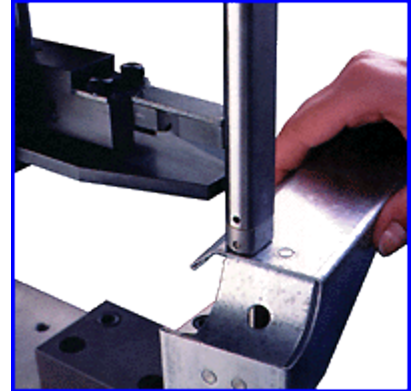


## Welcome to AKH Inc®!

For more information please [visit http://www.akhfas-ner.com/](http://www.akhfas-ner.com/)

If you still think that welding and riveting are your only options in joining metals, here's a system that can save you dollars and manufacturing headaches ... the AKH FAS-NER SYSTEM®.

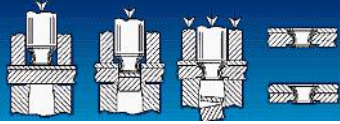
The AKH FAS-NER SYSTEM® is a fastening system that uses the self-piercing AKH FAS-NER®, a great alternative for spot welding and riveting. The AKH FAS-NER SYSTEM® is a simple punch and die operation which automatically feeds, punches, inserts and locks the self-piercing FAS-NER® to produce a solid join in one high-cycle operation. The FAS-NER® from AKH can join dissimilar metals and varying thicknesses, pre-painted materials and pre-coated materials. Systems range from our standard single-hit machine to a completely automated turn-key operation in main production lines.



## Company History

Since 1981, AKH has provided the engineering and manufacturing support to the growing number of worldwide corporations who have specified the AKH FAS-NER® into the design and production of their products. We are proud to be a supplier to the automotive, trucking, appliance, leisure, electronics, communications, computer, food service, metal door, furniture, casket and medical equipment industries.

We take pride in our reputation as a leading supplier, committed to the principles of continuous quality improvements in all areas of our manufacturing and service. Our goal is to continue to produce a better quality product which is cost efficient and exceeds customer expectations in product performance.



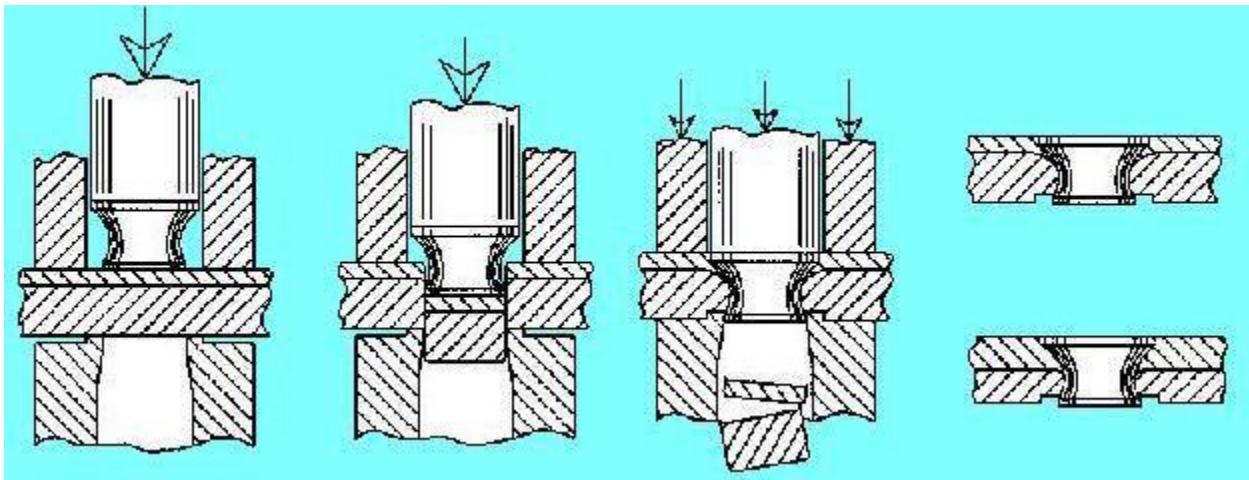
## How the System Works

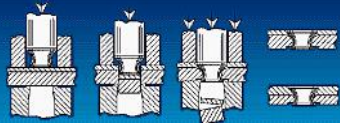
Here's how it works!!

The AKH FAS-NER SYSTEM® utilizes a unique, self-piercing fastener, called the AKH FAS-NER®, which mounts flush with the material being joined.

The AKH FAS-NER® is cylindrically shaped, having concave sides which resembles an hour glass. The AKH FAS-NER® is its own punch and is made of either hardened aluminum or high carbon steel.

STEP 1	STEP 2	STEP 3	STEP 4	STEP 5
Utilizing the tooling designed for the AKH FAS-NER SYSTEM®, the FAS-NER® pierces the material being joined.	The lower die shears the material and allows the slug to pass through.	The FAS-NER®, being the same length as the total thickness of the materials being joined, takes the place of the pierced section.	The head on the top and the coining ring on the lower die tooling are forced around the FAS-NER® to permit the sides of the pierced hole to flow into and form around the concave section of the FAS-NER®.	The joint is locked tight and the FAS-NER® is flush with both surfaces of the assembly. The joint's integrity depends on the characteristics of the combined materials and the proper selection of both tooling and FAS-NER®.



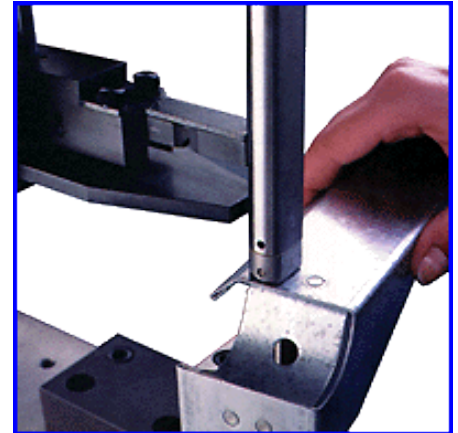


## Benefits & Advantages

### AKH CAN MAKE SPOT WELDING OR RIVETING OBSOLETE

*If you still think that welding and riveting are your only options in joining metals, here's a system that can save you dollars and manufacturing headaches . . .*

The AKH FAS-NER SYSTEM®



### The AKH FAS-NER SYSTEM® eliminates:

#### Compared to Spot Welding

- Plating bleed out
- Chemical changes in metals due to heat
- Environmental and safety hazards
- Precleaning of metals
- Costly touch up and refinishing
- High utility usage and costs
- Joint quality inconsistencies

#### Compared to Riveting

- Prepunching of holes
- Excessive material handling
- Realignment of holes during assembly
- Higher work-in -process inventory
- Unnecessary labor costs

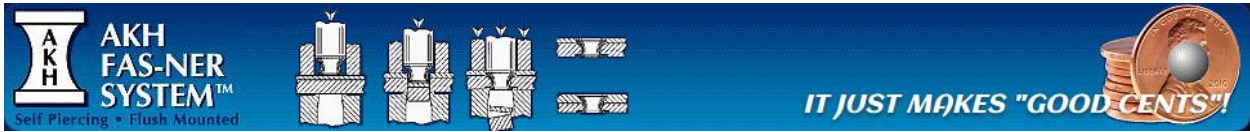
### The AKH FAS-NER SYSTEM® joins:

- Multiple layers of metal
- Dissimilar thickness of material
- Dissimilar metals
- Precoated/Preplated assemblies

### The AKH FAS-NER SYSTEM® provides:

- Consistent quality
- Flush mounted finish
- Increased corrosion resistance
- A virtual air tight and water tight joint
- Aesthetically pleasing appearance
- Vibration resistance
- Minimal material distortion
- Joint strength to material tensile
- Electrical continuity
- Joint quality confirmed visually

**Best of all, you have all these benefits from an automatic system!**



## Which Fas-ner is for You?

### A FAS-NER® TO MEET YOUR NEEDS



The AKH FAS-NER® is made from hardened steel or aluminum and available in a range of twenty-one standard sizes. Material with a combined thickness ranging from 0.075 inch to 0.360 inch can be joined using the AKH FAS-NER SYSTEM®.

To determine the proper FAS-NER® size for your application, select from the chart the FAS-NER® which will most closely approximate the total thickness of the materials to be joined. AKH can customize FAS-NER® sizes to meet your application needs.

#### **Example:**

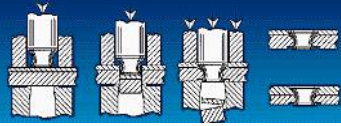
If you join one sheet of 18 gauge aluminum, which is 0.0403 inch thick, to a sheet of 16 gauge steel, which is 0.0598 inch thick, you will have a combined thickness of .1001 inch. The application would call for a #4 steel FAS-NER®.

The best joint strength will result from piercing the softest and/or the thinnest material first.

Steel FAS-NERS® are available with the standard zinc chromate plating at least 0.0003 inch thick. Zinc dichromate for increased corrosion resistance, as well as other platings and coatings are available on request to meet your requirements. FAS-NERS® can also be painted to match your pre-painted materials, eliminating need for post-painting operations.

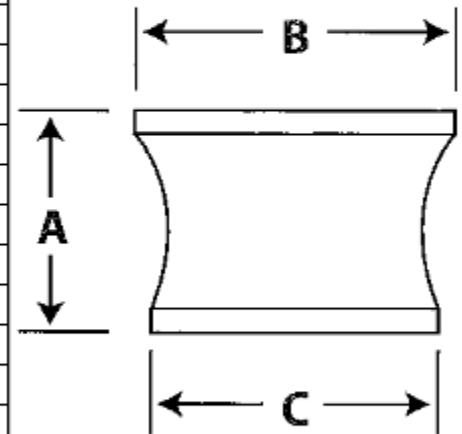
Insure that your material conforms to your specifications and tolerances before selecting the proper FAS-NER® size. A FAS-NER® oversized or undersized to the combined material thickness of the assembly can be used but may require modifications to the insertion dies.

**See the following page for a quick guide to all your sizing needs!**

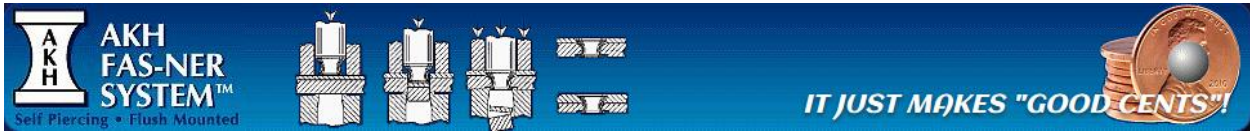


## Sizing Guide:

FAS-NER SIZE #	LENGTH "A"		DIAMETER "B"		DIAMETER "C"	
	INCH	MM	INCH	MM	INCH	MM
1	0.075	1.9	0.210	5.3	0.185	4.7
2	0.084	2.1	0.210	5.3	0.185	4.7
3	0.099	2.5	0.210	5.3	0.185	4.7
4	0.111	2.8	0.210	5.3	0.185	4.7
5	0.125	3.2	0.210	5.3	0.185	4.7
6	0.138	3.5	0.210	5.3	0.185	4.7
7	0.155	3.9	0.210	5.3	0.185	4.7
7-165	0.165	4.2	0.210	5.3	0.185	4.7
8	0.165	4.2	0.280	7.1	0.248	6.3
9	0.180	4.6	0.280	7.1	0.248	6.3
10	0.195	5	0.280	7.1	0.248	6.3
11	0.210	5.3	0.280	7.1	0.248	6.3
11-220	0.220	5.6	0.280	7.1	0.248	6.3
11-245	0.245	6.2	0.280	7.1	0.248	6.3
11-260	0.260	6.6	0.280	7.1	0.248	6.3
11-280	0.280	7.1	0.280	7.1	0.248	6.3
11-335	0.335	8.5	0.280	7.1	0.248	6.3
11-360	0.360	9.1	0.280	7.1	0.248	6.3
12-215	0.215	5.5	0.340	8.6	0.310	7.9
12-235	0.235	5.9	0.340	8.6	0.310	7.9
12-300	0.300	7.6	0.340	8.6	0.310	7.9
12-320	0.320	8.1	0.340	8.6	0.310	7.9







## Company Commitment

AKH's commitment is to be the leader in the worldwide market for metal joining processes. Our peoples' dedication is to continuously strive for better quality products and for higher standards of service; to be in the forefront in the competition for that leadership position.

Over the past few years there has been noticeable changes to the AKH FAS-NER SYSTEMS®. Past systems were mostly single-hit systems. In today's market, companies want to improve efficiencies and product quality as well as decrease manufacturing time and labor. Meeting these demands, our custom multiple hit and fully automated systems make up the majority of today's AKH machine sales.

AKH is not only customizing systems, but with all applications being different, we have evolved our FAS-NERS® around our customer's needs. This has produced FAS-NERS® of different lengths, coatings and painting and newly designed FAS-NERS®. An example of this is our new AKH Double-Headed FAS-NER®, adding an external head to our existing Headed FAS-NER®, excellent for thin gauge applications.

By working with our customers to produce customized Systems and FAS-NERS® to meet their needs, we are solving many application obstacles.

Headquartered in Danville, Indiana, AKH with its affiliate, maintains manufacturing facilities on the East Coast and Europe, as well as in the Midwest.

## Company Contact Information

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