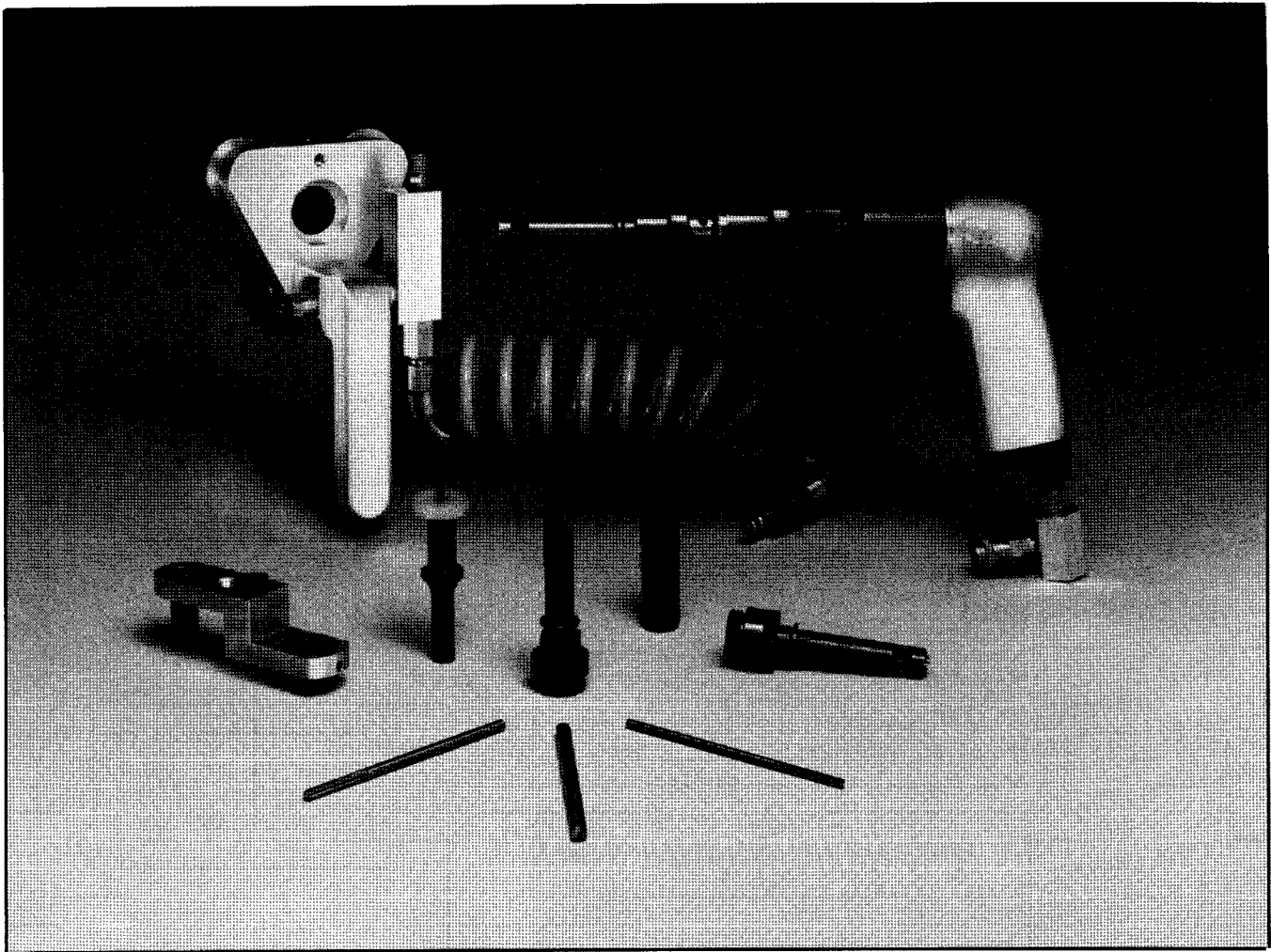


MONOGRAM AEROSPACE FASTENERS

RK5000 FASTENER REMOVAL KIT



DESIGNED SPECIFICALLY FOR REMOVAL OF 5/32", 3/16" and 1/4" VISU-LOK® and COMPOSI-LOK® FASTENERS

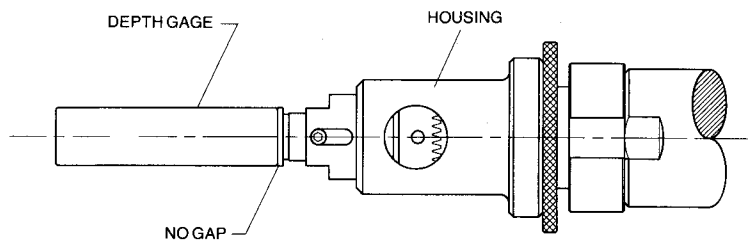
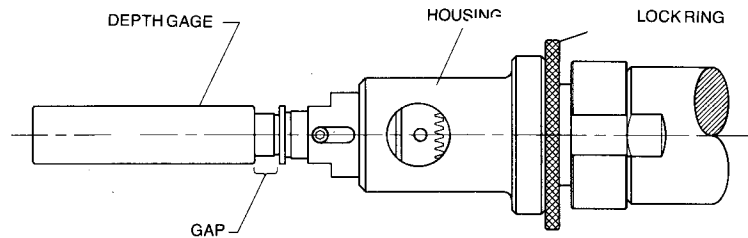
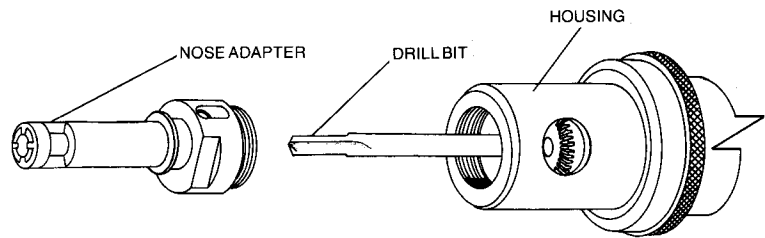
Over the years Monogram has supported the removal of Visu-Lok and Composi-Lok blind fasteners throughout the aircraft industry by supplying air-frame manufacturers with specialized tooling to drill out such fasteners. Now, Monogram introduces its newest, state-of-the-art fastener removal kit—the RK5000! Economically priced at one-third the cost of the previous removal system, this kit focuses solely on the removal of 5/32", 3/16" and 1/4" diameter Visu-Lok and Composi-Lok fasteners—the most commonly used diameters in the aircraft industry. The removal kit set-up procedure has been greatly simplified and removal time for a given fastener is significantly improved.



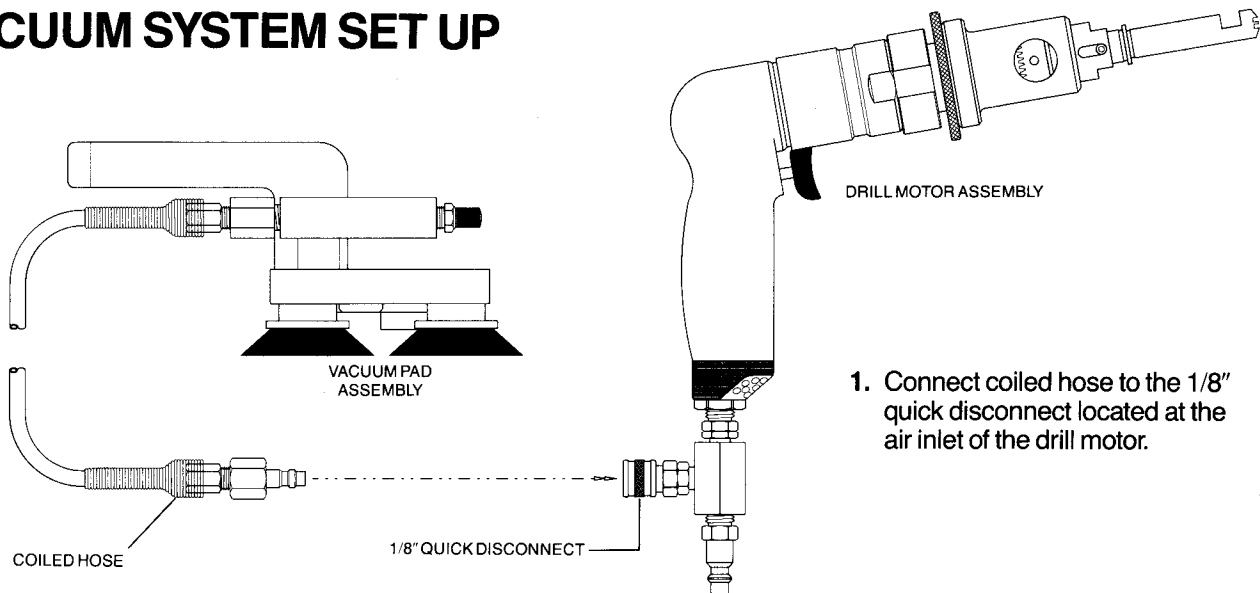
SET UP PROCEDURE

DRILL SET UP

1. Determine the material, diameter, and head style (flush or hex) of fastener to be removed.
2. Select proper diameter drill and proper nose adapter module.
3. Insert drill into chuck until it bottoms out and tighten chuck.
4. Install proper nose adapter module into housing receptacle. **Note:** *Left hand threads.*
5. Insert depth gage over nose adapter module. Adjust cutting depth by rotating housing until a gap is created between the base of the depth gage and flange of the nose adapter. After creating a gap, rotate housing in opposite direction until base of depth gage barely contacts flange of nose adapter. Tighten knurled lock ring up against the housing while maintaining housing position. Cutting depth is now set for head to shank removal. Remove depth gage.



VACUUM SYSTEM SET UP

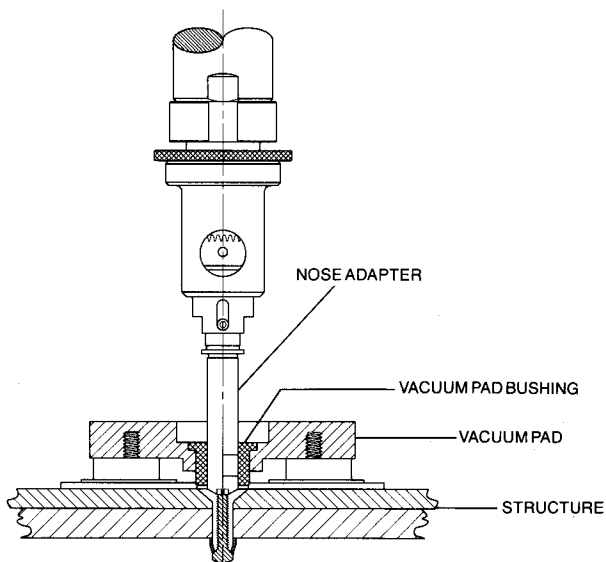


1. Connect coiled hose to the 1/8" quick disconnect located at the air inlet of the drill motor.

VACUUM PAD INDEXING

Slide the nose adapter, which also acts as an index pin, through the vacuum pad bushing. Position center of vacuum pad over the fastener to be removed, engaging the recesses of the fastener nut body with the nose adapter. Slide vacuum pad forward so that it adheres to the structure's surface.

Double check centering by ensuring that the nose adapter "nibs" are engaged in the recesses of the fastener. Should vacuum pad require repositioning, depress poppet valve button on vacuum pad handle to temporarily discontinue vacuum supply and perform the indexing process again until proper centering has been achieved.

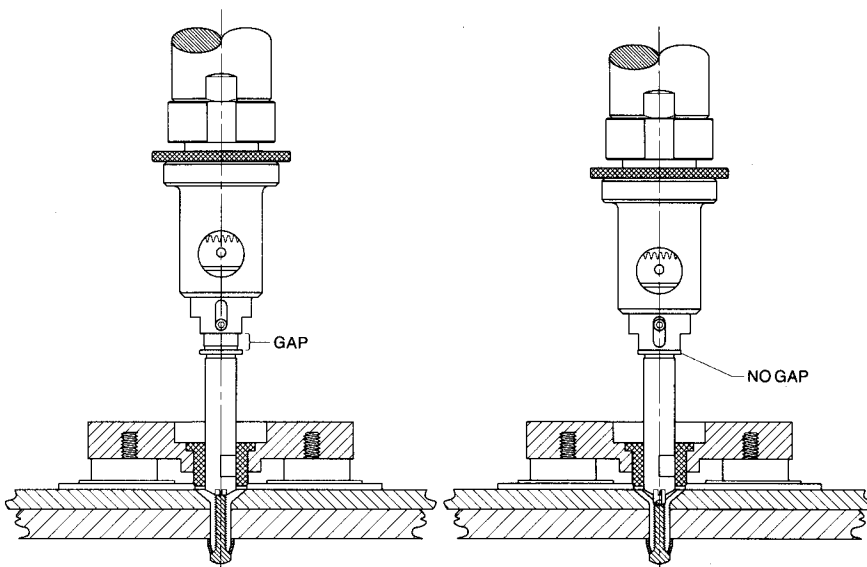


DRILLING

After successfully engaging the recesses of the fastener with the nose adapter, bring motor up to full RPM. **Caution:** Do not touch fastener with drill bit until motor reaches its full RPM, or drill bit may be chipped.

After reaching full RPM, drill fastener until gap is closed between flange and receptacle. This can be gaged visually or audibly by a marked increase in the RPM of the motor.

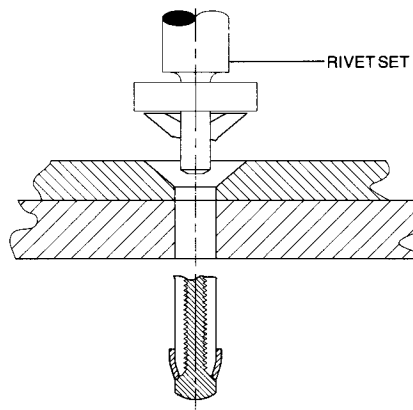
Remove drill and vacuum pad.



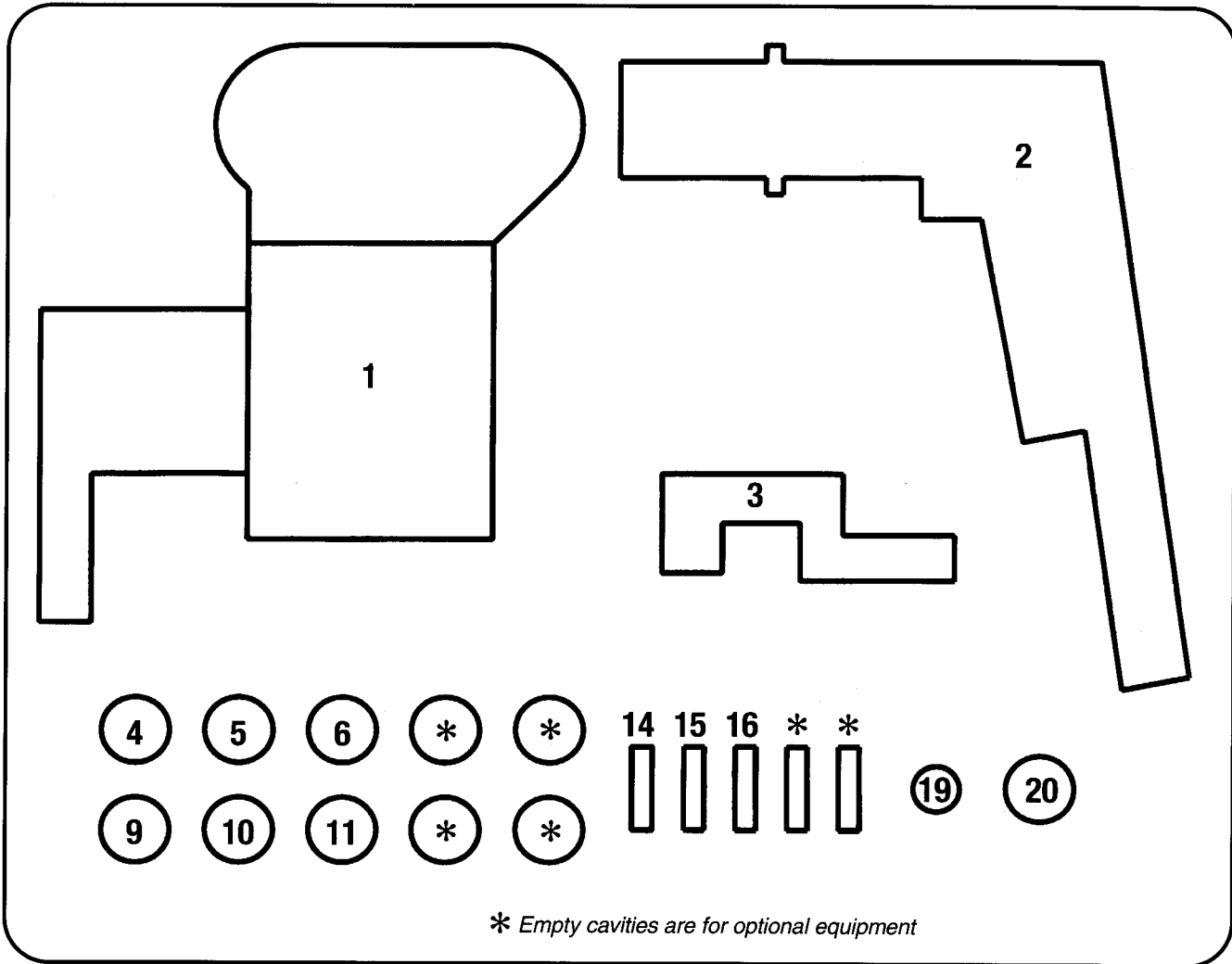
KNOCKOUT

Knockout can be achieved by utilizing a pneumatic utility hammer and the Monogram supplied rivet set. **Note:** Rivet set will fit most industry standard pneumatic utility hammers. Connect motor to air hose and insert rivet set in utility hammer. Adjust throttle control to a moderate level and knock out fastener.

If desired, a hammer and drift pin may be used to knock out fastener.



RK5000 PARTS PLACEMENT DIAGRAM



* Empty cavities are for optional equipment

NOTE: Other RK5000 derivatives exist, and Placard Identification will vary accordingly.

ITEM	PART NO.	DESCRIPTION	VISUAL IDENTIFICATION
1	RM3196	VACUUM PAD ASSEMBLY	
2	RM3197	DRILL MOTOR ASSEMBLY	
3	RM3091	CLOSE EDGE ATTACHMENT	

ITEM	PART NO.	DESCRIPTION	VISUAL IDENTIFICATION
4	RM3118-05	FLUSH HEAD NOSE PIECE	
5	RM3118-06		
6	RM3118-08		
9	RM3122-05	PROTRUDING HEX HEAD NOSE PIECE	
10	RM3122-06		
11	RM3122-08		
14	RM3116-05	CARBIDE DRILL BIT	
15	RM3116-06		
16	RM3116-08		
19	RM3125-1	DEPTH GAGE	
20	RM3099-05	RIVET SET	

OPTIONAL EQUIPMENT



ITEM	PART NO.	DESCRIPTION	VISUAL IDENTIFICATION
1	RM3118-07	NOSE PIECE FLUSH HEAD REMOVAL	
2	RM3118-09		
3	RM3118-10		
4	RM3118-11		
5	RM3118-12		
6	RM3122-07	NOSE PIECE PROTRUDING HEX HEAD REMOVAL	
7	RM3122-09		
8	RM3122-10		
9	RM3122-11		
10	RM3122-12	NOSE PIECE LOW PROFILE PROTRUDING HEAD	
11	RM3204-05		
12	RM3204-06		
13	RM3204-07		
14	RM3204-08		
15	RM3204-09		
16	RM3204-10		
17	RM3204-11		
18	RM3204-12	CARBIDE DRILL BITS REMOVAL	
19	RM3116-07		
20	RM3116-09		
21	RM3116-10		
22	RM3116-11		
23	RM3116-12		

ITEM	PART NO.	DESCRIPTION	VISUAL IDENTIFICATION
24	RM3125-02	DEPTH GAGE ①	
25	RM3099-09	RIVET SET ②	

- ① Used for setting depth on protruding head 9/32, 5/16, 11/32 & 3/8 and for flush head 11/32 & 3/8 diameters.
② Used on diameters -9 through -12.

NOSE PIECE TO HEADSTYLE ASSOCIATION

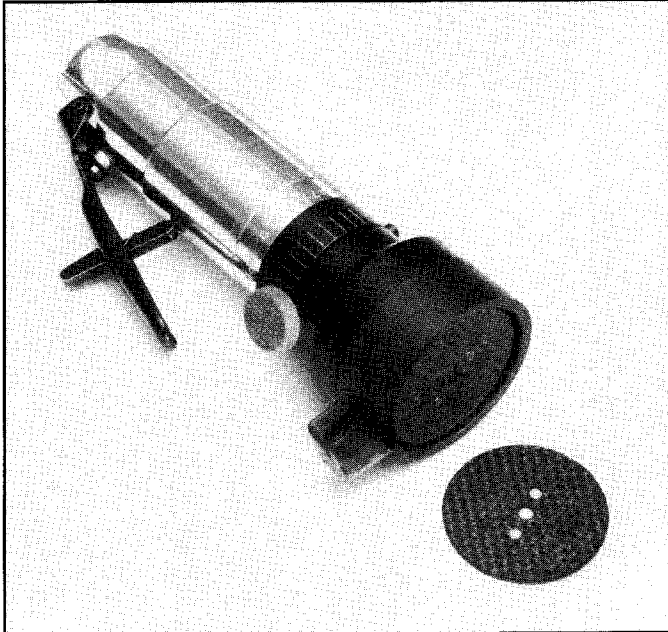
NOSE PIECE Part Number/Series	HEADSTYLE REMOVED	VISUAL I.D.
RM3118	FLUSH	
RM3122	PROTRUDING HEX	
RM3204	LOW PROFILE PROTRUDING	

HELPFUL HINTS

1. Cover holes and other leak paths under the Vacuum Pad with transparent tape to achieve full vacuum.
2. Hex Head and Low Profile Protruding Head fasteners do not require the Vacuum Pad Fixture. The Protruding Head Nose Pieces prevent the Drill Motor and Cutting Tool from drifting off centerline of the cutting plane.
3. If, after drilling, the shank cannot be easily driven out of the structure, increase the Cutting Tool protrusion and redrill. Using the Vacuum Pad Fixture for redrilling operation is not necessary. If sufficient drilling depth is accomplished, the operator can drive the shank out of the structure easily. Long grip fasteners installed in an interference fit hole will generally require further driving using a punch and a hammer if the head to shank removal method is employed.
4. Small tool repair should replace the Vacuum Pad Muffler (RC 3016) periodically as imbedded particles impede proper air flow and vacuum function.
5. Use care in storing and cleaning components to prevent damage.
6. Good shop practice should be exercised when sharpening and cleaning drills.
7. Pintails which protrude above skin surface should be milled or shaved flush before drilling using Monogram's Pintail Shaving & Milling Tools.
8. Avoid ingesting chips and dirt with vacuum pad.

**COREBOLT BREAK-OFF SHAVING AND MILLING TOOLS
DESIGNED SPECIFICALLY FOR USE WITH VISU-LOK® & COMPOSI-LOK® FASTENERS**

PINTAIL SHAVING UNIT



- Shaves pintail protrusions to meet aircraft flushness requirements
- 30,000 rpm promotes swift pintail "slicing"
- Cutting depth adjustment increments of .001"
- Economical cutting discs
- Lightweight (1¼ pounds)
- One-handed operation

Monogram's Pintail Shaving unit is a unique and easily operated tool for shaving corebolt breakoffs on Composi-Lok and Visu-Lok fasteners where flushness requirements must be met. Unlike traditional, dual rotation, carbide milling units, our Shaver actually "slices" the corebolt, producing uninterrupted cuts and minimal vibration. Additionally, disc changeover is economical, quick and trouble free, making it the most user-friendly and efficient pintail shaving unit available.

PINTAIL MILLING UNIT



- Operates with any drill motor
- Perfect for milling corebolts on fasteners recessed into the airframe structure, such as those on stealth applications
- .001" cutting depth increments
- Utilizes single rotation center cutting end mill
- Locating nibs on the Miller nose piece help prevent drifting while cutting
- Designed for precise cutting, specifically in applications where the corebolt must ultimately rest slightly below the fastener head
- Compact design fits in the palm of your hand

When accurate trimming and special flushing requirements of corebolts is necessary, Monogram's Pintail Milling Unit is an ideal tooling option to perform the job. In a single stroke, the unit can efficiently remove .001" to .005" of material depending on the tool depth adjustment. A supplement to our Pintail Shaving unit, the Miller is a very effective corebolt flushing tool, particularly in stealth applications where fastener heads are intentionally seated below skin surfaces to avoid radar detection. It is also ideal for milling corebolts so that they rest slightly below the head of the fastener, a feature no other milling unit offers. The Pintail Miller itself utilizes a single rotation, center cutting end mill, which produces very clean, polished-like surfaces in seconds.



OUR NEW AREA CODE IS
323

MONOGRAM AEROSPACE FASTENERS

Headquarters: 3423 S. Garfield Ave., Los Angeles, CA 90022-0547 • Phone: (213) 722-4760 • FAX (213) 721-1851
European Office: Karenza, Little Barn, Thursley Rd., Surrey, England • 44-252-702331 • Telex 85-87-25 • FAX 44-252-703654



Monogram Aerospace Fasteners

Headquarters

**3423 South Garfield Avenue
Los Angeles, California 90022-0547
(323) 722-4760 Fax (323) 721-1851**

European Office

**Karenza, Little Barn, Thursley Rd
Elstead, Surrey, England
44.1252.702331 Fax 44.1252.703654**

Internet: www.MonogramAerospace.com

Email: techsales@MonogramAerospace.com