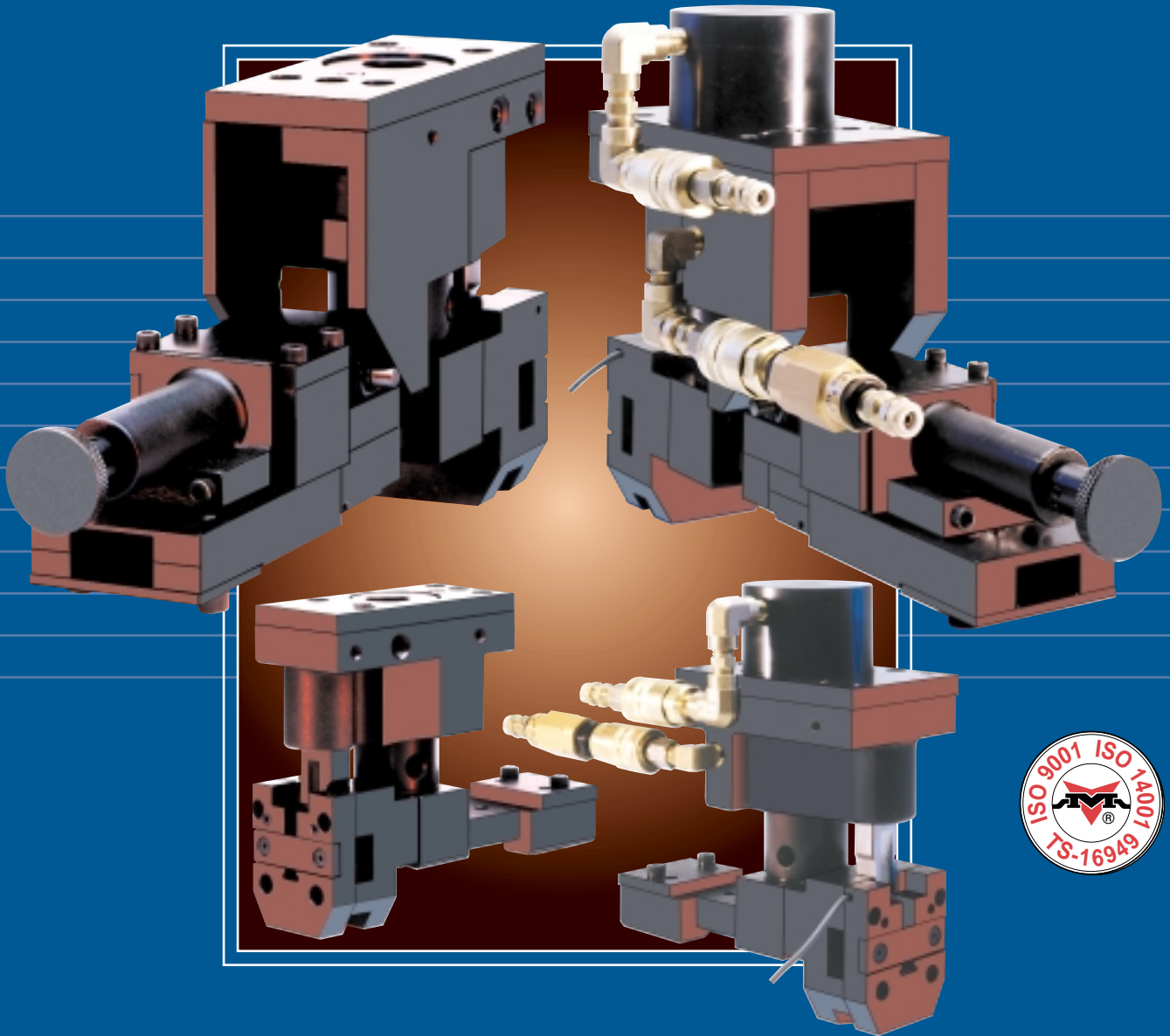


PIERCE NUT INSTALLATION TOOLING

REEL-FEED® AND BULK HEADS



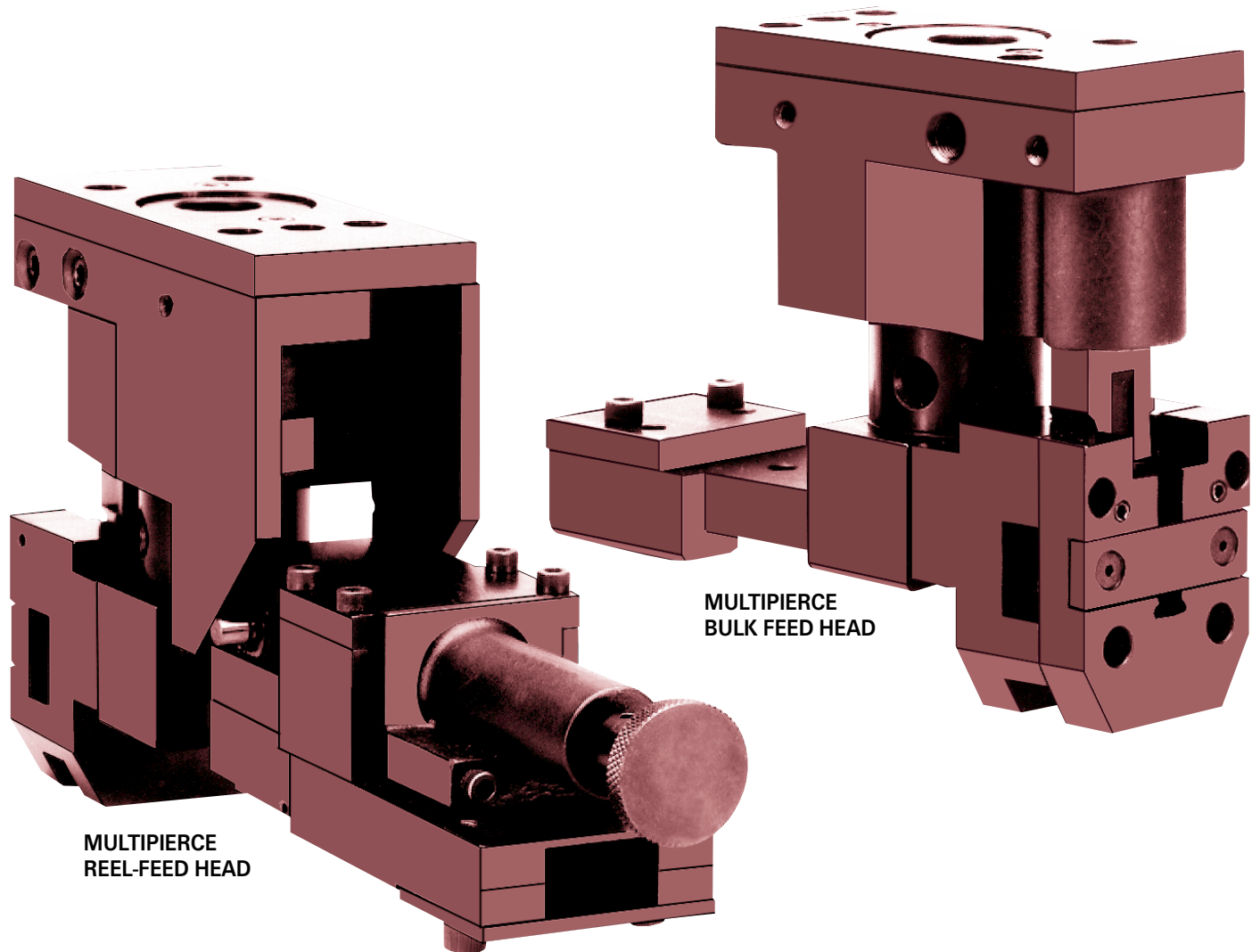
The total-service fastening
systems company.



MULTIFASTER®

Installation Tooling

Select the Pierce Nut that best meets your application requirements; then select the desired Head for either bulk or Strip Pierce Nut installation. Each Head locates the nut precisely within the die and, on each stroke of the press, drives a nut into the panel and securely locks it in place. All heads are rugged and proven dependable by years of service in the field. Choose the Installation Tooling that best suits YOUR needs. . .



**MULTIPIERCE
REEL-FEED HEAD**

**MULTIPIERCE
BULK FEED HEAD**

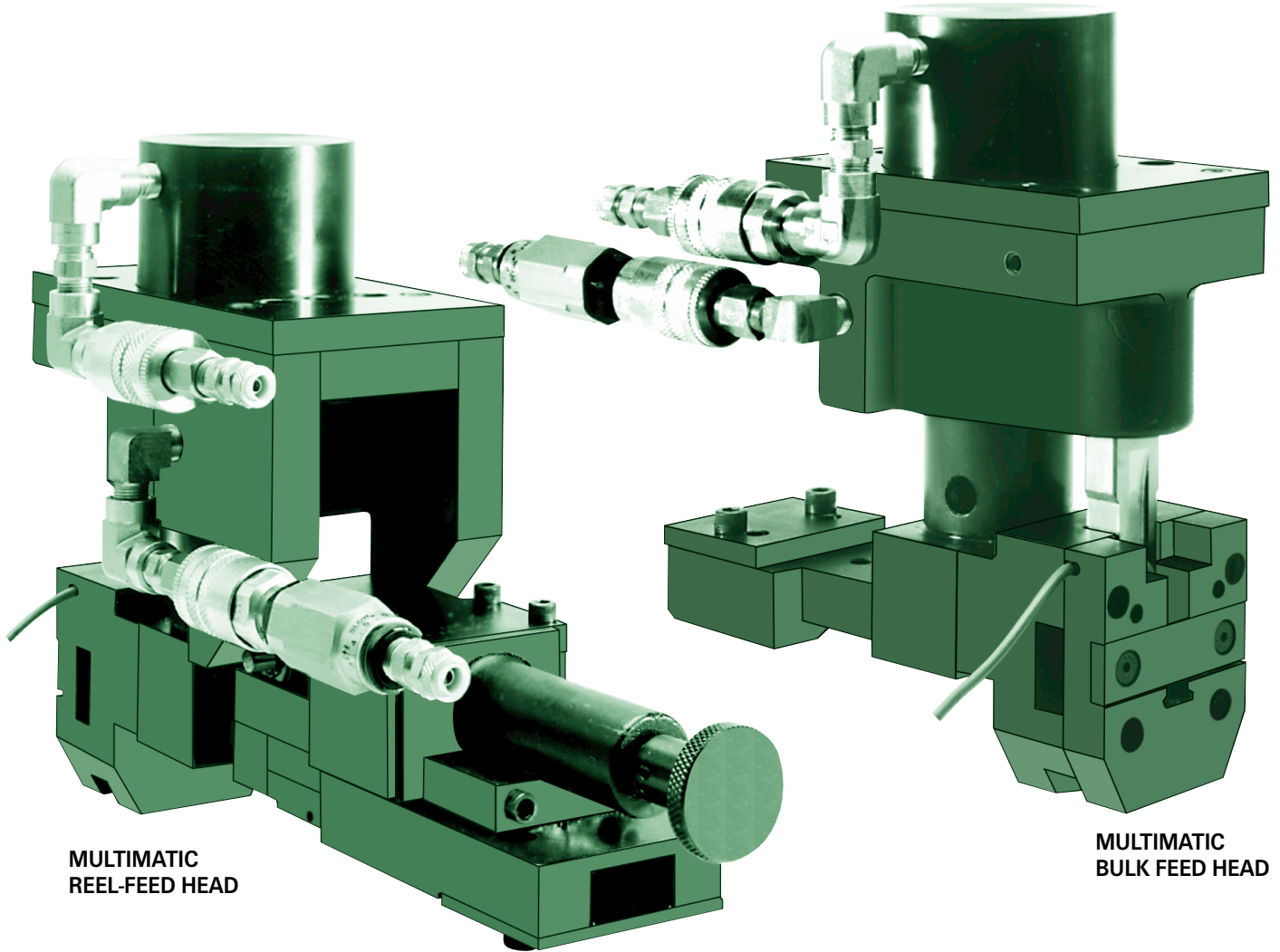
MULTIPIERCE® REEL-FEED® AND BULK FEED HEADS

MULTIPIERCE REEL-FEED HEAD

The MultiPierce Reel-Feed Head is designed for the efficient and economical installation of Strip Pierce® Nuts. The Reel-Feed installation system consists of a reel of Pierce Nuts, a dereeler and Plastic Nut Guides — thereby eliminating the need for any bulk feeding equipment.

MULTIPIERCE BULK FEED HEAD

The MultiPierce Bulk Feed Head installs Bulk Pierce Nuts from gravity or power-feed devices. The MultiPierce Bulk Feed Head, the original Pierce Nut installation Tool, has been field-proven over years of service to be accurate, efficient and durable.



**MULTIMATIC
REEL-FEED HEAD**

**MULTIMATIC
BULK FEED HEAD**

MULTIMATIC REEL-FEED AND BULK FEED HEADS

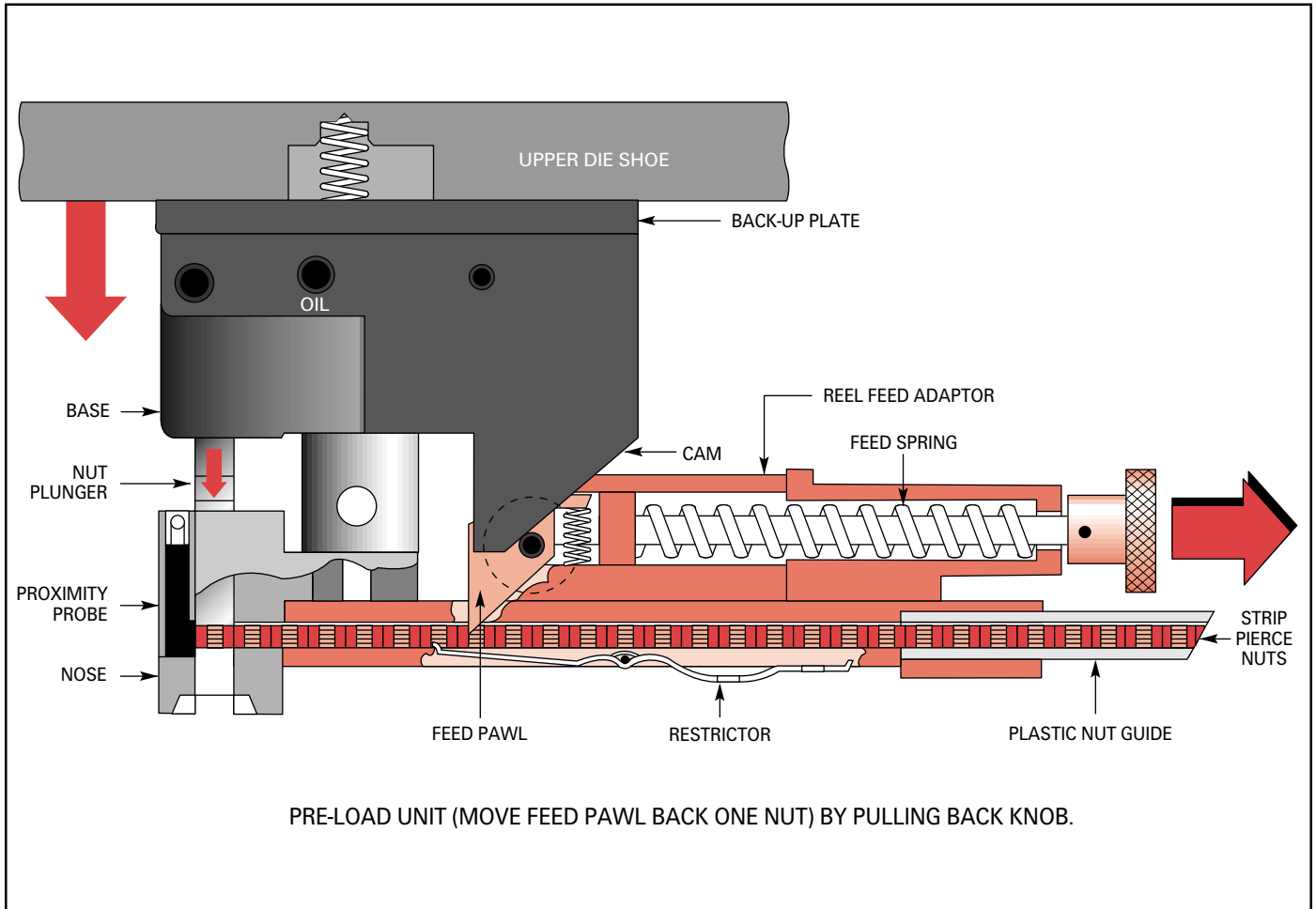
MULTIMATIC REEL-FEED HEAD

For controlled or programmed installation of **Strip** Pierce Nuts, specify Multifastener's Multimatic Reel-Feed Head. This Head installs Strip Pierce Nuts with the same accuracy and consistency as our Bulk Multimatic Head, but eliminates the need for any bulk feeding equipment.

MULTIMATIC BULK FEED HEAD

For controlled or programmed installation of **Bulk** Pierce Nuts, specify Multifastener's Multimatic Head. Externally applied air pressure can either open or close the Multimatic Head, allowing varied nut patterns. The sequence of operation can be programmed and integrated into progressive dies, synchromatic transfer lines and other special applications.

Multipierce Reel-Feed[®] Head



OPERATIONAL VIEW – MULTIPIERCE HEAD IN OPEN POSITION

OPERATION

Strip Pierce Nuts are fed through a Reel-Feed adaptor connected to the head assembly. The nuts are fed automatically into ready position. The press, when lowered, forces the plunger to drive the nut into the part, supported by a die button. The die button forms the part material into and around the Pierce Nut undercuts and/or clinches the nut corners, securing the nut in position.

DIE DESIGN INFORMATION

- Other operations may be included in dies installing nuts.
- Counterbore upper die shoe for shank and spring.
- Part and nut sensing is suggested for most applications.
- Show oil lines, fittings and manifolds for multiple Head installations on drawings.
- If possible, position each Head to allow access to the proximity probe, oil hole on side of base and shank travel pin.
- Allow room for entry of the Reel-Feed adaptor and Plastic Nut Guide. Arrange Head so Plastic Nut Guide does not interfere with press operation.
- Piercing up from lower die shoe is possible; consult your representative for slug clearance hole requirements.
- For all unique or special applications, consult your representative.

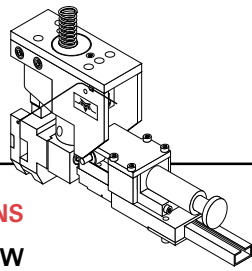
ORDERING INFORMATION:

When ordering, specify:

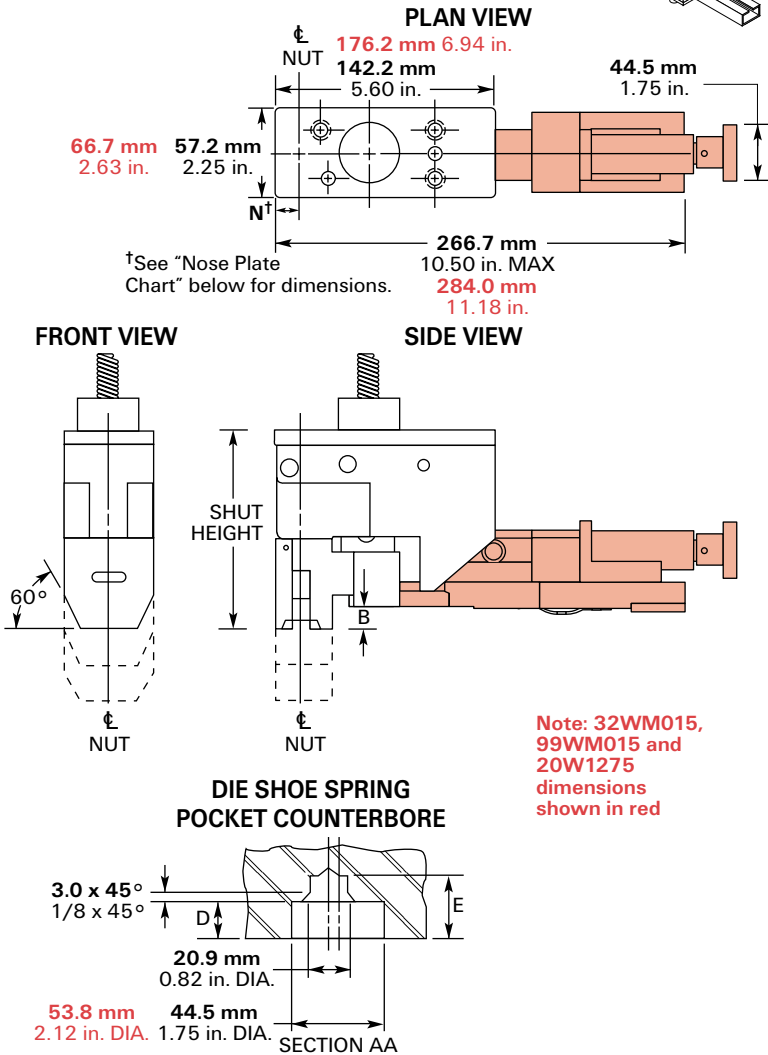
- Pierce Nut number
- Length of Head extension (if any)
- Alteration (if any)

For applications requiring alterations to standard tooling, contact our Sales Department.

NOTE: METRIC DIMENSIONS SHOWN IN BOLD TYPE.



MULTIPIERCE REEL-FEED HEAD DIMENSIONS



60, 61, 80, 12, 45, 22, AND 25 HI SERIES - HI STRESS PIERCE NUTS

EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	132.7	5.225	161.9	6.375	29.2	1.15	22.9	0.90
38.1	1.50	158.1	6.225	212.7	8.375	54.6	2.15	48.3	1.90
57.2	2.25	177.2	6.975	250.8	9.875	73.7	2.90	67.3	2.65

20W1275 AND 32WM015 HI STRESS PIERCE NUTS

EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	132.7	5.225	161.9	6.375	29.2	1.15	20.8	0.82
38.1	1.50	158.1	6.225	212.7	8.375	54.6	2.15	46.2	1.82
57.2	2.25	177.2	6.975	250.8	9.875	73.7	2.90	65.2	2.57

ALL UNIVERSAL PIERCE NUTS (EXCEPT 99WM015)

EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	130.2	5.125	161.9	6.375	31.8	1.25	22.9	0.90
38.1	1.50	155.6	6.125	212.7	8.375	57.2	2.25	48.3	1.90
57.2	2.25	174.6	6.875	250.8	9.875	76.2	3.00	67.3	2.65

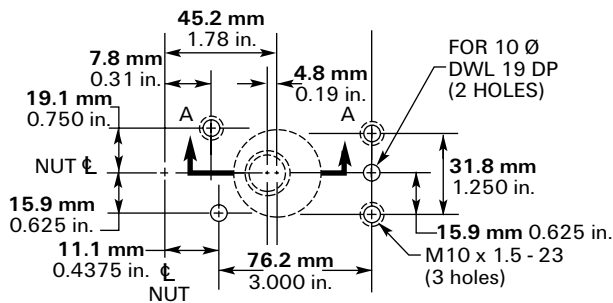
99WM015 UNIVERSAL PIERCE NUT

EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	130.2	5.125	159.4	6.276	29.2	1.15	19.5	0.77
38.1	1.50	155.6	6.125	210.2	8.276	54.6	2.15	44.9	1.77
57.2	2.25	174.6	6.875	248.3	9.776	73.7	2.90	64.0	2.52

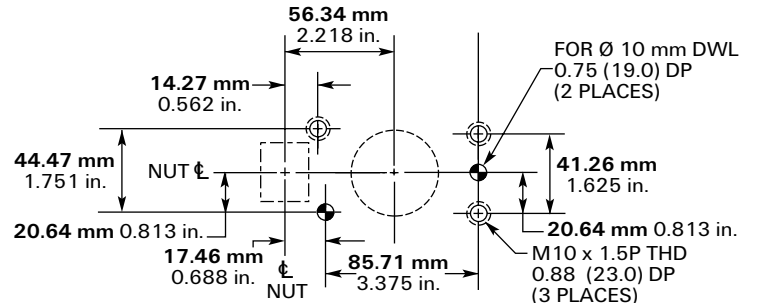
EXTENSION		D		E	
MM	IN	MM	IN	MM	IN
12.7	0.50	28.5	1.12	49.3	1.94
38.1	1.50	53.8	2.12	100.1	3.94
57.2	2.25	73.0	2.87	138.2	5.44

Note: Metric Dimensions shown in bold type.
 *Difference between Open Height and Shut Height.

HEAD MOUNTING DIMENSIONS FOR ALL PIERCE NUTS EXCEPT 32WM015, 99WM015 AND 20W1275 (VIEW THRU DIE SHOE FROM TOP)



HEAD MOUNTING DIMENSIONS FOR 32WM015, 99WM015 AND 20W1275 (VIEW THRU DIE SHOE FROM TOP)

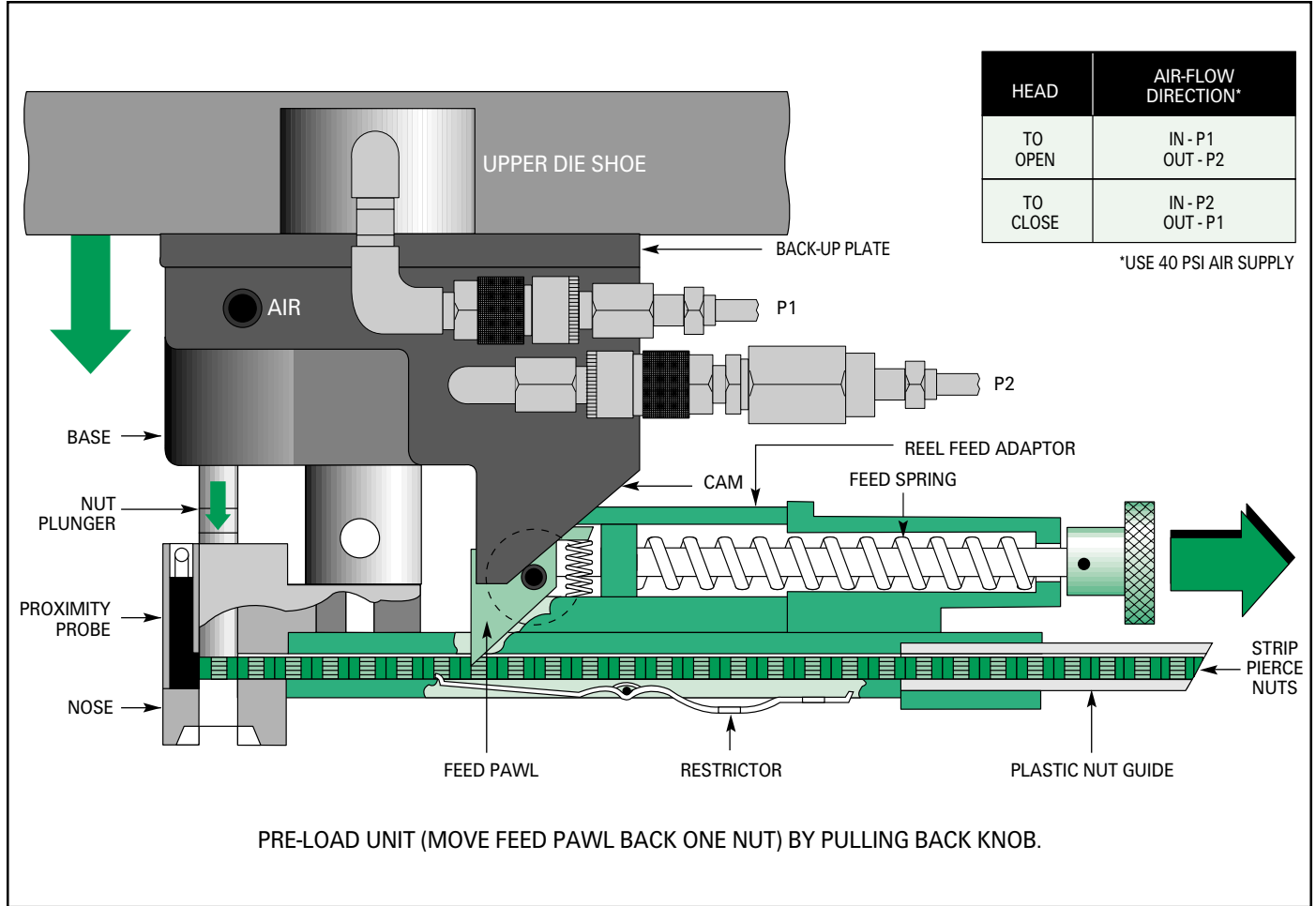


NOSE PLATE CHART (using proximity probe nose plate)

DIMENSIONS	60AW610	80AW825	20W1275	12WM508	45WM610	22WM825	25WM825	32WM015	13WM610	21WM610	37WM825	39WM825	50WM610	51WM610	99WM015	99WM1275
N	19.8 mm 0.779 in.	20.7 mm 0.813 in.	24.8 mm 0.978 in.	20.0 mm 0.789 in.	20.0 mm 0.789 in.	21.3 mm 0.840 in.	21.3 mm 0.840 in.	22.0 mm 0.868 in.	19.0 mm 0.748 in.	19.8 mm 0.779 in.	21.3 mm 0.839 in.	20.5 mm 0.808 in.	19.0 mm 0.748 in.	19.0 mm 0.748 in.	23.1 mm 0.910 in.	23.1 mm 0.910 in.
2N	39.6 mm 1.56 in.	41.3 mm 1.63 in.	49.7 mm 1.96 in.	40.1 mm 1.58 in.	40.1 mm 1.58 in.	42.6 mm 1.68 in.	42.7 mm 1.68 in.	44.1 mm 1.74 in.	38.0 mm 1.50 in.	39.6 mm 1.56 in.	42.6 mm 1.68 in.	41.0 mm 1.62 in.	38.0 mm 1.50 in.	38.0 mm 1.50 in.	46.2 mm 1.82 in.	46.2 mm 1.82 in.

Note: Metric Dimensions shown in bold type.

Multimatic Reel-Feed® Head



OPERATIONAL VIEW – MULTIMATIC HEAD IN OPEN POSITION

OPERATION

Strip Pierce Nuts are fed from nut reels, through a plastic nut guide, into the Reel-Feed Adaptor. Spring force, transmitted through a feed pawl in the Reel-Feed Adaptor, pushes the strip of nuts into position in the Head. The nut plunger shears off one nut at a time and installs it in the part. During the installation cycle, the cam on the base of the Head retracts the spring-powered feed pawl so that, on the upstroke, another nut is automatically fed into position under the plunger. The cycle repeats itself during each stroke of the press with Multipierce Heads, and "on command" with Multimatic Heads.

DIE DESIGN INFORMATION

- Counterbore upper die shoe for cylinder cap and air supply line.
- Position each Head to allow access to the proximity probe.
- Punch support base is ported on both sides; cylinder cap may be rotated to allow air line connections to suit installation needs.
- Air supply requirements: filter, pressure regulator @ 40 psi, lubrication unit, air line connections, solenoid valve (momentary type, 4-way, with no spring return) and part probe.

SYSTEM COMPONENTS

In addition to the Multimatic Head, six basic components are required for system operation:

PART PROBE: signals solenoid valve when panel is in proper position (to supply air pressure to open Head).

ROTARY CAM LIMIT SWITCH: signals solenoid valve when press stroke is at 190 (to supply air pressure to close Head).

FOUR-WAY SOLENOID VALVE: transfers air supply pressure to upper manifold to open Head (on signal from part probe) or to lower manifold to close Head (on signal from rotary cam limit switch).

UPPER MANIFOLD: distributes air pressure to open Head.

LOWER MANIFOLD: distributes air pressure to close Head.

F-R-L UNIT: filters, regulates and lubricates air supply.

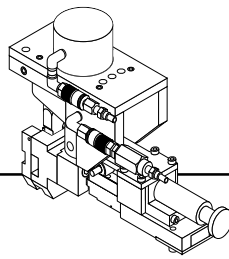
ORDERING INFORMATION:

When ordering, specify:

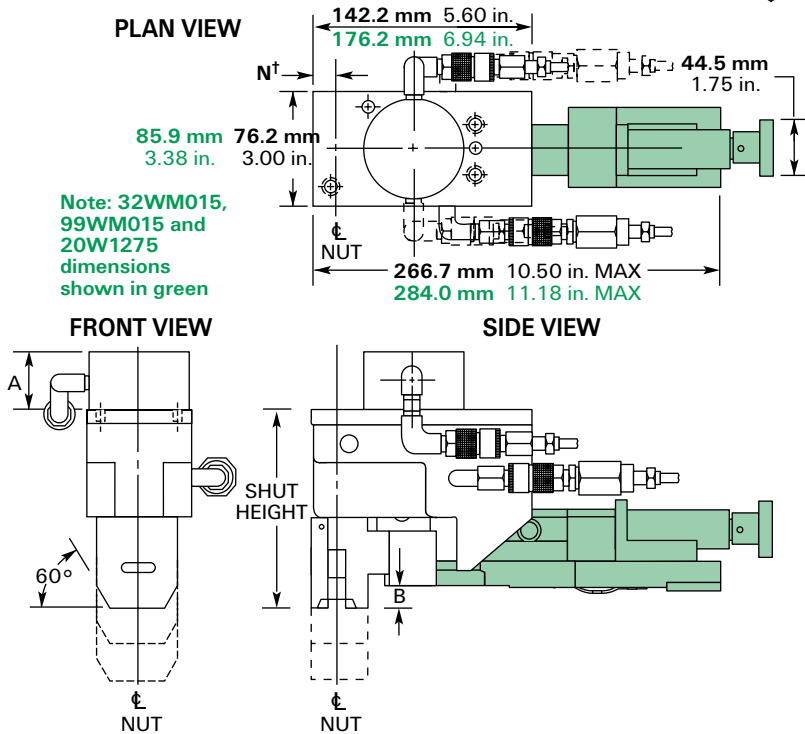
- Pierce Nut number
- Length of Head extension (if any)
- Alteration (if any)

For applications requiring alterations to standard tooling, contact our Sales Department.

NOTE: METRIC DIMENSIONS SHOWN IN BOLD TYPE.



MULTIMATIC REEL-FEED HEAD DIMENSIONS



60, 61, 80, 12, 45, 22, AND 25 HI SERIES - HI STRESS PIERCE NUTS

EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		A		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	132.7	5.225	161.9	6.375	29.2	1.15	42.8	1.687	22.9	0.90
38.1	1.50	158.1	6.225	212.7	8.375	54.6	2.15	68.2	2.687	48.3	1.90
57.2	2.25	177.2	6.975	250.8	9.875	73.7	2.90	87.3	3.437	67.3	2.65

20W1275 AND 32WM015 HI STRESS PIERCE NUTS

EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		A		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	132.7	5.225	161.9	6.375	29.2	1.15	42.9	1.688	20.8	0.82
38.1	1.50	158.1	6.225	212.7	8.375	54.6	2.15	68.2	2.688	46.2	1.82
57.2	2.25	177.2	6.975	250.8	9.875	73.7	2.90	87.3	3.438	65.2	2.57

ALL UNIVERSAL PIERCE NUTS (EXCEPT 99WM015)

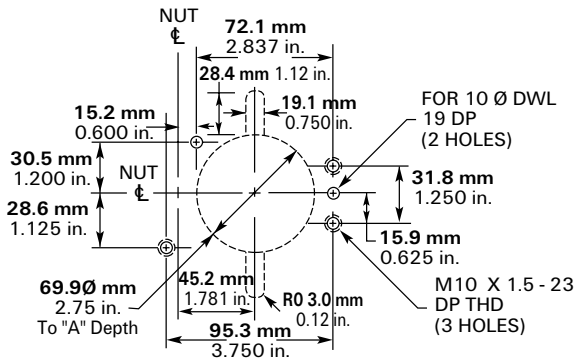
EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		A		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	130.2	5.125	161.9	6.375	31.8	1.25	42.8	1.687	22.9	0.90
38.1	1.50	155.6	6.125	212.7	8.375	57.2	2.25	68.2	2.687	48.3	1.90
57.2	2.25	174.6	6.875	250.8	9.875	76.2	3.00	87.3	3.437	67.3	2.65

99WM015 UNIVERSAL PIERCE NUT

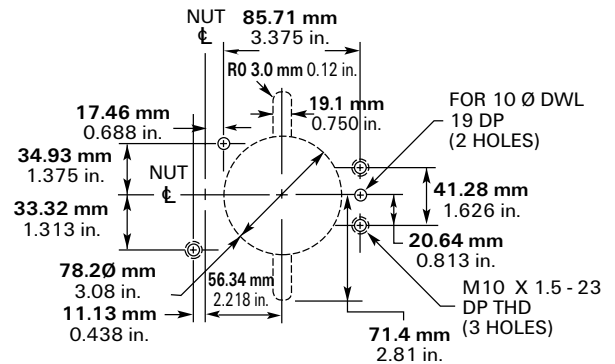
EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		A		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	130.2	5.125	159.4	6.275	29.2	1.15	42.9	1.688	19.5	0.77
38.1	1.50	155.6	6.125	210.2	8.275	54.6	2.15	68.2	2.688	44.9	1.77
57.2	2.25	174.6	6.875	248.3	9.775	73.7	2.90	87.3	3.438	64.0	2.52

Note: Metric Dimensions shown in bold type.
*Difference between Open Height and Shut Height.
† See "Nose Plate Chart" on page 5 for dimensions.

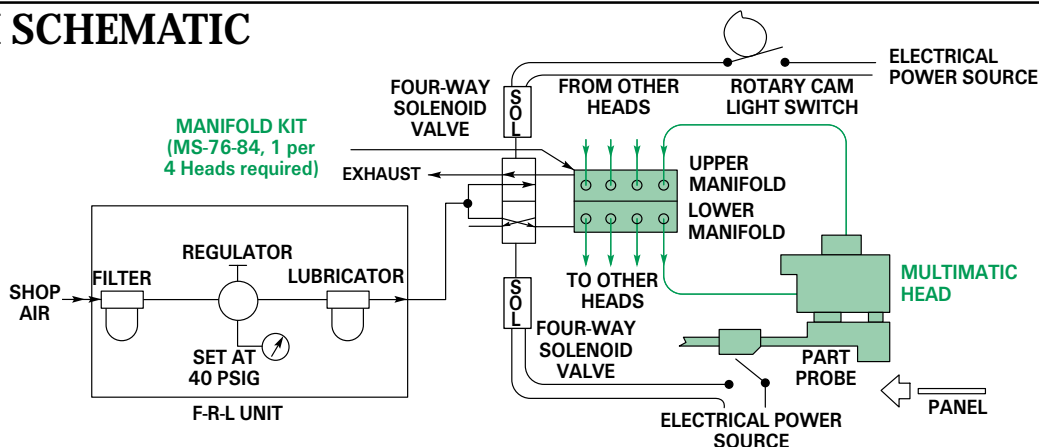
HEAD MOUNTING DIMENSIONS FOR ALL PIERCE NUTS EXCEPT 32WM015, 99WM015 AND 20W1275 (VIEW THRU DIE SHOE FROM TOP)



HEAD MOUNTING DIMENSIONS FOR 32WM015, 99WM015 AND 20W1275 (VIEW THRU DIE SHOE FROM TOP)

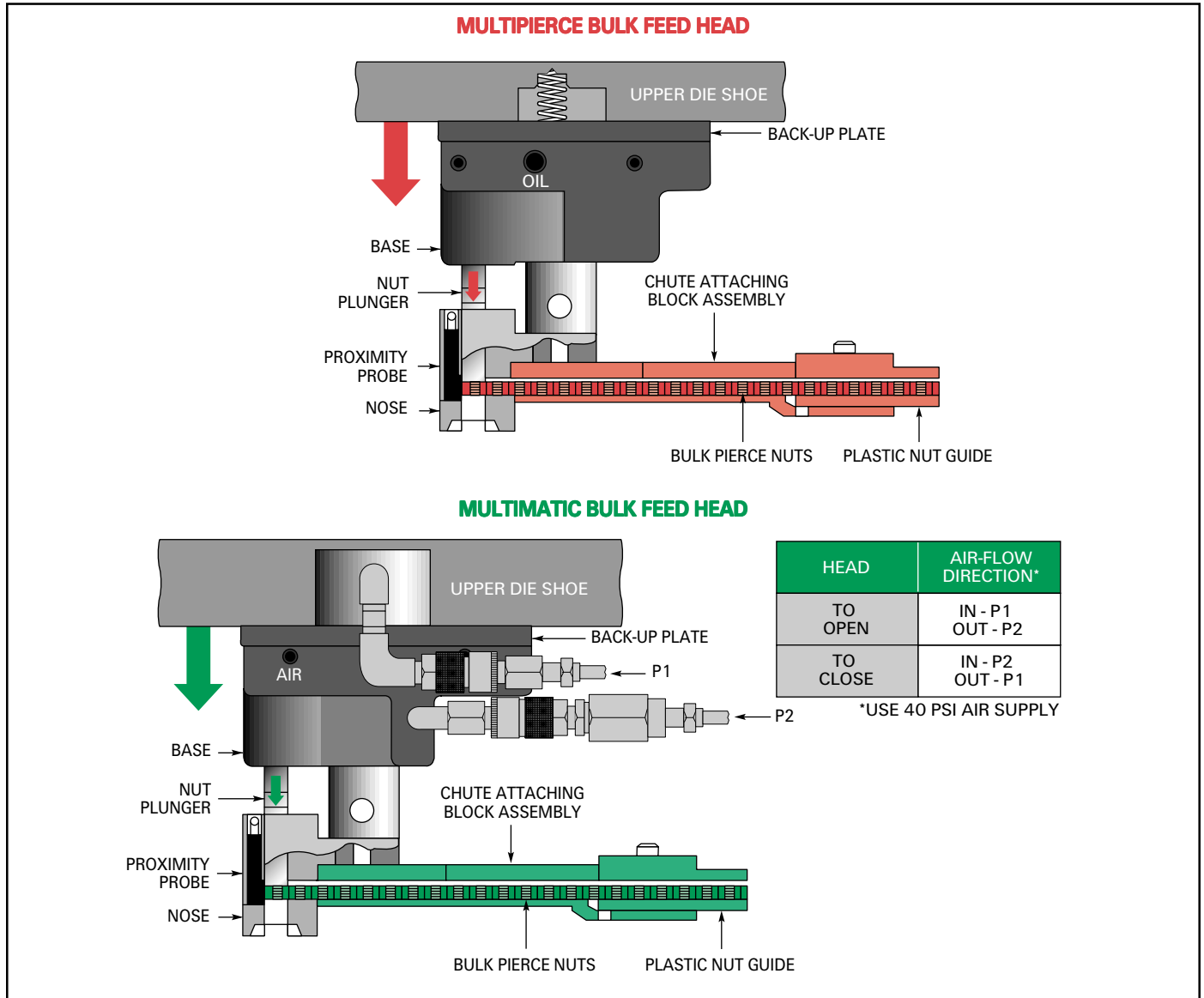


SYSTEM SCHEMATIC



NOTE: Parts shown in green are available through FabriSteel; other parts are provided by customer.

Multipierce and Multimatic Bulk Feed Heads



OPERATIONAL VIEWS— BULK FEED HEADS IN OPEN POSITION

OPERATION

Bulk Pierce Nuts are fed into a Multipierce or Multimatic Head through plastic nut guide from a gravity or power-feed device.

Multipierce Bulk Feed Heads

Constant pressure from the feeder, transmitted through the nuts, keeps a nut under the plunger when in the "open" or "ready" position. The press, when lowered, forces the plunger to drive the nut into the part, supported by a die button. The die button forms the part material into and around the Pierce Nut undercuts and/or clinches the nut corners, securing the nut in position.

Multimatic Bulk Feed Heads

Force transmitted through the nuts in the plastic nut guide places a nut under the nut plunger in the "ready" position and, as the press cycles, the nut is installed. The plunger prevents a new nut from being placed into "ready" position until a signal is received from the part probe, at which time air forces the Head to an "open" position. Until a signal is received from the part probe the Head will remain in the "closed" position, preventing nuts from being placed in the "ready" position. This prevents double hits and potential damage to the die.

ORDERING INFORMATION:

When ordering, specify:

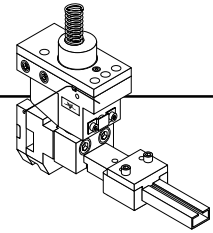
- Pierce Nut number
- Length of Head extension (if any)
- Alteration (if any)

For applications requiring alterations to standard tooling, contact our Sales Department.

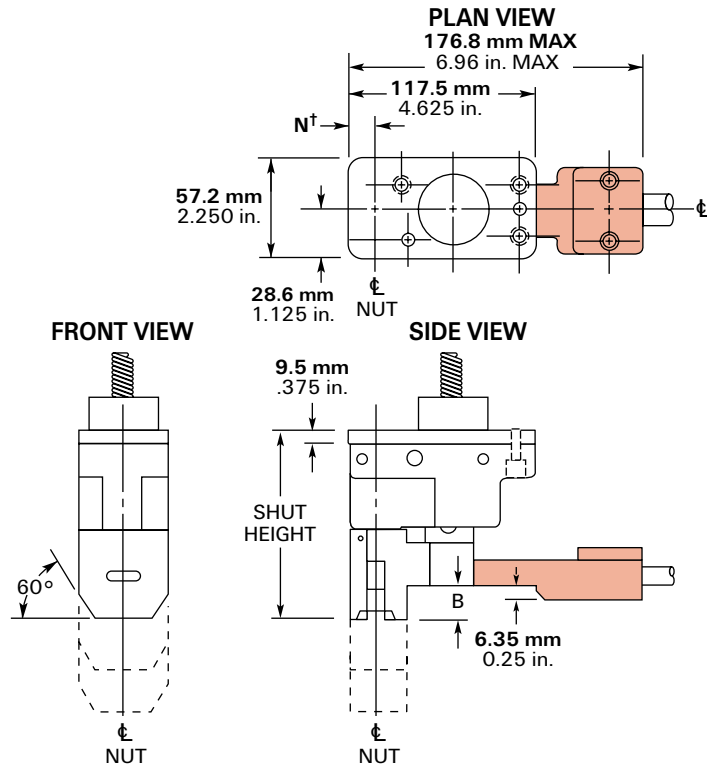
DIE DESIGN INFORMATION

- Multipierce and Multimatic Bulk Feed Heads are designed into a die in the same manner as Multipierce and Multimatic Reel-Feed Heads; same access requirements exist.
- Refer to Multipierce and Multimatic sections for Head mounting dimensions.

NOTE: METRIC DIMENSIONS SHOWN IN BOLD TYPE.



MULTIPIERCE BULK FEED HEAD DIMENSIONS



ALL HI SERIES AND HI STRESS PIERCE NUTS

EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	132.7	5.225	161.9	6.375	29.2	1.15	25.4	1.00
38.1	1.50	158.1	6.225	212.7	8.375	54.6	2.15	50.8	2.00
57.2	2.25	177.2	6.975	250.8	9.875	73.7	2.90	69.9	2.75

ALL UNIVERSAL PIERCE NUTS

EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	130.2	5.125	161.9	6.375	31.8	1.25	25.4	1.00
38.1	1.50	155.6	6.125	212.7	8.375	57.2	2.25	50.8	2.00
57.2	2.25	174.6	6.875	250.8	9.875	76.2	3.00	69.9	2.75

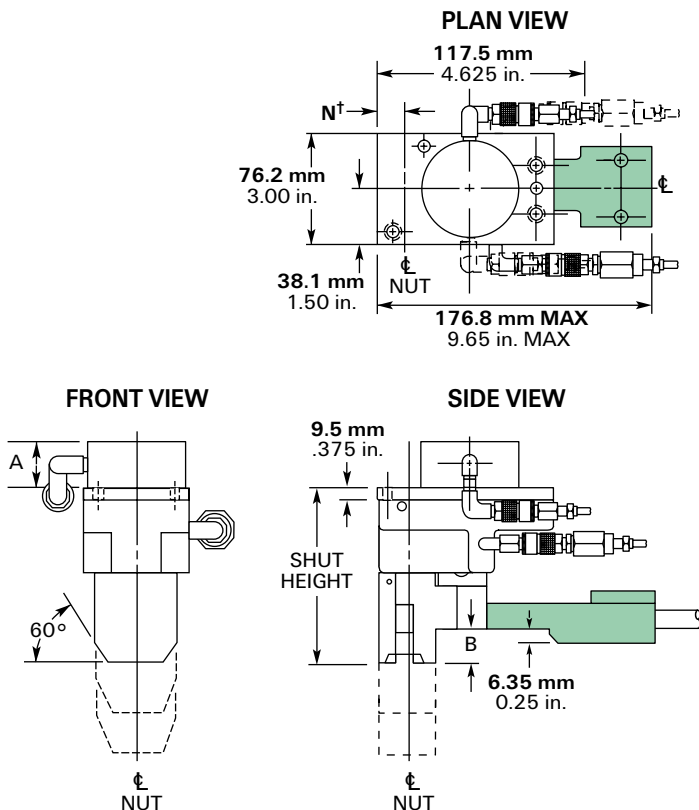
* Difference between Open Height and Shut Height

Note: Metric Dimensions shown in bold type.

Note: Use shank and spring pocket info. on page 5.

† See "Nose Plate Chart" on page 5 for dimensions.

MULTIMATIC BULK FEED HEAD DIMENSIONS



ALL HI SERIES AND HI STRESS PIERCE NUTS

EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		A		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	132.7	5.225	161.9	6.375	29.2	1.15	42.8	1.687	25.4	1.00
38.1	1.50	158.1	6.225	212.7	8.375	54.6	2.15	68.2	2.687	50.8	2.00
57.2	2.25	177.2	6.975	250.8	9.875	73.7	2.90	87.3	3.437	69.9	2.75

ALL UNIVERSAL PIERCE NUTS

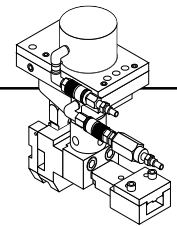
EXT.		SHUT HEIGHT		OPEN HEIGHT		STROKE*		A		B	
MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN
12.7	0.50	130.2	5.125	161.9	6.375	31.8	1.25	42.8	1.687	25.4	1.00
38.1	1.50	155.6	6.125	212.7	8.375	57.2	2.25	68.2	2.687	50.8	2.00
57.2	2.25	174.6	6.875	250.8	9.875	76.2	3.00	87.3	3.437	69.9	2.75

* Difference between Open Height and Shut Height

Note: Metric Dimensions shown in bold type.

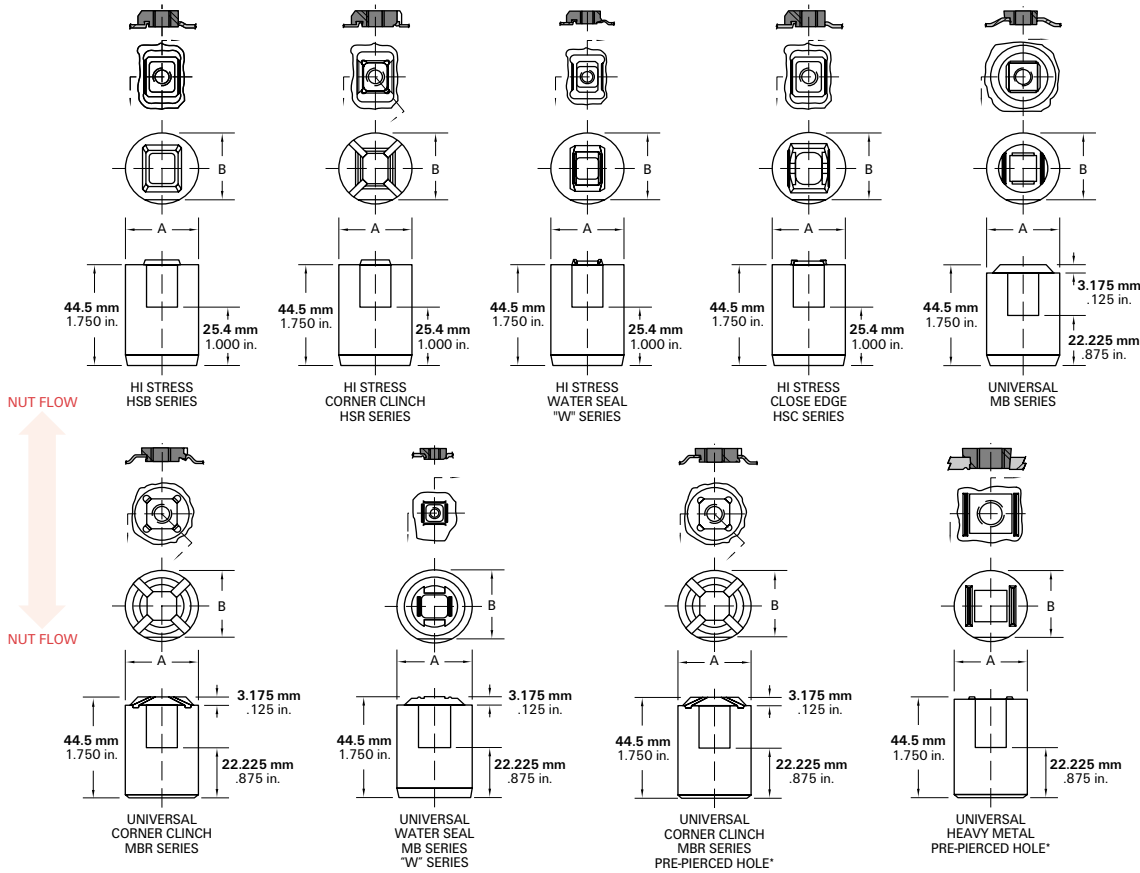
Note: Use cylinder cap pocket info. on page 7.

† See "Nose Plate Chart" on page 5 for dimensions.



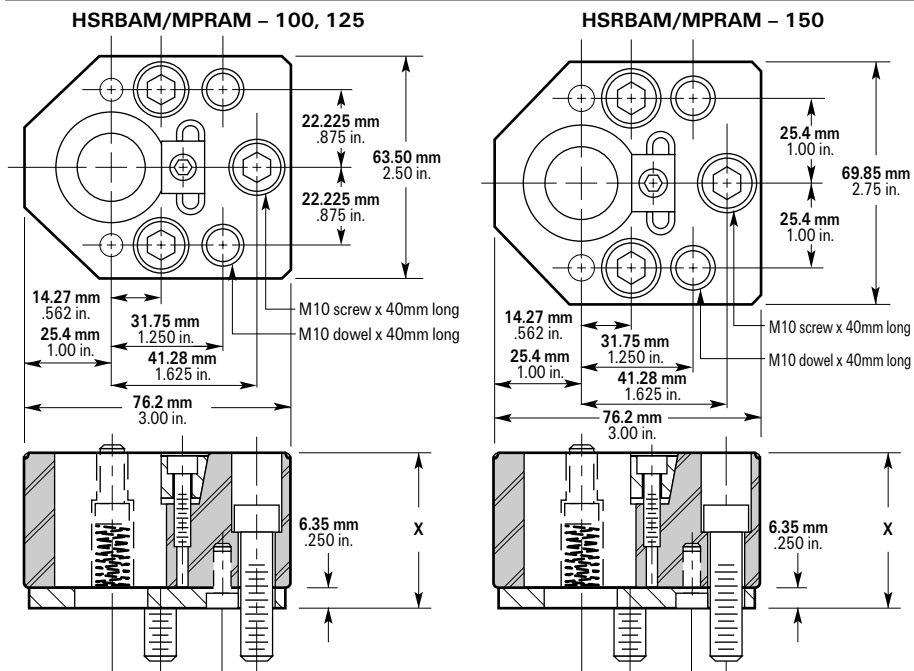
Die Buttons

The Die Button, held firmly in the die by the Retainer, forms the part material into and around the Pierce Nut and undercuts and/or clinches the nut corners to secure it in position. Additional die buttons, other than those shown below, are available for special applications. Consult your representative.



PIERCE NUT NO.	A	B
60AW610	25.4 mm 1.00 in.	23.80 mm 0.937 in.
80AW825	31.75 mm 1.25 in.	30.15 mm 1.187 in.
20WM1275	38.10 mm 1.50 in.	36.49 mm 1.437 in.
12WM610	25.4 mm 1.00 in.	23.80 mm 0.937 in.
45WM610	25.4 mm 1.00 in.	23.80 mm 0.937 in.
22WM825	31.75 mm 1.25 in.	30.15 mm 1.187 in.
25WM825	31.75 mm 1.25 in.	30.15 mm 1.187 in.
32WM015	31.75 mm 1.25 in.	30.15 mm 1.187 in.
13M610	25.4 mm 1.00 in.	23.80 mm 0.937 in.
50WM610	25.4 mm 1.00 in.	23.80 mm .937 in.
51WM610	25.4 mm 1.00 in.	23.80 mm .937 in.
21WM610	31.75 mm 1.25 in.	30.15 mm 1.187 in.
37WM825	31.75 mm 1.25 in.	30.15 mm 1.187 in.
39WM825	31.75 mm 1.25 in.	30.15 mm 1.187 in.
99WM015	38.10 mm 1.50 in.	36.49 mm 1.437 in.
99WM1275	38.10 mm 1.50 in.	36.49 mm 1.437 in.

Die Button Retainers



Note: Metric Dimensions shown in bold type.

SPECIFICATIONS

RETAINER	NUT TYPE	X DIMENSION
MPRAM-100	13M610, 50WM610, 51WM610	47.6 mm 1.875 in.
HSRBAM-100	12WM610, 13M610, 45WM610, 60AW610	50.8 mm 2.00 in.
MPRAM-125	21WM610, 37WM825, 39WM825	47.6 mm 1.875 in.
HSRBAM-125	22WM825, 25WM825, 32WM015, 80AW825	50.8 mm 2.00 in.
HSRBAM-150	20WM1275	50.8 mm 2.00 in.
MPRAM-150	99M1275	47.6 mm 1.875 in.

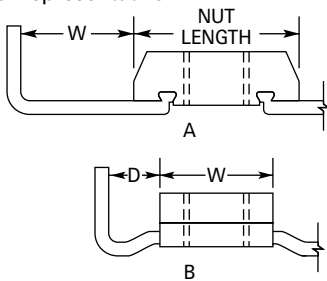
Part Design Guidelines

HI-STRESS AND UNIVERSAL PIERCE NUTS

Pierce Nuts are precision made, work hardened, high quality threaded fasteners that can be installed in sheet metal stampings by the same presses and the same dies used to form the part. Available in both strip and bulk form, Pierce Nuts pierce their own hole through a sheet metal panel, offering substantial savings in time and materials over other fasteners. Pierce Nuts are also available with non-threaded holes, ideal for thread forming screws.

WHEN A FORMING OPERATION FOLLOWS A PIERCE NUT OPERATION.

Do not form part closer than width of nut (*W*) when nut is installed as shown in "A", below. By rotating nut 90°, as shown in "B", distance "D" may be reduced to approximately 7 mm (1/4 in.). Tooling alterations are necessary to reduce "D" below 7 mm (1/4 in.); consult your representative.



RADIAL POSITION OF PIERCE NUTS.

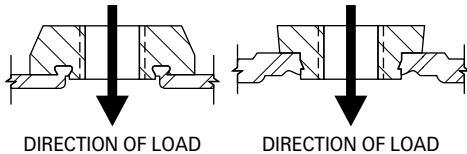
When designing a part, the radial position of the Pierce Nut should be made optional whenever possible, to facilitate nut flow into die.

APPLICATION IN SPECIAL MATERIALS.

For HSLA, stainless steel, aluminum, or plastic material, consult your representative.

DIRECTION OF ASSEMBLED LOAD.

Assembled load must be against shoulders of nut.



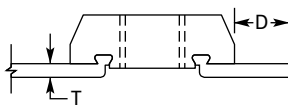
SIMULPIERCING TWO SHEETS OF METAL.

Total panel thickness is not to exceed 90% of recommended thickness for Pierce Nut metal range. For other panel materials, consult your representative.

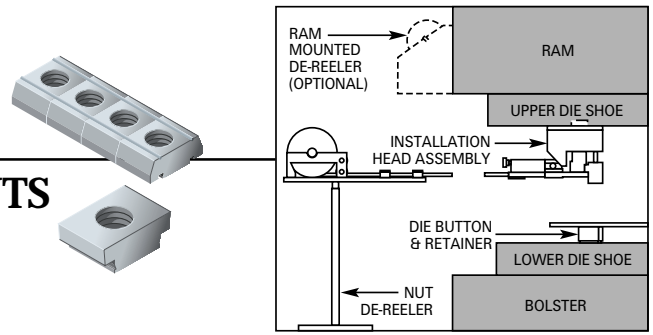
SEALING APPLICATIONS.

Liquid-tight seals can be attained by use of a special die button. Consult your representative.

NUT EDGE TO PANEL EDGE DISTANCE.



T (METAL RANGE)	D (MIN)	
	MM	IN
1.5 mm OR LESS .060 in.	3.0	0.12
1.6 mm OR MORE .061 in.	2 x T	2 x T

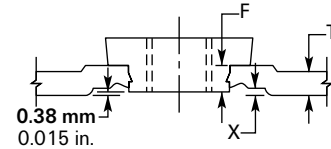


EMBOSS REQUIREMENTS – UNIVERSAL PIERCE NUTS.

When clamping two surfaces under load, the nut pilot must be recessed 0.25-0.38 mm (.010-.015 in.) from flush surface of panel, according to the following formula.

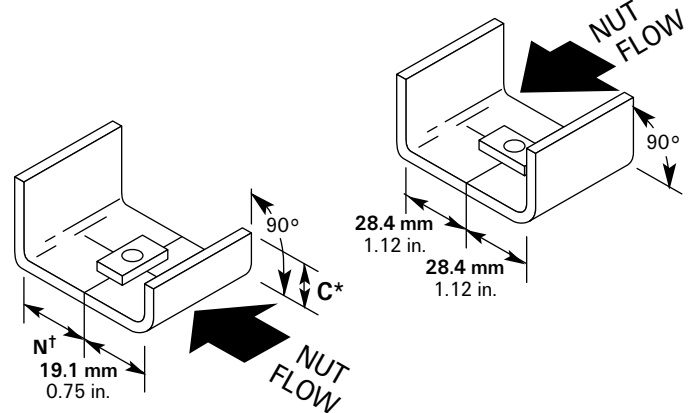
$$\frac{\begin{matrix} \text{"F" DIMENSION (PILOT HEIGHT)} & \text{"F"} \\ \text{MINUS "T" (METAL THICKNESS)} & \text{"T"} \\ \text{PLUS 0.38 mm} & +0.38 \text{ mm (.015 in.)} \\ \hline \text{EQUALS EMBOSS DEPTH} & \text{"X"} \end{matrix}}$$

(Hi-Stress Nuts require no emboss.)



NUT TO FLANGE DISTANCES (WITH STANDARD INSTALLATION TOOLING).

Note: Closer nut-to-flange distances may be achieved using altered standard and/or special tooling. Consult your representative.

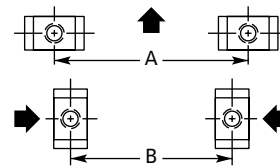


* Flat surface up to 69.6 mm (2.75 in.). If dimension exceeds 69.6 mm (2.75 in.) for Multipierce and Multimatic Heads, consult your representative.

† See "Nose Plate Chart" on page 5 for dimensions.

MINIMUM NUT SPACING (WITH STANDARD INSTALLATION TOOLING).

Closer spacing may be achieved using altered standard and/or special tooling. Consult your representative.



ALL NUT SERIES	MULTIPIERCE		MULTIMATIC	
	A	B	A	B
	57.2 mm 2.25 in.	2N [†]	76.2 mm 3.00 in.	2N [†]

† See Nose Plate Chart on page 5 for dimensions.

NOTE: METRIC DIMENSIONS SHOWN IN BOLD TYPE.

“Good” and “Not Good” Registry Marker

The Multifastener Registry Marker is designed to provide immediate visual determination of proper or improper ram setting by indicating if a press hit is not hard enough, too hard or just right.

FUNCTION

- The Registry Marker has a raised circle with the letters “N” and “G” located within, raised to different levels (see Fig. 2).
- At the bottom of the die stroke, if a circle and a “G” are stamped in your metal panel, the die is set properly (see Fig. 1).
- If a circle and “NG” appears, the hit is too hard (see Fig. 1).
- If no mark appears, the hit is too light (see Fig. 1).

LOCATION IN THE DIE

The Registry Marker is mounted in the same die shoe as the Installation Head and is positioned over the part panel that is to receive the Pierce Nut (see Fig. 3).

SETTING

The Registry Marker is available in one standard length: 76.07mm (2.995 in.).

MOUNTING IN THE DIE

The Registry Marker incorporates a Light Duty ball lock feature to facilitate mounting in the die.

ADDITIONAL INFORMATION

Inch Registry Markers are available. Heavy-duty ball lock Registry Markers also available: Inch MS-26-30-HD, Metric MSM-26-30-HD

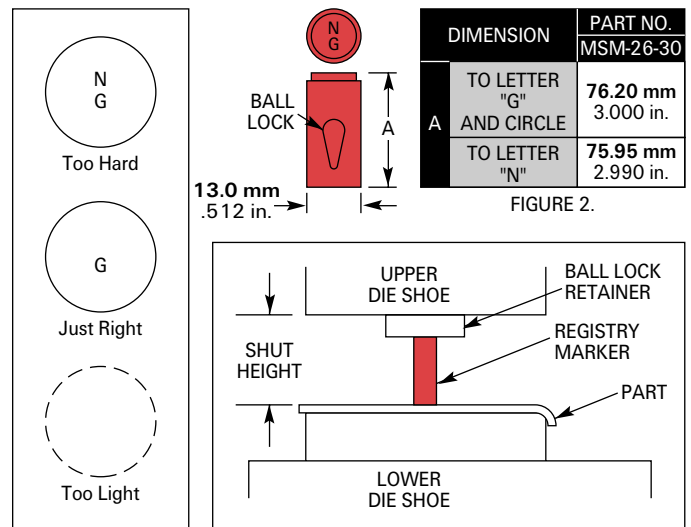


FIGURE 1.

FIGURE 3.

NOTE: METRIC DIMENSIONS SHOWN IN BOLD TYPE.

Set-Up and Alignment Procedures

Please contact Multifastener for specific CAD data on the Multipierce or Multimatic Head assemblies and the specific CAD data on the Die Button Retainers. CAD data provided will give you screw and dowel locations for mounting both the Head Assemblies and Die Button Retainers. Alignment buttons are available for Direct Layout or Die Layout method of alignment. The alignment button can also be used to verify proper alignment of the tooling in the die.

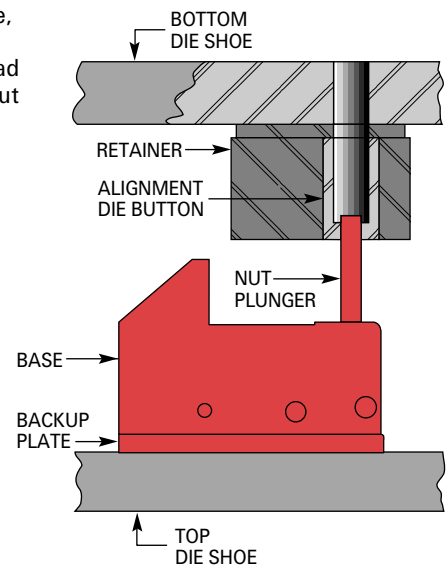
DIRECT LAYOUT METHOD

- Install die button retainer by direct layout or with template.
- Insert alignment die button in retainer.
- Invert die set (so die button retainer is on top).
- Set base, back-up plate, and plunger in head position.
- Lower die shoe (with retainer) so plunger enters die button. **Plunger and die button must be equivalent sizes.**
- Transfer base mounting holes to die (with punch).
- Repeat steps above for all Heads in die.
- Drill and tap mounting holes for screws.
- Loosely mount base and back-up plate in each Head location.
- Replace mating die shoe.
- Lower die shoe (with retainer) so plunger enters die button.
- Tighten base mounting screws.
- Repeat steps above for each Head in die.
- Remove mating die shoe; transfer dowel holes. Drill as required for reaming.
- Ream for press fit for dowel pins.
- Locate and machine clearance holes for shank and spring.
- Install Head in each Head location. Follow plant die tryout procedures; follow Multifastener ram setting procedures in this manual.

DIE LAYOUT METHOD

- Install die button retainer by direct layout or with template. Insert alignment die button in retainer.

- Loosely mount base, back-up plate, and plunger in each Head location by die layout procedure.
- Lower die shoe with retainer so plunger properly enters die button.
- Tighten base mounting screws.
- Repeat steps above for each Head in die.
- Remove mating die shoe; transfer dowel holes. Drill as required for reaming.
- Ream for press fit for dowel pins.
- Locate and machine clearance holes for shank and spring.
- Install Head in each Head location. Follow plant die tryout procedures; follow ram setting procedures in this manual.



Tooling Standards

METRIC DIMENSIONS

PIERCE NUT NUMBER	PIERCE METAL RANGE* MILLIMETERS	INSTALLATION LOAD-KN	DIE BUTTON PART NUMBER	RETAINER PART NUMBER	BULK MULTIPIERCE/MULTIMATIC HEAD ASSEMBLY PART NUMBER**	REEL-FEED MULTIPIERCE/MULTIMATIC HEAD ASSEMBLY PART NUMBER**
60AWM610	0.64-1.16	72	HSB-60A-030-R HSB-60A-060-R HSB-60A-065-R	HSRBAM-100	HSSM-60-PNPT00-50	HSNCM-60-PNPT00-50
	1.17-1.46	81			MMSM-60-PNPT00-50	MMNCM-60-PNPT00-50
	1.47-1.65	89				
61WM610	1.40-2.20	81	HSB-61-080-R	HSRBAM-100	HSSM-61-PNPT00-50 MMSM-61-PNPT00-50	HSNCM-61-PNPT00-50 MMNCM-61-PNPT00-50
80AWM825	0.60-1.15	72	HSR-80-045-R HSB-80-060-R	HSRBAM-125	HSSM-80-PNPT00-50	HSNCM-80-PNPT00-50
	1.16-1.60	98			MMSM-80-PNPT00-50	MMNCM-80-PNPT00-50
20WM1275	1.40-2.15	143	HSB-120-060-R HSB-120-095-R	HSRBAM-150	HSSM-120-PNPT00-50	HSNSM-120-PNPT00-50
	2.16-2.80	174			MMSM-120-PNPT00-50	MMNSM-120-PNPT00-50
12M610 12WM610	0.64-1.16	54	HSR-12-045-R HSB-12-060-R HSB-12-090-R HSC-12-090-R	HSRBAM-100	HSSM-12-PNPT00-50	HSNCM-12-PNPT00-50
	1.17-1.69	81			MMSM-12-PNPT00-50	MMNCM-12-PNPT00-50
	1.70-2.29 2.29+	107				
45WM610	1.40-2.79	161	HSB-12-090-R	HSRBAM-100	HSSM-12-PNPT00-50 MMSM-12-PNPT00-50	HSNCM-12-PNPT00-50 MMNCM-12-PNPT00-50
22M825 22WM825	0.64-1.16	72	HSR-22-045-R HSB-22-060-R HSR-22/25-060/090-R HSC-22/25-090-R	HSRBAM-125	HSSM-22/25-PNPT00-50	HSNCM-22/25-PNPT00-50
	1.17-1.69	98			MMSM-22/25-PNPT00-50	MMNCM-22/25-PNPT00-50
	1.70-2.29 2.29+	134				
25M825 25WM825	1.40-2.79	161	HSR-22/25-060/090-R	HSRBAM-125	HSSM-22/25-PNPT00-50 MMSM-22/25-PNPT00-50	HSNCM-22/25-PNPT00-50 MMNCM-22/25-PNPT00-50
32M015 32WM015	1.02-2.29	161	HSB-32-060-R	HSRBAM-125	HSSM-32-PNPT00-50 MMSM-32-PNPT00-50	HSNSM-32-PNPT00-50 MMNSM-32-PNPT00-50
21M610 21WM610	0.64-1.01	27	MBR-21-039-R MB-21-050-R MB-21-075-R	MPRAM-125	MPSM-21-PNPT00-50	MPNCM-21-PNPT00-50
	1.02-1.41	36			MMSM-21-PNPT00-50	MMNCM-21-PNPT00-50
	1.42-2.21	63				
37M825 37WM825	0.64-1.31	45	MBR-37-051-R MB-37-060/075-R MB-37-090-R	MPRAM-125	MPSM-37-PNPT00-50	MPNCM-37-PNPT00-50
	1.32-2.15	72			MMSM-37-PNPT00-50	MMNCM-37-PNPT00-50
	2.16-2.69	89				
39M825 39WM825	0.64-1.31	36	MBR-39-051-R MB-39-065-R MB-39-075-R MB-39-090-R	MPRAM-125	MPSM-39-PNPT00-50	MPNCM-39-PNPT00-50
	1.32-1.84	54			MMSM-39-PNPT00-50	MMNCM-39-PNPT00-50
	1.85-2.15 2.16-2.69	63 81				
50WM610	0.64-0.80	18	MBR-50-031-R MB-50-040-R	MPRAM-100	MPSM-50-PNPT00-50	MPNCM-50-PNPT00-50
	0.81-1.36	32			MMSM-50-PNPT00-50	MMNCM-50-PNPT00-50
51M610 51WM610	0.64-0.80	18	MBR-51-031-R MB-51-040-R MB-51-060-R	MPRAM-100	MPSM-51-PNPT00-50	MPNCM-51-PNPT00-50
	0.81-1.36	32			MMSM-51-PNPT00-50	MMNCM-51-PNPT00-50
	1.37-1.68	36				
99M015 99WM015	1.27-1.74	72	MBR-99-068-R MB-99-075-R MB-99-120-R	MPRAM-150	MPSM-99-PNPT00-50	MPNSM-99-PNPT00-50
	1.75-2.15	89			MMSM-99-PNPT00-50	MMNSM-99-PNPT00-50
	2.16-3.56	143				

*Consult your representative for installation recommendations outside these metal ranges.

**See pages 5, 7, and 9 for available nose extensions and other dimensional information.

INCH DIMENSIONS

PIERCE NUT NUMBER	PIERCE METAL RANGE* INCHES	INSTALLATION LOAD-TONS	DIE BUTTON PART NUMBER	RETAINER PART NUMBER	BULK MULTIPIERCE/ MULTIMATIC HEAD ASSEMBLY PART NUMBER**	REEL-FEED MULTIPIERCE/ MULTIMATIC HEAD ASSEMBLY PART NUMBER**
60E420 60WE420	.025-.045	8	HSB-60A-030-R HSR-60A-045-R HSB-60A-060-R	HSRBAM-100	HSSM-60-PNPT00-50 MMSM-60-PNPT00-50	HSNCM-60-PNPT00-50 MMNCM-60-PNPT00-50
	.046-.057	9				
	.058-.065	10				
61WE420	.055-.087	9	HSB-61-080-R	HSRBAM-100	HSSM-61-PNPT00-50 MMSM-61-PNPT00-50	HSNCM-61-PNPT00-50 MMNCM-61-PNPT00-50
80E618 80WE618	.024-.045	8	HSR-80-045-R HSB-80-060-R	HSRBAM-125	HSSM-80-PNPT00-50 MMSM-80-PNPT00-50	HSNCM-80-PNPT00-50 MMNCM-80-PNPT00-50
	.045-.063	11				
20WE1213	.055-.085 .085-.110	16 19.5	HSB-120-060-R HSB-120-095-R	HSRBAM-150	HSSM-120-PNPT00-50 MMSM-120-PNPT00-50	HSNSM-120-PNPT00-50 MMNSM-120-PNPT00-50
12E420 12WE420	.025-.045	6	HSR-12-045-R HSB-12-060-R HSB-12-090-R HSC-12-090-R	HSRBAM-100	HSSM-12-PNPT00-50 MMSM-12-PNPT00-50	HSNCM-12-PNPT00-50 MMNCM-12-PNPT00-50
	.046-.066	9				
	.067-.090 .090+	12				
45WE420	.055-.110	18	HSB-12-090-R	HSRBAM-100	HSSM-12-PNPT00-50 MMSM-12-PNPT00-50	HSNCM-12-PNPT00-50 MMNCM-12-PNPT00-50
22E618 22WE618	.025-.045	8	HSR-22-045-R HSB-22-060-R HSR-22/25-060/090-R HSC-22/25-090-R	HSRBAM-125	HSSM-22/25-PNPT00-50 MMSM-22/25-PNPT00-50	HSNCM-22/25-PNPT00-50 MMNCM-22/25-PNPT00-50
	.046-.066	11				
	.067-.090 .090+	15				
25E618 25WE618	.055-.110	18	HSR-22/25-060/090-R	HSRBAM-125	HSSM-22/25-PNPT00-50 MMSM-22/25-PNPT00-50	HSNCM-22/25-PNPT00-50 MMNCM-22/25-PNPT00-50
32E816 32WE816	.040-.090	18	HSB-32-060-R	HSRBAM-125	HSSM-32-PNPT00-50 MMSM-32-PNPT00-50	HSNSM-32-PNPT00-50 MMNSM-32-PNPT00-50
21E420 21WE420	.025-.039	3	MBR-21-039-R MB-21-050-R MB-21-075-R	MPRAM-125	MPSM-21-PNPT00-50 MMSM-21-PNPT00-50	MPNCM-21-PNPT00-50 MMNCM-21-PNPT00-50
	.040-.055	4				
	.056-.087	7				
37E618 37WE618	.025-.051	5	MBR-37-051-R MB-37-060/075-R MB-37-090-R	MPRAM-125	MPSM-37-PNPT00-50 MMSM-37-PNPT00-50	MPNCM-37-PNPT00-50 MMNCM-37-PNPT00-50
	.052-.084	8				
	.085-.106	10				
39E618 39WE618	.025-.051	4	MBR-39-051-R MB-39-065-R MB-39-075-R MB-39-090-R	MPRAM-125	MPSM-39-PNPT00-50 MMSM-39-PNPT00-50	MPNCM-39-PNPT00-50 MMNCM-39-PNPT00-50
	.052-.072	6				
	.073-.084 .085-.106	7 9				
50WE420	.025-.031 .032-.053	2 3.5	MBR-50-031-R MB-50-040-R	MPRAM-100	MPSM-50-PNPT00-50 MMSM-50-PNPT00-50	MPNCM-50-PNPT00-50 MMNCM-50-PNPT00-50
51E420 51WE420	.025-.031 .032-.053 .054-.066	2 3.5 4	MBR-51-031-R MB-51-040-R MB-51-060-R	MPRAM-100	MPSM-51-PNPT00-50 MMSM-51-PNPT00-50	MPNCM-51-PNPT00-50 MMNCM-51-PNPT00-50
99E816 99WE816	.050-.068 .069-.084 .085-.140	8 10 16	MBR-99-068-R MB-99-075-R MB-99-120-R	MPRAM-150	MPSM-99-PNPT00-50 MMSM-99-PNPT00-50	MPNSM-99-PNPT00-50 MMNSM-99-PNPT00-50

*Contact your representative for installation recommendations outside these metal ranges.

**See pages 5, 7, and 9 for available nose extensions and other dimensional information.

A Complete Worldwide Systems Approach to Self-Piercing Fastening



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