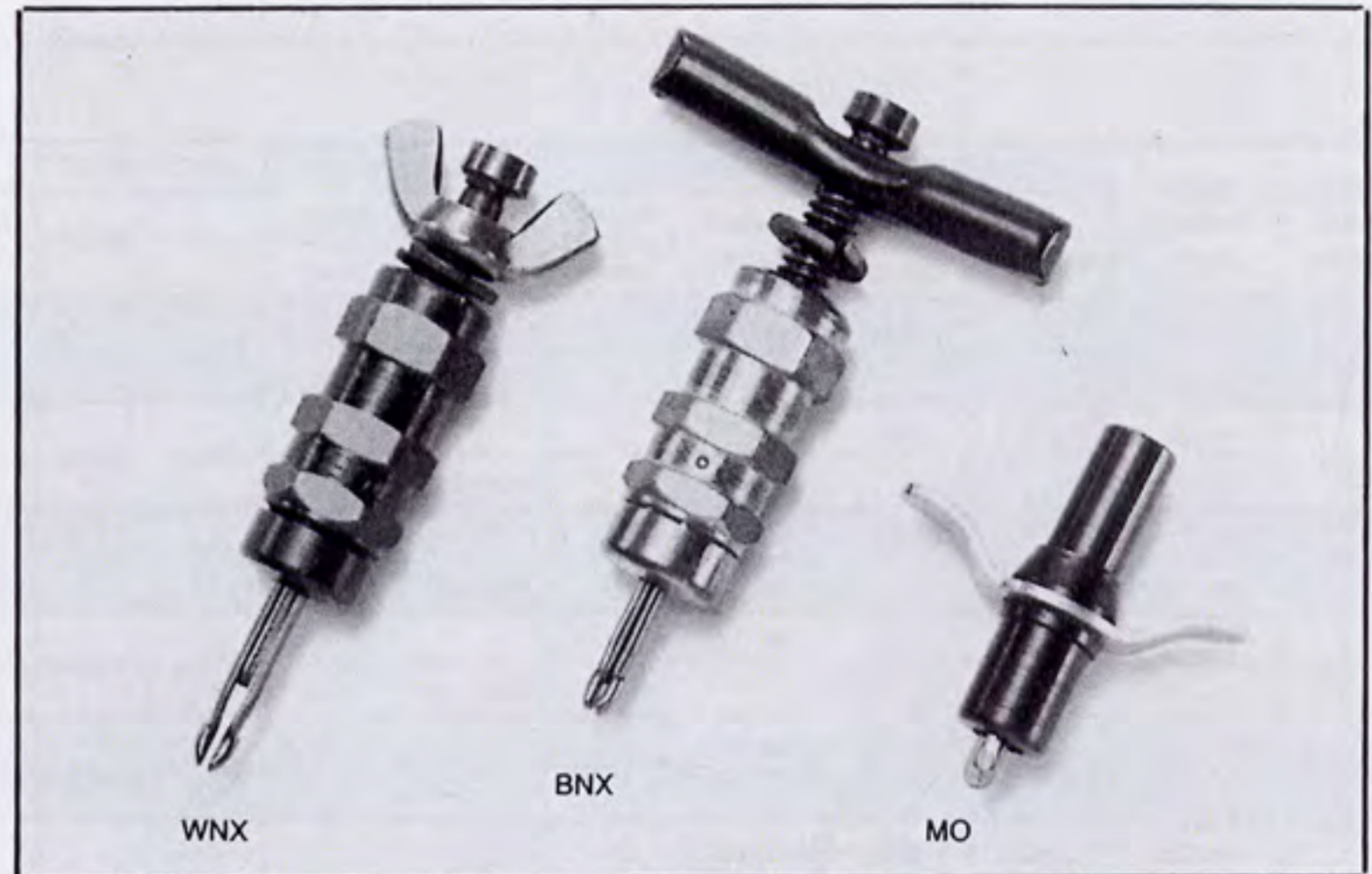
WNX, BNX and MO Series

WNX, BNX: Hand operated fasteners for structures requiring limited fastening or limited access. Clamping forces are operator controlled and can range from 50 pounds to 300 pounds.

MO: Hand operated fasteners for minimal clamping loads (max.: 12 lbs.) and limited access applications.

FEATURES

- Easy to operate
- Re-usable
- Controlled clamping forces
- Color-coded by size for easy identification
- Material compatibility with use of plastic caps (see page 6)
- Wide range of diameters and grip lengths

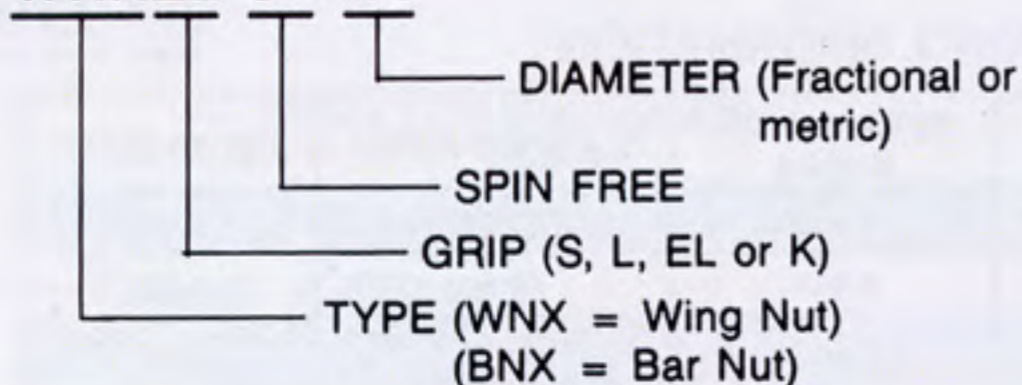


FRACTIONAL SIZES — WNX & BNX

HOLE DIA. (inches)	GRIP RANGE (inches)	WING NUT	BAR NUT	BODY LENGTH		BODY COLOR	DRILL SIZE
		PART NO.	PART NO.	INSTALLED (inches)	OVERALL (inches)		
3/32	0—5/16	WNXS-SF-3/32	BNXS-SF-3/32	2-7/32	2-3/8	Zinc	#40
	0—1/2	WNX-SF-3/32	BNX-SF-3/32	2-11/16	2-7/8		
	0—1	WNXL-SF-3/32	BNXL-SF-3/32	3-11/16	3-7/8		
	1/2—1-1/2	WNXEL-SF-3/32	BNXEL-SF-3/32	3-47/64	4-3/8		
1/8	0—5/16	WNXS-SF-1/8	BNXS-SF-1/8	2-7/32	2-3/8	Copper	#30
	0—1/2	WNX-SF-1/8	BNX-SF-1/8	2-11/16	2-7/8		
	0—1	WNXL-SF-1/8	BNXL-SF-1/8	3-11/16	3-7/8		
	1/2—1-1/2	WNXEL-SF-1/8	BNXEL-SF-1/8	3-47/64	4-3/8		
	1-1/2—2-1/2	WNXK-SF-1/8	BNXK-SF-1/8	3-47/64	5-3/8		
5/32	0—5/16	WNXS-SF-5/32	BNXS-SF-5/32	2-7/32	2-3/8	Black	#20
	0—1/2	WNX-SF-5/32	BNX-SF-5/32	2-11/16	2-7/8		
	0—1	WNXL-SF-5/32	BNXL-SF-5/32	3-11/16	3-7/8		
	1/2—1-1/2	WNXEL-SF-5/32	BNXEL-SF-5/32	3-47/64	4-3/8		
3/16	0—5/16	WNXS-SF-3/16	BNXS-SF-3/16	2-7/32	2-3/8	Brass	#10
	0—1/2	WNX-SF-3/16	BNX-SF-3/16	2-11/16	2-7/8		
	0—1	WNXL-SF-3/16	BNXL-SF-3/16	3-11/16	3-7/8		
	1/2—1-1/2	WNXEL-SF-3/16	BNXEL-SF-3/16	3-47/64	4-3/8		
7/32	0—5/16	WNXS-SF-7/32	BNXS-SF-7/32	2-7/32	2-3/8	Zinc	#2
	0—1/2	WNX-SF-7/32	BNX-SF-7/32	2-11/16	2-7/8		
	0—1	WNXL-SF-7/32	BNXL-SF-7/32	3-11/16	3-7/8		
	1/2—1-1/2	WNXEL-SF-7/32	BNXEL-SF-7/32	3-47/64	4-3/8		
1/4	0—5/16	WNXS-SF-1/4	BNXS-SF-1/4	2-7/32	2-3/8	Copper	1/4"
	0—1/2	WNX-SF-1/4	BNX-SF-1/4	2-11/16	2-7/8		
	0—1	WNXL-SF-1/4	BNXL-SF-1/4	3-11/16	3-7/8		
	1/2—1-1/2	WNXEL-SF-1/4	BNXEL-SF-1/4	3-47/64	4-3/8		
5/16	0—1/2	WNX-SF-5/16	BNX-SF-5/16	2-11/16	2-7/8	Black	5/16"
	0—1	WNXL-SF-5/16	BNXL-SF-5/16	3-11/16	3-7/8		
	1/2—1-1/2	WNXEL-SF-5/16	BNXEL-SF-5/16	3-47/64	4-3/8		
	1-1/2—2-1/2	WNXK-SF-5/16	BNXK-SF-5/16	3-47/64	5-3/8		
3/8	0—1/2	WNX-SF-3/8	BNX-SF-3/8	2-11/16	2-7/8	Black With Brass Cap	3/8"
	0—1	WNXL-SF-3/8	BNXL-SF-3/8	3-11/16	3-7/8		
	1/2—1-1/2	WNXEL-SF-3/8	BNXEL-SF-3/8	3-47/64	4-3/8		
	1-1/2—2-1/2	WNXK-SF-3/8	BNXK-SF-3/8	3-47/64	5-7/8		

PART NUMBER EXAMPLE:

WNXEL-SF-1/8



MANUAL OPERATED TEMPORARY FASTENERS



METRIC SIZES - WNX & BNX

HOLE DIA. (mm)	GRIP RANGE (mm)	WING NUT	BAR NUT	BODY LENGTH		DRILL SIZE (mm)	COLOR CODE	
		PART NO.	PART NO.	INSTALLED (mm)	OVERALL (mm)		BODY	RIVET
2.5	0-13	WNX-SF-2.5	BNX-SF-2.5	68.6	73.7	2.5	Silver	Silver
	0-25	WNXL-SF-2.5	BNXL-SF-2.5	94.5	99.3			
3.0	0-13	WNX-SF-3.0	BNX-SF-3.0	68.6	73.7	3.0	Copper	Copper
	0-25	WNXL-SF-3.0	BNXL-SF-3.0	94.5	99.3			
3.5	0-13	WNX-SF-3.5	BNX-SF-3.5	68.6	73.7	3.5	Copper	Brass
	0-25	WNXL-SF-3.5	BNXL-SF-3.5	94.5	99.3			
4.0	0-13	WNX-SF-4.0	BNX-SF-4.0	68.6	73.7	4.0	Black	Black
	0-25	WNXL-SF-4.0	BNXL-SF-4.0	94.5	99.3			
4.5	0-13	WNX-SF-4.5	BNX-SF-4.5	68.6	73.7	4.5	Brass	Silver
	0-25	WNXL-SF-4.5	BNXL-SF-4.5	94.5	99.3			
5.0	0-13	WNX-SF-5.0	BNX-SF-5.0	68.6	73.7	5.0	Brass	Copper
	0-25	WNXL-SF-5.0	BNXL-SF-5.0	94.5	99.3			
5.5	0-13	WNX-SF-5.5	BNX-SF-5.5	68.6	73.7	5.5	Silver	Black
	0-25	WNXL-SF-5.5	BNXL-SF-5.5	94.5	99.3			
6.0	0-13	WNX-SF-6.0	BNX-SF-6.0	68.6	73.7	6.0	Copper	Copper
	0-25	WNXL-SF-6.0	BNXL-SF-6.0	94.5	99.3			
6.5	0-13	WNX-SF-6.5	BNX-SF-6.5	68.6	73.7	6.5	Copper	Black
	0-25	WNXL-SF-6.5	BNXL-SF-6.5	94.5	99.3			
7.0	0-13	WNX-SF-7.0	BNX-SF-7.0	68.6	73.7	7.0	Copper	Silver
	0-25	WNXL-SF-7.0	BNXL-SF-7.0	94.5	99.3			
7.5	0-13	WNX-SF-7.5	BNX-SF-7.5	68.6	73.7	7.5	Black	Brass
	0-25	WNXL-SF-7.5	BNXL-SF-7.5	94.5	99.3			
8.0	0-13	WNX-SF-8.0	BNX-SF-8.0	68.6	73.7	8.0	Black	Black
	0-25	WNXL-SF-8.0	BNXL-SF-8.0	94.5	99.3			

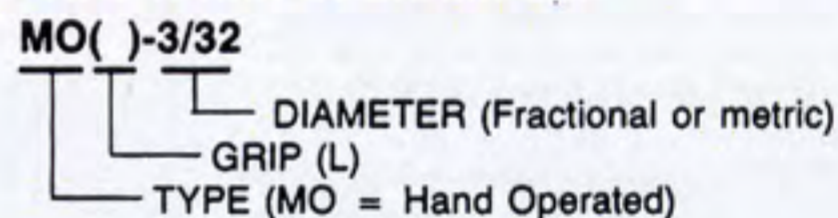
MO SERIES FRACTIONAL SIZES

HOLE DIA. (inches)	GRIP RANGE (inches)	HAND OPERATED	BODY COLOR	DRILL SIZE
		PART NO.		
3/32	0-1/4	MO-3/32	Zinc	#40
	1/4-1/2	MOL-3/32		
1/8	0-1/4	MO-1/8	Copper	#30
	1/4-1/2	MOL-1/8		
5/32	0-1/4	MO-5/32	Black	#20
	1/4-1/2	MOL-5/32		
3/16	0-1/4	MO-3/16	Brass	#10
	1/4-1/2	MOL-3/16		

MO SERIES - METRIC SIZES

HOLE DIA. (mm)	GRIP RANGE (mm)	HAND OPERATED	COLOR CODE		DRILL SIZE (mm)
		PART NO.	BODY	RIVET	
2.0	0-6.5	MO-2.0	Black	Brass	2.0
2.5	0-6.5	MO-2.5	Silver	Silver	2.5
3.0	0-6.5	MO-3.0	Copper	Copper	3.0
3.5	0-6.5	MO-3.5	Copper	Brass	3.5
4.0	0-6.5	MO-4.0	Black	Black	4.0
4.5	0-6.5	MO-4.5	Silver	Brass	4.5

PART NUMBER EXAMPLE:



HANDY CLAMPS

APPLICATIONS

Versatile clamps for a complete range of surfaces, shapes, materials. Applications from lightest plastics to wood clamping, bonding, cementing, display requirements. For business, industry, electronics, laboratory, hobbies and crafts.

FEATURES

- Rugged construction
- Controlled powerful grip
- Maximum clamping action for edge, flange, bench or wall space
- Designed for wide range of materials, thicknesses and shapes

ORDERING INFORMATION

TYPE	APPLICATION	PART NO.	CLAMPING CAPACITY (inches)	EFFECTIVE JAW DEPTH (inches)	BODY LENGTH (inches)
<p>W-Series Spring-Wire with Cam Lever Lock</p>	Sheet metal, light plastics etc. Removable rubber pads.	W-1	0-5/32	1	3-1/4
	Template clamping, pattern layout, etc. Removable rubber pads.	W-2	0-5/32	1-3/8	3-3/4
	Bonding, cementing fabrics, etc. Removable rubber pads.	W-2A	1/8-3/8	1-3/8	3-3/4
	Merchandising display, window dressing, etc. Removable rubber pads.	W-2B	3/16-1/2	1-3/8	3-3/4
	Light wood gluing, work clamping, etc. Removable rubber pads.	W-2C	1/2-3/4	1	3-5/8
	Clamping cloth to cutting tables, etc. Removable rubber pads.	W-2D	3/4-1	7/8	3-1/2
	Clamping bags & thin materials to conveyor. Removable rubber pads.	W-3	0-3/16	2	4-3/4
<p>T-Series Spring-grip</p>	Hand, wall or bench use. Handle has attaching holes. Rubber grip pads.	T-1	0-5/16	1/2	2-5/8
<p>S-Series Flat Spring Steel with Cam Lever Lock</p>	Standard 2 jaws. Rubber pads.	S-1	0-5/32	1/2	2-1/8
	Upper jaw only. Slot and holes for attaching to bench or wall.	S-2E	3/16-5/16	1/2	2-1/8
	Same as S-1, except has double flange holes for attaching. Clamping of wire ends on electrical harness jigs.	S-4	0-5/32	1/2	2-1/8

ANCHOR NUT PLATE DRILL JIGS

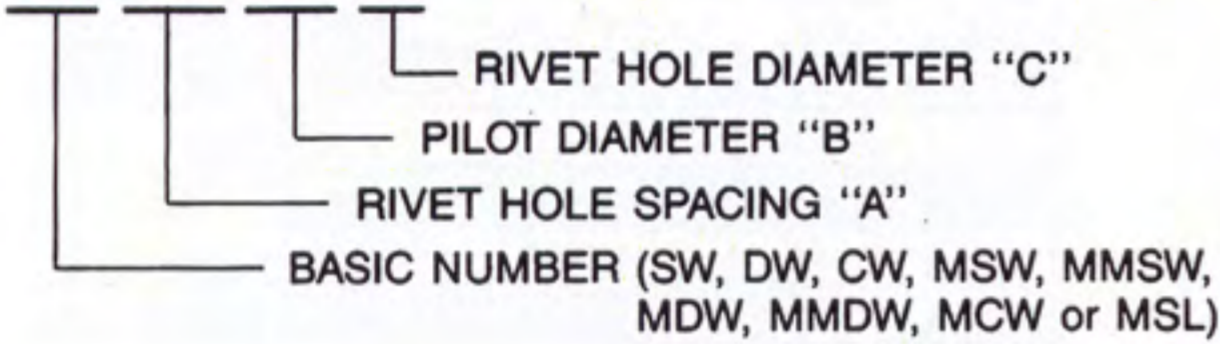
Used for accurately drilling holes for attaching nut plates to various structures.

FEATURES

- Swing-type pivot action
- All steel construction
- Precision-ground pilots
- Pilots are interchangeable
- Special pilot sizes available upon request

PART NUMBER EXAMPLE:

DW-688-217-40



NOTES:

Rivet Hole Spacing "A": This is the centerline spacing between locating pin and rivet holes, or centerline spacing between pilot and rivet hole, whichever application may apply and should be ordered as a decimal dimension.

Pilot Diameter "B": This specifies the decimal dimension of the pilot. In most cases this is the diameter of the drill bit or punch used to make the pilot clearance hole.

Rivet Hole Diameter "C": Specifies recommended drill bit number to use when drilling rivet holes.

RECOMMENDED DRILL SIZE	FOR DRILLING RIVET HOLE
#51	1/16"
#40	3/32"
#30	1/8"
#20	5/32"

INSTALLATION SEQUENCE

Step #1:

Insert pilot into pre-drilled or punched pilot hole.

Step #2:

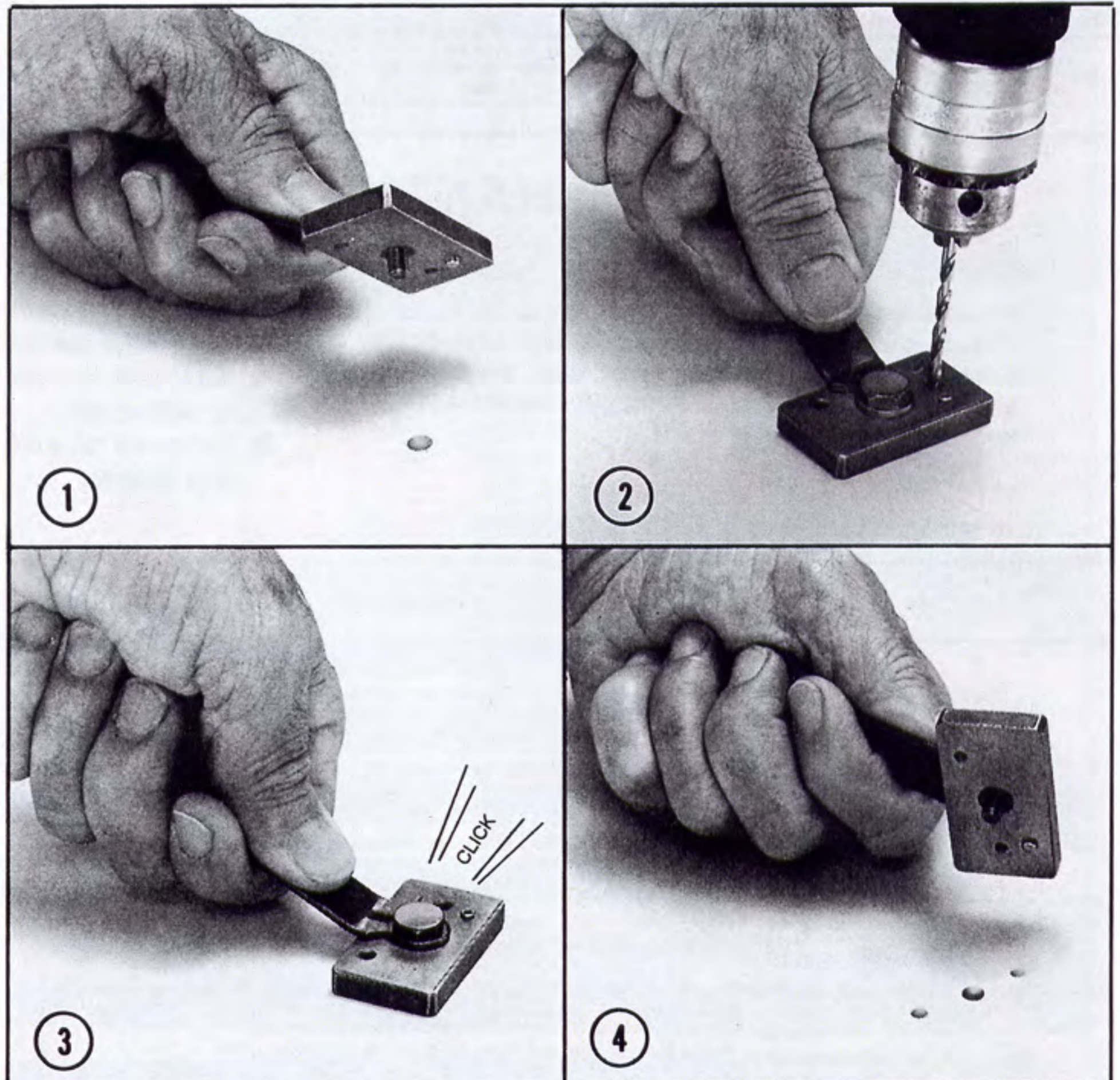
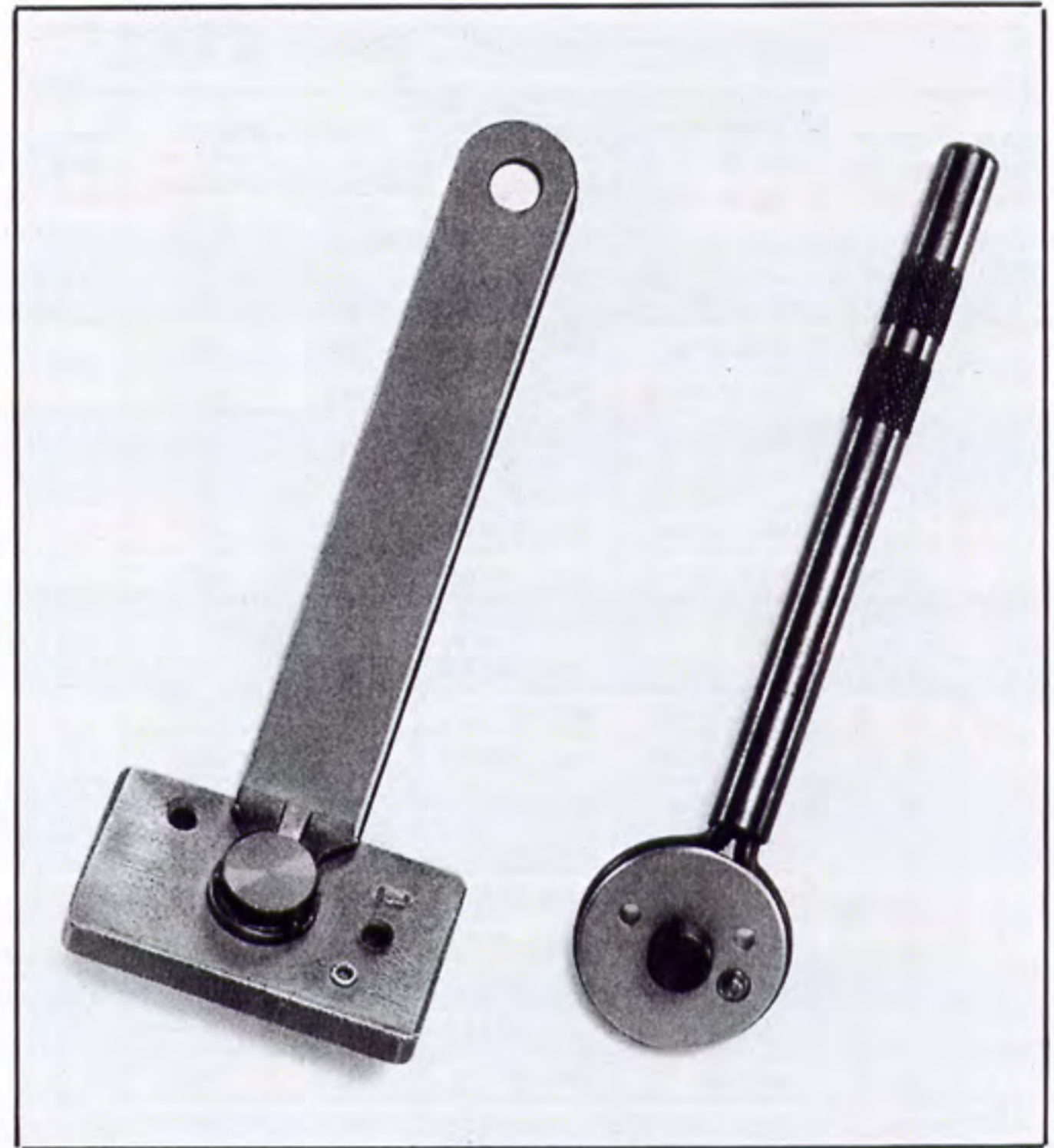
Visually align jig so that it meets the desired plate position, then drill through the hole marked #1.

Step #3:

Swing jig until the spring-loaded pin engages in the hole just drilled.

Step #4:

Carefully drill the second hole then remove the jig. You are now ready to drill for the next nut plate.

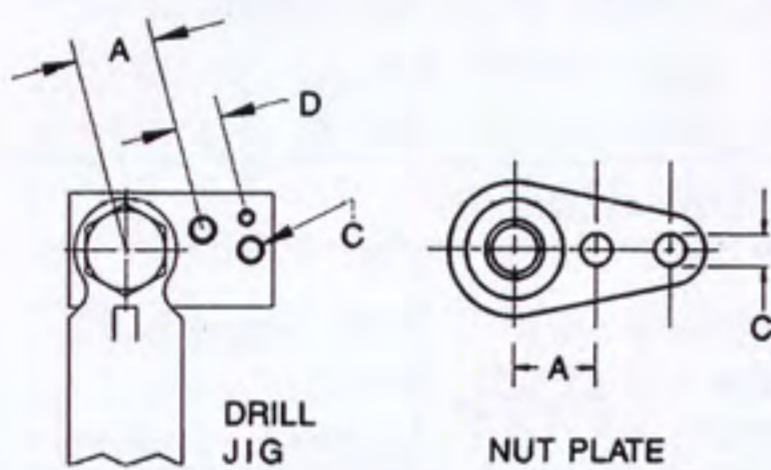




ANCHOR NUT DRILL JIGS

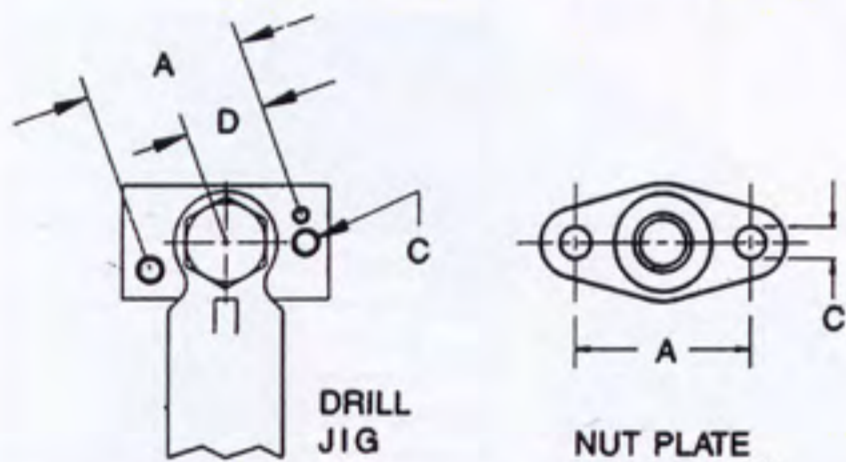
STANDARD TYPES

SW - SINGLE WING



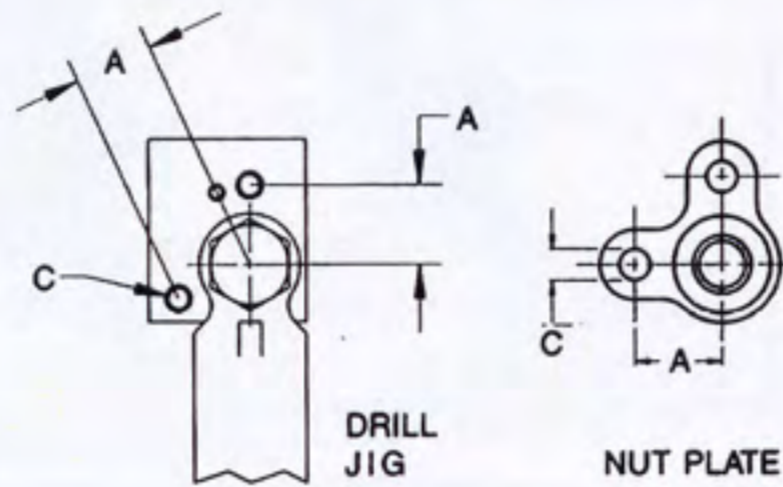
BASIC NUMBER	"A"	PILOT DIA. "B"	RIVET HOLE DIA. "C"	"D" REF.
Standard	SW 344	S P E C I F Y	#40 (.098)	.312
	SW 344		#30 (.1285)	.312
	SW 437		#40 (.098)	.312
	SW 500		#40 (.098)	.312
	SW 500		#30 (.1285)	.312
Metric	SW 9.5 (.374)	F Y	2.5 (.098)	.315
	SW 11 (.433)		.33 (.130)	.315

DW - DOUBLE WING



BASIC NUMBER	"A"	PILOT DIA. "B"	RIVET HOLE DIA. "C"	"D" REF.
Standard	DW 888	S P E C I F Y	#40 (.098)	.344
	DW 888		#30 (.1285)	.344
	DW 718		#40 (.098)	.359
	DW 718		#30 (.1285)	.359
	DW 750		#40 (.098)	.375
	DW 750		#30 (.1285)	.375
	DW 800		#40 (.098)	.400
	DW 828		#30 (.1285)	.414
	DW 875		#40 (.098)	.437
	DW 875		#30 (.1285)	.437
	DW 938		#40 (.098)	.489
	DW 938		#30 (.1285)	.489
	DW 1000		#40 (.098)	.500
	DW 1000		#30 (.1285)	.500
	DW 1082		#30 (.1285)	.531
	DW 1125		#40 (.098)	.582
	DW 1125		#30 (.1285)	.582
	DW 1125		#20 (.161)	.582
	DW 1187		#40 (.098)	.593
	DW 1187		#30 (.1285)	.593
	DW 1250		#40 (.098)	.625
	DW 1250		#30 (.1285)	.625
	DW 1250		#20 (.161)	.625
	DW 1375		#40 (.098)	.688
DW 1375	#30 (.1285)	.688		
DW 1400	#40 (.098)	.750		
DW 1400	#30 (.1285)	.750		
Metric	DW 17 (.670)	F Y	2.5 (.098)	.335
	DW 19 (.748)		2.5 (.098)	.374
	DW 22 (.866)		3.3 (.130)	.433

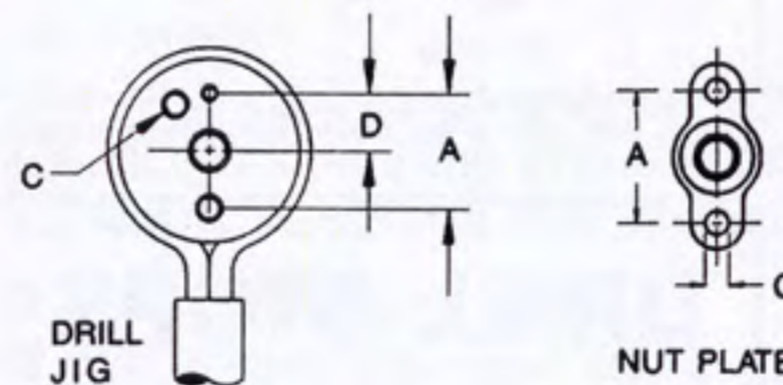
CW - CORNER WING



BASIC NUMBER	"A"	PILOT DIA. "B"	RIVET HOLE DIA. "C"
Standard	CW 344	S P E C I F Y	#40 (.098)
	CW 344		#30 (.1285)
	CW 359		#30 (.1285)
	CW 359		#40 (.098)
	CW 437		#40 (.098)
	CW 500		#40 (.098)
	CW 500		#30 (.1285)
	CW 618		#30 (.1285)
	CW 618		#40 (.098)

MINIATURE and MICROMINIATURE TYPES

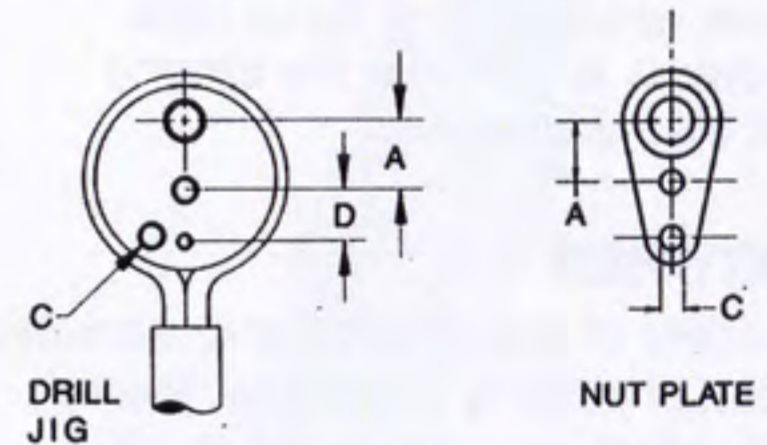
MDW & MMDW DOUBLE WING



BASIC NUMBER	"A"	PILOT DIA. "B"	RIVET HOLE DIA. "C"	"D" REF.
Standard	*MMDW 250	S P E C I F Y	#51 (.067)	.125
	*MMDW 296		#51 (.067)	.148
	MDW 296		#40 (.098)	.148
	*MMDW 343		#51 (.067)	.171
	MDW 406		#30 (.1285)	.203
	MDW 406		#40 (.098)	.203
	MDW 437		#40 (.098)	.218
	*MMDW 437		#51 (.067)	.218
	MDW 468		#40 (.098)	.234
	*MMDW 500		#51 (.067)	.250
	MDW 500		#30 (.1285)	.250
	MDW 500		#40 (.098)	.250
	MDW 582		#40 (.098)	.281
	MDW 590		#40 (.098)	.295
	MDW 600		#40 (.098)	.300
	MDW 625		#30 (.1285)	.312
	MDW 625		#40 (.098)	.312
	Metric		MDW 14 (.551)	F Y
MDW 18 (.83)		2.5 (.098)	.315	

*MICRO MINIATURE

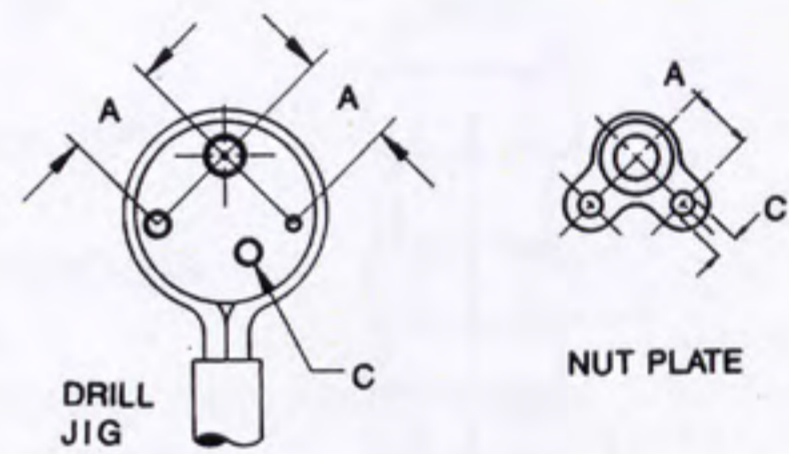
MSW & MMSW SINGLE WING



BASIC NUMBER	"A"	PILOT DIA. "B"	RIVET HOLE DIA. "C"	"D" REF.
Standard	*MMSW 171	S P E C I F Y	#51 (.067)	.219
	MSW 203		#40 (.098)	.219
	MSW 218		#40 (.098)	.219
	MSW 234		#40 (.098)	.219
	MSW 250		#40 (.098)	.219
	MSW 281		#40 (.098)	.219
Metric	MSW 07 (.267)	F Y	2.5 (.098)	.217
	MSW 08 (.315)		2.5 (.098)	.217

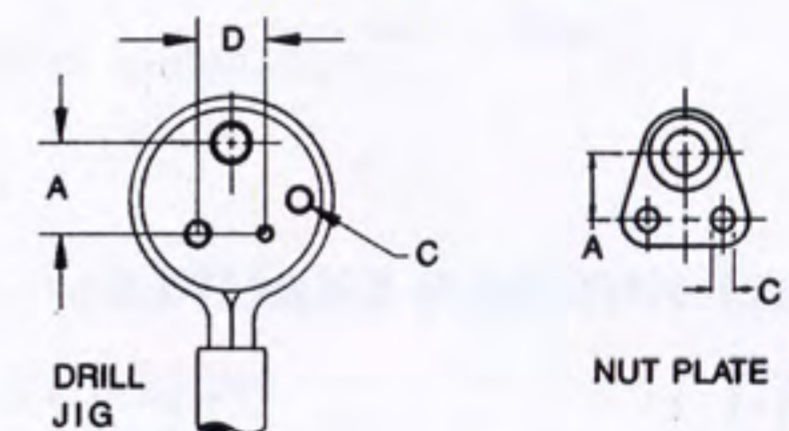
*MICRO MINIATURE

MCW - CORNER WING



BASIC NUMBER	"A"	PILOT DIA. "B"	RIVET HOLE DIA. "C"
Standard	MCW 203	S P E C I F Y	#40 (.098)
	MCW 218		#40 (.098)
	MCW 234		#40 (.098)
	MCW 250		#40 (.098)
	MCW 281		#40 (.098)
	MCW 312		#30 (.1285)
Metric	MCW 07 (.278)	F Y	2.5 (.098)
	MCW 08 (.315)		2.5 (.098)

MSL - SINGLE LUG



BASIC NUMBER	"A"	PILOT DIA. "B"	RIVET HOLE DIA. "C"	"D" REF.		
Standard	MSL 243	S P E C I F Y	#40 (.098)	.219		
	MSL 250		#40 (.098)	.219		
	MSL 281		#40 (.098)	.219		
	MSL 312		#30 (.1285)	.250		
	MSL 344		#30 (.1285)	.300		
	MSL 359		#30 (.1285)	.289		
	MSL 438		#30 (.1285)	.300		
	MSL 500		#30 (.1285)	.400		
	Metric		MSL 9.5 (.323)	F Y	2.5 (.098)	.374



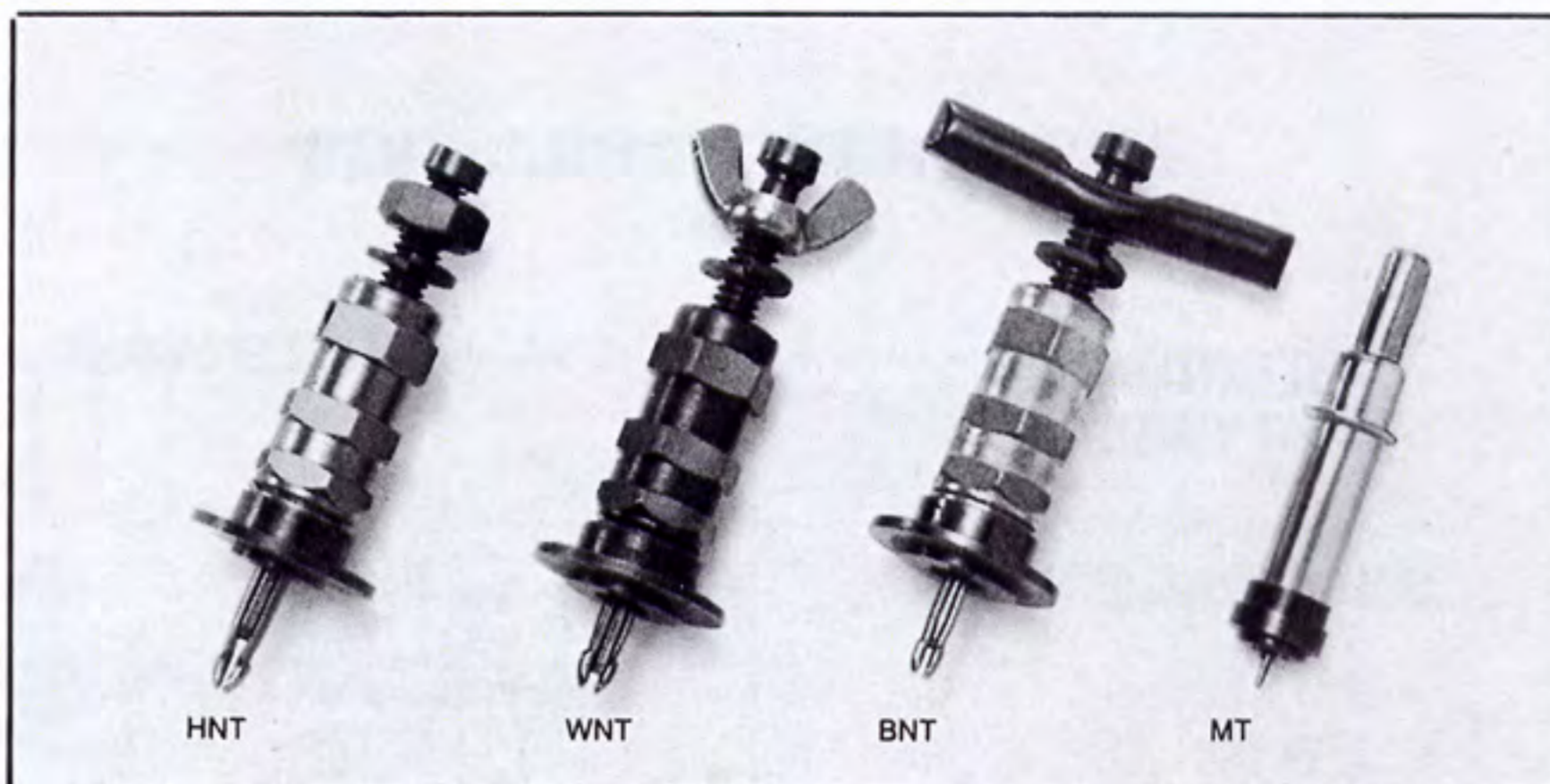
TEMPLATES & DRILL STOPS

TEMPLATES

For use when the first panel hole diameter is larger than the second panel hole diameter.

FEATURES

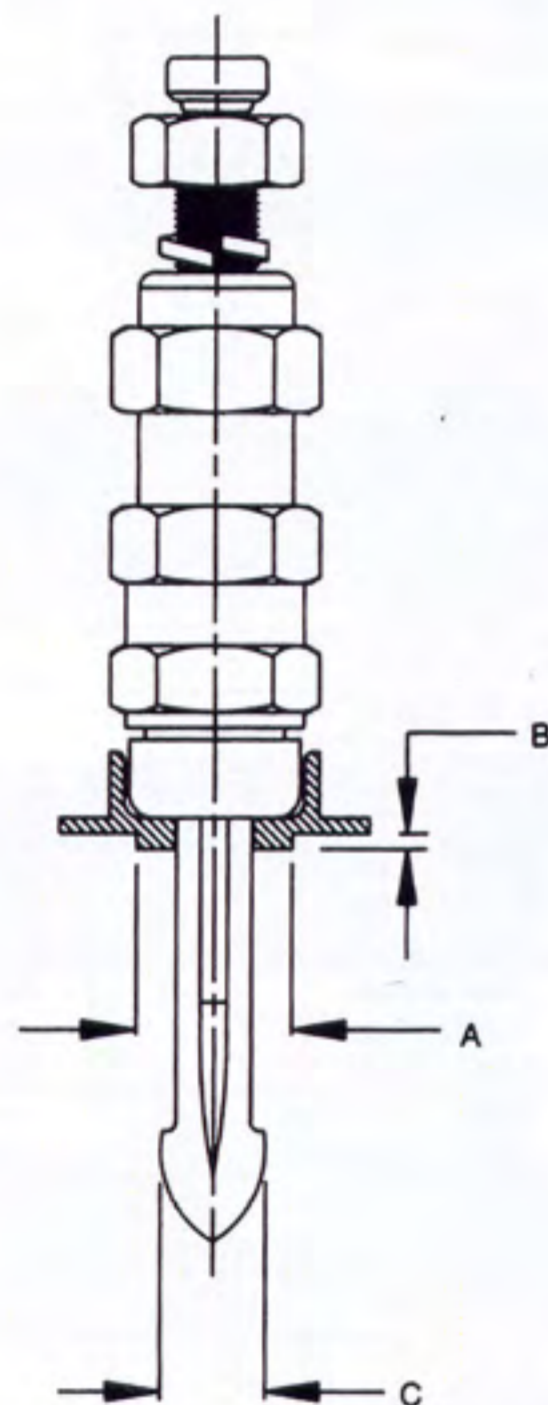
- Variety of grip lengths and diameters
- Use of existing installation tooling
- Standard pilot thickness of .060
- Special configurations available upon request
- Color coded for easy installation



TEMPLATE ORDERING INFORMATION

TYPE	MODEL	"A" STANDARD PILOT DIAMETERS	"B" PILOT THICKNESS (Std. all models)	"C" HOLE DIAMETER	"D" GRIP SIZE	
					RANGE	DESIGNATION
Power	HNT (Hex nut)	.500"	.060	See Tables on pages 5 & 6	0—1/2"	None
		.625"			0—1"	L
		.750"			1/2—1-1/2"	EL
		1.00"			1-1/2—2-1/2"	K
Plier	MT STANDARD	.187"	.060	See Tables on pages 7 & 8	0—1/4"	None
		.250"			1/4—1/2"	L
		.312"			1/2—3/4"	EL
	MHDT (Heavy duty)	.375"			0—1/2"	None
		.437"			1/2—1"	L
		.500"				
Manual	WNT (Wing Nut)	.500"	.060	See Tables on pages 9 & 10	0—1/2"	None
		.625"			0—1"	L
	BNT (Bar Nut)	.750"			1/2—1-1/2"	EL
		1.00"			1-1/2—2-1/2"	K

NOTE: 1/16" grip is lost when using template fasteners.



PART NUMBER EXAMPLE:

HNT()
 WNT()
 BNT()-.500-.060-1/8
 M()T
 MHD()T

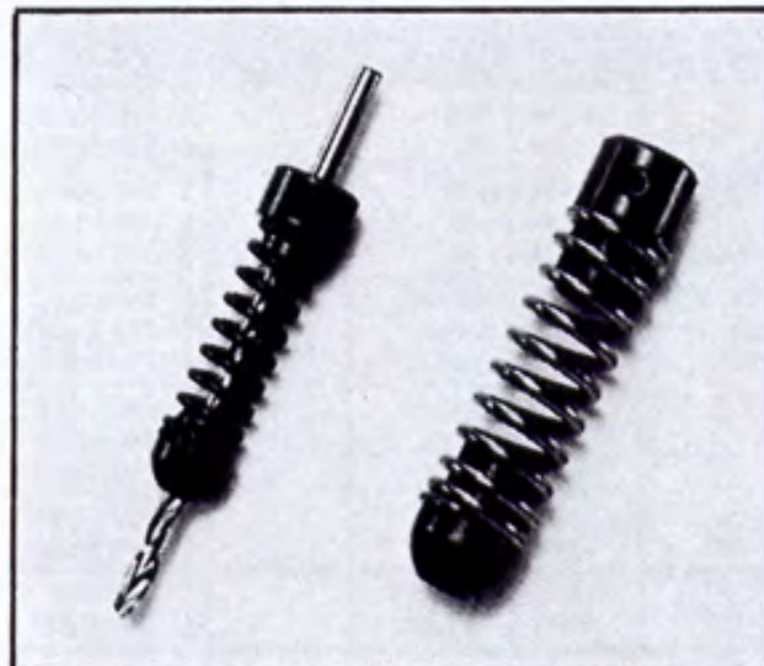
C (Hole Diameter)
 B (Pilot Thickness)
 A (Standard Pilot Diameter)
 D (Grip Size)

DRILL STOPS

Used to control drilling depth and protect surfaces from being damaged due to contact with the drill motor's chuck.

FEATURES

- Regulates hole depth
- Cushions breakthrough
- Reduces surface marring
- Minimizes drill breakage
- Available in many sizes



ORDERING INFORMATION

DRILL SIZES	HOLE DIA.	BASIC PART NO.	COLOR CODE
#50	.073"	DS-50	Black
#40	.099"	DS-40	Zinc
#30	.130"	DS-30	Copper
#28	.144"	DS-28	Zinc
#21	.161"	DS-21	Black
#20	.163"	DS-20	Zinc
#12	.191"	DS-12	Brass
#10	.196"	DS-10	Brass
#1/4	.257"	DS-1/4	Copper
#5/16	.315"	DS-5/16	Copper

COMPOSI-LOK® II

High strength blind bolt for composite materials



FEATURES

- Large blind side upset
- Light weight
- Visual locking feature
- Controlled clamp-up
- Lower total installed costs
- Simpler long life tooling
- Fuel tight sealing capability

VISU-LOK® II

High strength blind bolt for use in metallic structures



- High clamp-up
- Self locking
- Self inspecting
- Lower total installed costs
- Use of existing tooling
- Wide range of materials, lengths, diameters & head styles

ADJUSTABLE BUSHING

Manually operated radial expansion fasteners



FEATURES

- Ideal for vibration applications
- Removes structural play
- Provides near perfect alignment
- Permits quick-release fastening
- Allows for blind fastening

WEDGELOCK

CYLINDRICAL BODY

A temporary blind fastener for use in composite and metallic structures

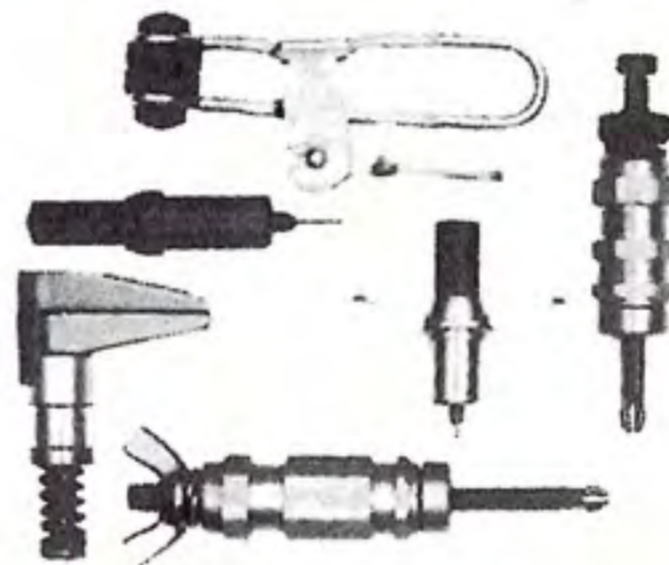
FEATURES

- Easy installation
- 50% time savings in installation and removal efficiency
- Ideal for robotic applications
- Simplified installation tooling



OTHER TEMPORARY FASTENERS

Monogram offers a wide range of lightweight, temporary fastening systems consisting of clamps, template fasteners, drilling aids and plier operated fasteners.



FEATURES

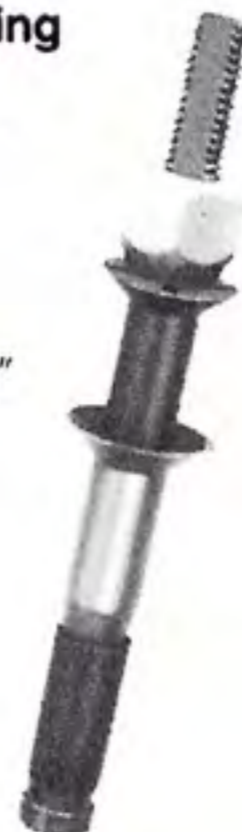
- Wide range of fastening methods
- Inch or metric sizes
- Specials
- Reusable
- Durable
- Simple to use

RADIAL-LOK®

A high strength, hole filling fastener for use in both composite and metallic structures

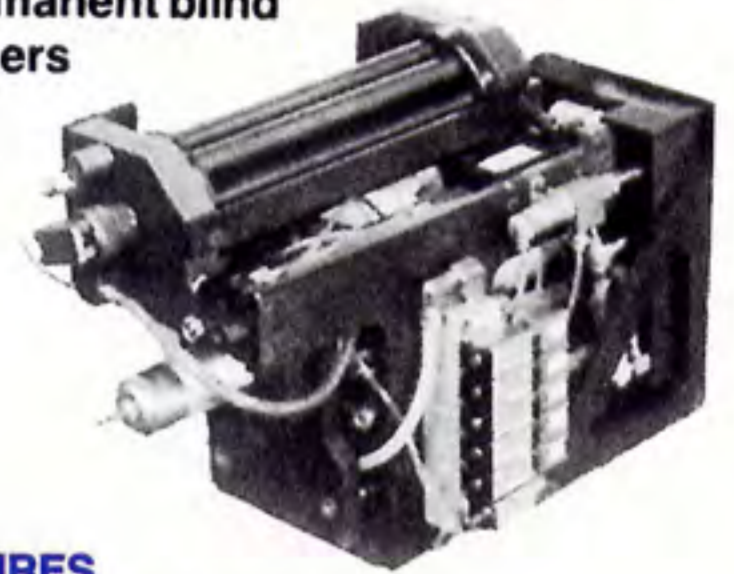
FEATURES

- Radial expansion up to .005"
- Lightning strike protection in composite structures
- High clamp-up
- Ideal in vibration applications
- Available in 3/16" to 3/8" diameters



ROBOTICS

Revolutionary automated fastening system designed to install temporary or permanent blind fasteners



FEATURES

- Fastener and installation tooling designed specifically for automatic and robotic applications
- Light weight
- Robotic end arm and stationary point applications
- Remote center compliance device incorporated into design
- Common cylindrical driving element allows for installation of a wide variety of fasteners with no change of tooling

OSI-BOLT®

High strength fastener for primary structure

FEATURES

- Interference fit capabilities (.006" in aluminum and .003" in steel)
- 95 and 112 KSI shear systems
- Always breaks flush; no corebolt shaving required
- Directly interchangeable with standard & oversize pin & collar systems
- Robotically compatible using Monogram's patented double cylindrical drive system



Maf

Adjustable fastener for soft core and composite materials

FEATURES

- Variety of head style combinations
- Adjustable clamp-up
- Positive mechanical lock
- Choice of three materials
- Available in three sizes plus oversize





3423 South Garfield Avenue, Los Angeles, California 90040-3103
(323) 722-4760 • FAX (323) 721-1851
FSCM 98524

European Office

Karenza, Little Barn, Thursley Rd., Elstead, Surrey, England
441-252-702331 • FAX 441-252-703654

www.monogram aerospace.com