May - June 2006

VALU-EDGE

A Technical Resource from Wagner Die Supply

In this issue:

WERC Tech Fair June 22nd!

No-cost event to focus on problem-solving and new products and techniques. Make plans to attend – your competition will!

The Technical Fair and Troubleshooting WERC-Shop will be held on Thursday, June 22, 2006 from 2:00 p.m. - 6:00 p.m. at the WERC Place at 2043 Elm Court, in Ontario, CA.

Wagner Die Supply's, Wagner Education and Resource Center (WERC) is presenting a no-cost ***Technical Fair and Trouble-shooting WERC-Shop*** on June 22, 2006. The event is specifically-designed to focus on issues important to diemakers, diecutters, and print converters. WERC will have several industry experts on-hand to assist event participants with questions and problems. Additionally, there will be several presentations on new technology and industry services including CAD Design, Diecutting M/R and on-going training programs for diemakers and diecutters. The WERC facility was designed with our industry in mind. This event offers a unique opportunity for die industry professionals to learn about WERC, and at the same time acquire valuable information on techniques. Plus, learn about products that can improve production and profitability. Those partici-pating in this WERC-Shop are encouraged to bring-in examples of problem dies and diecutting projects for our experts to evaluate and recommend improvements and solutions.

If you are interested in attending, please call 800 423-4478 toll-free, or visit us on the web at www.wagnerdiesupply.com for information and reservations.

A special, no-cost event especially for Diemakers, Diecutters, Print Converters!

Wagner Education & Resource Center's

Technical Fair & Troubleshooting WERC-Shop

Thursday, June 22, 2006

2:00 p.m. - 6:00 p.m.

at the WERC Place

2043 Elm Court, Ontario, CA 91716

RSVP - (800) 423-4478

News...

Dan Witucki joins Wagner

A new face to Wagner Die Supply's Elmhurst, IL location is Dan Witucki. Dan brings to Wagner years of valuable experience as a die shop plant manager. Dan's extensive hands-on experience in structural design, diemaking, and diecutting as a Master Craftsman, and as a manager adds another technical support resource to the Wagner Team.

Dan has the ability to provide a wealth of technical knowledge, and assists customers with problem solving and trouble-shooting. His experience in guiding the choice of the most effective option for each diecutting application will help give our customers the edge they need to compete. We are proud to welcome Dan to the Wagner Team!

Wagner Education & Resource Center

This WERC Technical Fair & Troubleshooting WERC-Shop is part of an on-going series of programs dedicated to the education and technical support of the Steel Rule Die Industry by Wagner Die Supply.

Wagner Die Supply®
Diemaking & Diecutting Source & Resource

Ontario, CA • Dallas, TX • Elmhurst, IL • Tacoma, WA

www.wagnerdiesupply.com

DREC Review

The Diecutting Resource Exposition & Conference (DREC) - the Wagner Team reports.

The Wagner Team has just completed the grueling two-week DREC traveling trade show, which visited several major Mid-West cities. Starting in Detroit, then Chicago, St. Louis, Nashville, Cincinnati, and finally Cleveland, the team of Mike Knutson, Dan Witucki, and Greg Baker, survived the ordeal and gained positive feedback about new and existing Wagner Die Supply Products and Services.

One of the key features of the DREC tour is a focus on new products and new services. The Wagner Team has always found this feedback from the technicians, the diemaker's and the diecutters, to be valuable, to be direct, and to be honest. It was therefore, rewarding, that several of the products spotlighted by the Wagner Team received such an enthusiastic response.

Wagner Precision Bits for Router Systems

The proliferation and the impact of this multi-tasking system of diemaking tool fabrication were evident in the enthusiastic reaction to the introduction of Wagner Precision Bits. The discussion focused around the Kerf Cutter, the Skiving Tool, the Channel Cutter, the Spiral Cutter-2 Flute Chamfer, and the Chamfering/Cut Out Tool, and the reaction was extraordinarily positive. The fact that the router bits are manufactured under strict tolerances of one million test inches, they have a money back guarantee, and they provide a unique, multi-flute geometry, which has proven more effective for kerf cutting and chip removal, was evidently impressive to the experienced diemakers who use the router system every day.

There was a spirited discussion about the ongoing development of using routing to make dieboards, counters, stripping and blanking tools, and the new tools from Wagner, were greeted as a valuable addition to the growing impact of this system of toolmaking.
To see more on the bits:
http://www.wagnerdiesupply.com/images/05WagnerBitSheet.pdf

Wagner "G-Lam" Laminating Adhesive

The diemakers who were enthusiastically discussing the Wagner Precision Bits, were also delighted with the introduction of the new "G-Lam" adhesive, specifically designed for the precise adhesion of the two 5/16" profiled dieboards to each other.

The new adhesive rolls on white and dries clear to help with complete adhesive coverage. The adhesive is specially formulated, with an excellent wet tack, and it is designed to provide a powerful bond, during the clamping drying/curing process, as the two sections of the dieboard are joined together. To see more on G-Lam:

One of the important advantages of "G-Lam" is it is a water based adhesive, it contains no solvents, and it is safe and easy to use. The adhesive is available in 1 gallon or 5 gallon containers.
http://www.wagnerdiesupply.com/images/05WagnerBitSheet.pdf

Wagner Multi-Point Stripping Pins

Every product development cycle requires meticulous research, careful product design and fabrication, and extensive testing before a Wagner product is released to the industry. One of the products, which was introduced earlier this year, seems to have already garnered a devoted following. In show after show the Wagner Multi-Point Stripping Pins, were so enthusiastically endorsed by users, those already using them were providing on-the-spot testimonials to those who were seeing the innovative multi-pointed stripping pins for the first time.
The primary point being made was the impact of consistent positive stripping, and the elimination of hinging on difficult shapes and on small waste parts. If you have not tried the multi-point stripping pins, then according to user after user, you are missing a great opportunity to both simplify and improve the performance of the male and female stripping tools. For more info:
http://www.wagnerdiesupply.com/images/05Multi-pointPins.pdf

Wagner Precision Diecutting Press Stops (Stop Pins)

There are two primary issues in diecutting press make ready, the first is to make sure the knife does not impact the steel cutting plate or anvil with such force it causes the knife edge/tip to suffer compressive damage. The second issue is to prevent the press deflecting under load, which will obviously generate an unstable cutting make-ready and cause severe and rapid steel rule die damage. The solution, in many diecutting applications is to integrate Press Stops into the steel rule dieboard, which act as leveling tools and bearers, which prevent knife damage, which set the gap between the die and the anvil at the optimal distance, and which ensure a fast simple press make-ready. To see more:

Wagner has been a pioneer in the development and the application of Press Stops and Pressure Bearers, and customer feedback reinforces the importance of this option in certain applications. And even though Wagner has been selling Press Stops for years, it was one of the most commonly discussed diecutting/diemaking options during the DREC tour.
http://www.wagnerdiesupply.com/images/07DiCutPhenol,Stppins.pdf

The Wagner Education & Resource Center

The increasing commercial pressure to produce dies and diecut parts faster, simpler, better, and less expensively than before, is driving a focus on productive improvement and on technical education. The presence of Greg Baker, WERC Coordinator and Instructor, led to a number of discussions about process improvement, about effective education and the importance of hands-on training. The consensus amongst all of the attendees in many discussions and in the Question & Answer sessions was training on-the job was slow, it was ineffective, there was insufficient time, and training was rarely complete.

The recognition that the first fully equipped diemaking and diecutting operation, with a staff qualified to provide training in Folding Carton, Rotary Corrugated, and Specialty Diemaking and Diecutting, was available to the industry received considerable attention and instigated many questions.

For more information on the WERC Training Schedule call Greg Baker at 1-800-423-4478. For more info on upcoming events:
http://www.wagnerdiesupply.com/imagesWERCFlyer6-06.pdf

DREC Summary

The planning, the preparation and the execution of six Diemaking & Diecutting Trade Shows in six cities in two weeks, is a challenging task. However, the ability to meet with the technical experts who are using the tools, the materials, and the technology provided by Wagner Die, ensures honest, valuable and accurate feedback. As soon as the team gets back, recovers and catches up, there is the challenge of integrating all of the comments, ideas, and suggestions into current products and new products under development. This DREC Show was a great experience for the Wagner Team, and you will see that the experience gained from this and other consistent industry research, will lead to more innovative products and to the service improvement, Wagner Die Supply is famous for.

Multi-setting on a Bender

One of the most important techniques to learn when using a traditional bender is Multi-Side Gauge Setting. See illustration 1. By using a combination of collars or stop rings, which slid over the side gauge bars, it was possible to have four or more different side gauge settings. This is critically important when bending complex shapes, and the flexibility of multiple side gauge settings for the Bending Machine and for the Bridging Machine, shown in illustration 1, is a tremendous advantage in terms of flexibility, in terms of reducing the number of pieces of equipment required to complete a difficult shape, and in the always-important time saving.

Every professional diemaker had a set of side gauge collars, and Engineers Test Pieces in his toolbox to make fast, multiple setting as easy as possible. Fortunately Wagner has addressed this problem by introducing the Super Side Gauge. See illustration 2.

This excellent upgrade to the traditional bender or bridger has eliminated the thumbscrews and replaced them with easier to use and large plastic, quick release locking knobs. They have also increased the diameter of the side gauge bars from 3/8 inches to 1/2 inch, to minimize deflection under load and to improve precision and accuracy. These bars can be ordered in 10" and 18" length, which is often essential when bending or bridging longer lengths of steel rule. This side gauge can also be ordered with Collars or Stop Rings for multi-setting.

One of the best additions to the Super Side Gauge is a 2" Micrometer, which makes precise setting and precise adjustment bulletproof. If you use bending and bridging equipment in your diemaking operation the Super Side Gauge is an essential addition to your equipment.

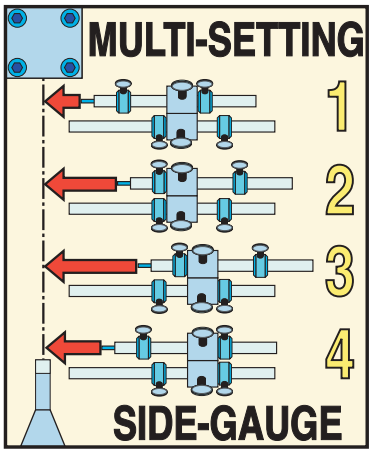


Illustration 1.

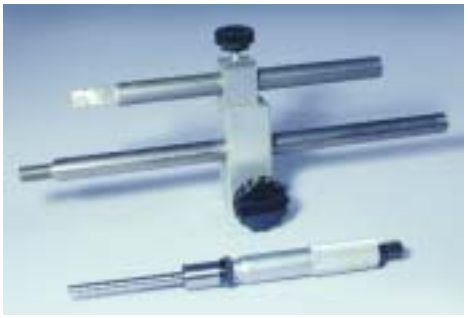


Illustration 2.

The Flexible Bender

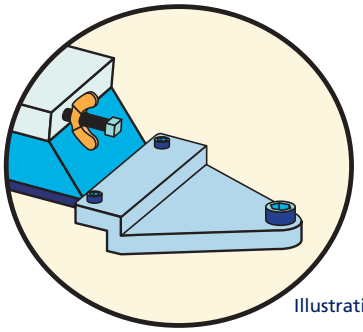


Illustration 1.

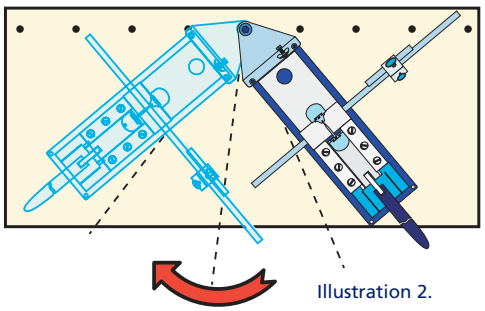


Illustration 2.

It is often an advantage when shaping rule using traditional equipment to have more than one bender, or perhaps three benders, or two or three bridgers. This flexibility is usually out of the question if the benders, bridgers, or miter machines are bolted permanently to the bench using all four fastening locations on the base of each piece of equipment. An interesting variation to improve the flexibility of ruling a die, by making the work area easily customizable is to fabricate a simple bracket, which is fastened to the end of each piece of equipment using the standard bolt-hole pattern. See illustration 1.

As you can see in the illustration the bracket has a single bolt position for fastening it to the workbench. By having a workbench with a line of holes, designed to accept the bracket and the piece of equipment it is bolted to, it is fast and easy to customize the work area for each specific job by mixing and matching pieces of equipment. See illustration 2.

However, what is also extremely useful with this type of fastening option, is the piece of equipment can be rotated on the work surface to clear space or to prevent the equipment getting in the diemakers way as he or she is moving from one piece of equipment to the other.

If the bracket is fastened in position using a quick release bolting system, the standard method of permanently fastening equipment in a fixed position is eliminated. This simple technique brings flexibility, and necessary work-space customization to the diemaking process, so the diemaker has the right pieces and the correct numbers of pieces of equipment to efficiently and effectively rule a specific steel rule die.

Ejection Supporting Ejection

Ejection plays a multi-purpose role in steel rule diemaking and in the use of powerful ejection tools in diecutting. The ability to mix and match materials and shapes is an essential skill, as ejection is the primary control tool for the diecutting process.

For example, it is often an advantage to position a narrow strip of dense ejection material close to a cutting knife. See illustration 1. This could be necessary for a number of practical reasons. It could be to crush the periphery of the diecut part when diecutting Foam-core. See illustration 2. It could be to isolate the action of the knife from the action of a parallel crease, positioned close to the knife. See illustration 3. It could be to provide additional compression resistance as close to the cutting edge as possible, to prevent flaking and chipping of the diecut edge. See illustration 4.

All of these techniques have value, however, the problem with this technique is if the narrow strip of dense ejection material is unsupported, it will partially collapse and defect under the compressive force of diecutting. Instead of being an advantage it is now a critical problem. See illustration 5.

One of the simple techniques to concentrate force next to a knife is to position a creasing rule beside each knife. See illustration 6. The height of the creasing rule is such the top of the rule will not make contact with the diecut materials, however, if a narrow strip of ejection material is inserted into the gap between the knife and the crease rule, see illustration 7, the concentration of compressive resistance from the ejection material is perfect.

Unfortunately if the steel rule die does not have the provision for the creasing rule, how do we achieve the same effective using readily available materials?

The answer is by using Ejection Supporting Ejection techniques. This simply means the narrow strip is added to the knife as before, but a softer strip of standard rubber is positioned hard up against the narrow strip. See illustration 8. This material will help to support the narrow rubber strip as it is compressed, without allowing the narrow strip to deflect under load.

This is an excellent technique to be integrated into your Dieboard Rubbering portfolio.

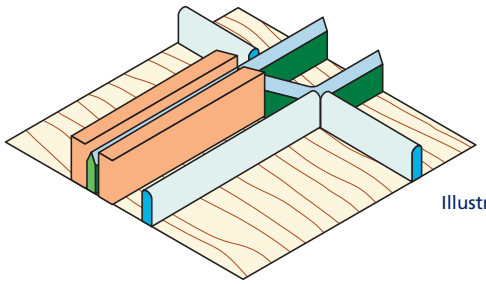


Illustration 1.

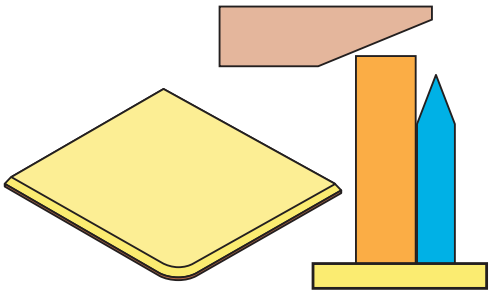


Illustration 2.

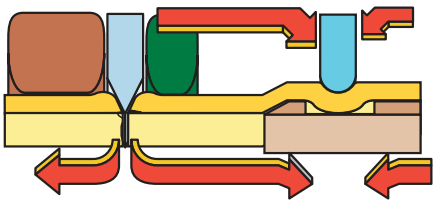


Illustration 3.

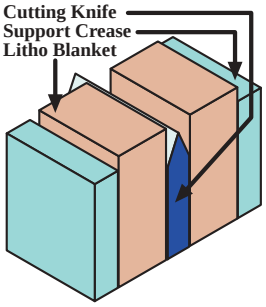


Illustration 4.

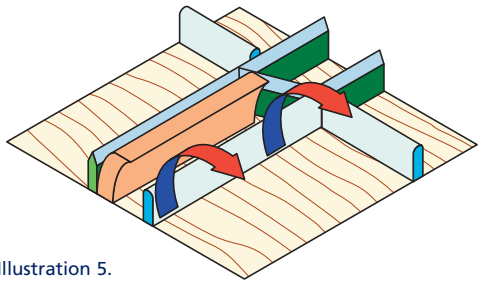


Illustration 5.

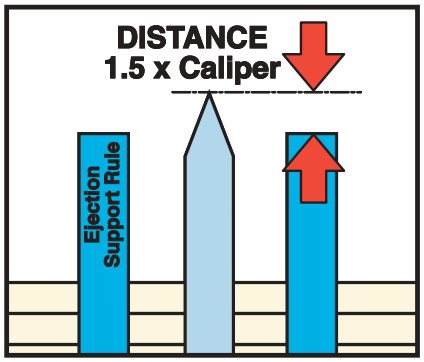


Illustration 6.

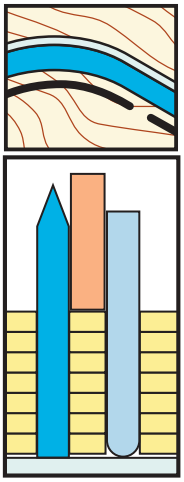


Illustration 7.

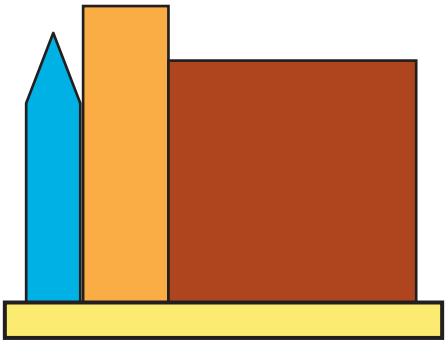


Illustration 8.

Wagner Two-Level Blanking
Improve Press Speed & Yield!

Question: What is the greatest challenge in blanking?

Answer – To maximize press speed without sheet break-up!

Problem One – The initial problem is caused by the sheet or diecut parts snagging as the sheet is moving into the blanking unit. This often happens at high speed when one or more of the diecut parts snags on machine parts of one of the cross press rails on the lower female blanking grid. See illustration 1.

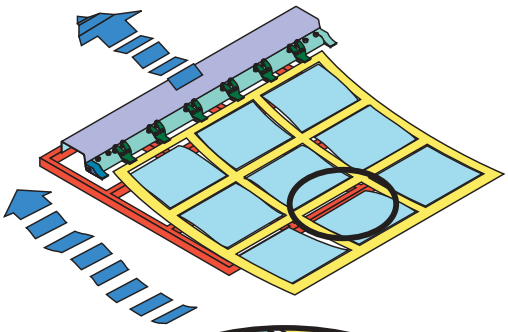
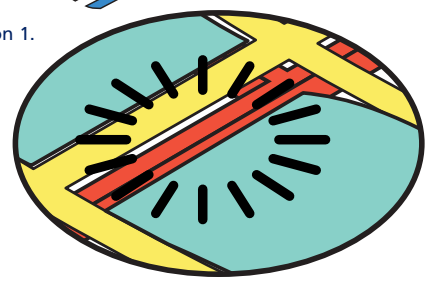


Illustration 1.

Cause – Although the cross rails are made lower than the press direction rails, see illustration 2, the distance between the upper rail and the lower rail is so small, there is minimal clearance for any diecut part which dips or curls down into a cavity. See illustration 3.



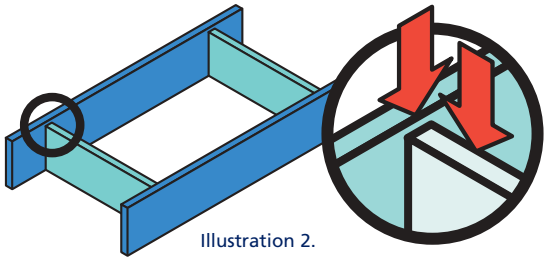


Illustration 2.

Solution – Lift the sheet higher, so there is greater clearance between the underside of the sheet and the top of each rail. See illustration 4.

Innovation – Fit flexible lifters to the back-edge to grip female blanker rails, to lift the sheet another 1/8 of an inch higher than is standard. See illustration 5. These flexible stainless steel lifters have minimum resiliency, but when a complete pattern of these simple add-ons is used, they enable the diecut sheet to fly into position, without any snagging or catching. Naturally, when the male and female tools close and go on impression, they collapse, and blanking proceeds as normal.

Problem Two – The diecut part Pivots or Hinges in the cavity. See illustration 6. No matter what we seem to do, the carton is going to hinge one way or the other. In fact the diecut part has four options for trap-dooring, and parts usually takes advantage of every option!

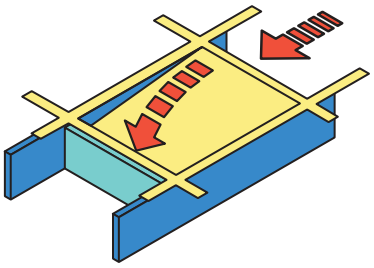


Illustration 3.

Cause – The pivoting problem is primarily caused, by the male and female tools being slightly misaligned, or it is more likely the diecut sheet is slightly out of position, and diecut part miss-registration and hinging is inevitable. It could be variation in the caliper, density or moisture content of the paperboard, and so the nicks holding one side of the part are now weaker than the nicks holding one of the other three sides.

Cause – First, except the inevitability of this type of failure, and implement two level blanking. This simply means instead of the part hinging down into the cavity and causing a jam-up we have a second level of blanking. See illustration 7. Before the part can hinge too far the bottom edge strikes the second level, See illustration 8, which stops the hinging, and the continued downward stroke of the male tool snaps the remaining nicks holding the part to the diecut sheet & frame.

The blanker, completes the downward stroke punching the diecut part through the second flexible or rigid level.

Continued on next page

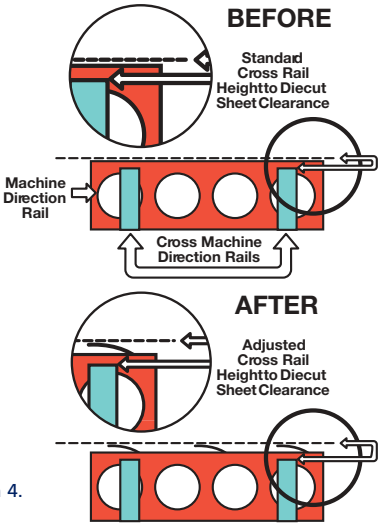


Illustration 4.

Wagner Two-Level Blanking *(continued)*

Innovation – The use of two level blanking is so simple, so effective, and so productive more and more companies are integrating this approach as a standard operating procedure in blanking.

Problem Three – The snagging or catching of the remaining frame on the cross rails, as the fragile network of waste material has minimal stiffness and it will inevitably dip down into any available cavity. See illustration 9.

In fact there is no Problem Three, because the solution described in Problem One, works even better on the frame than it did on the diecut sheet, and the frame can be flown into the waste delivery stream with minimal problems.

Question - What is the greatest challenge in blanking?

Answer – Having an open mind and trying new techniques and innovative procedures!

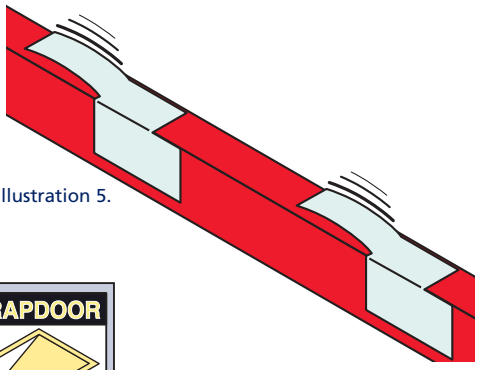


Illustration 5.

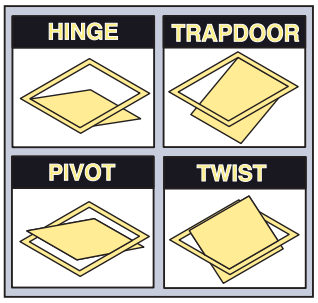


Illustration 6.

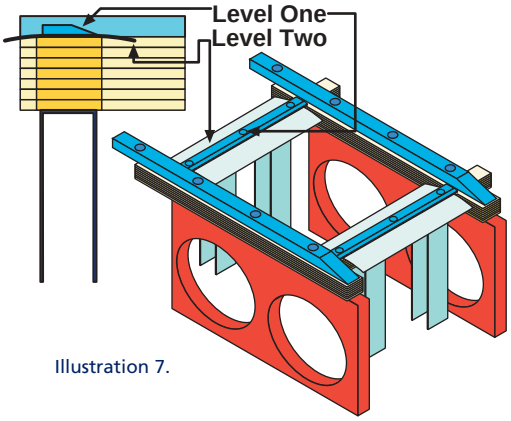


Illustration 7.

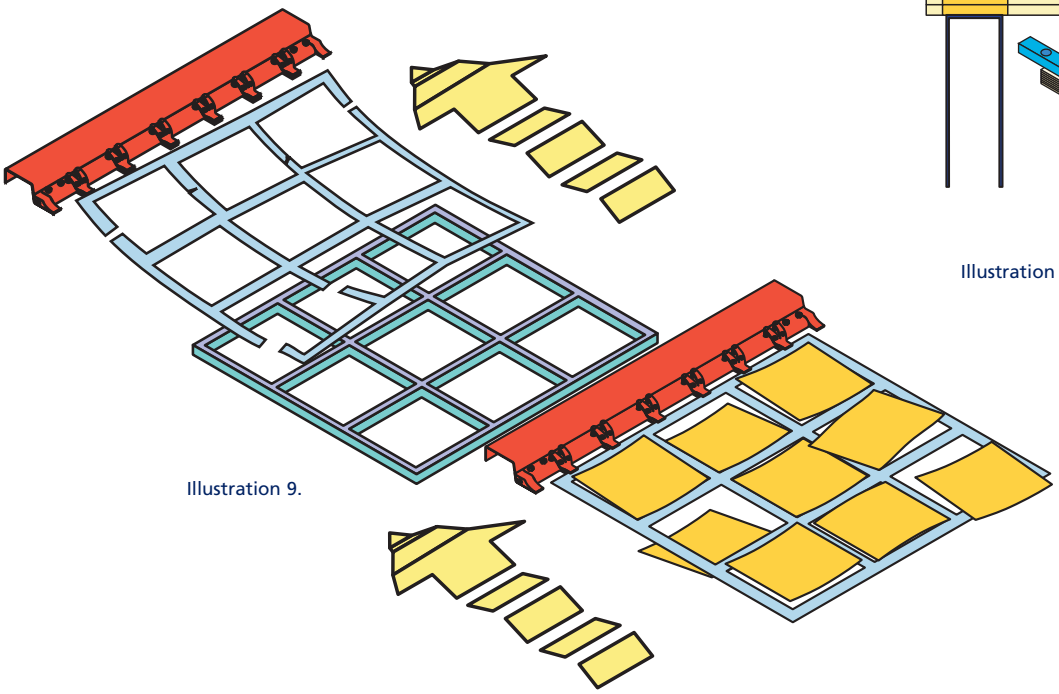


Illustration 9.

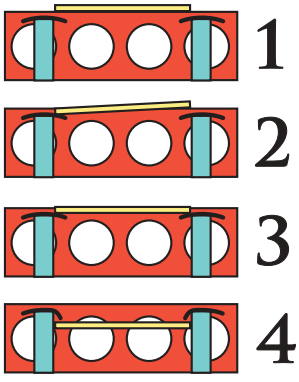


Illustration 8.

Members of:

West
2041 Elm Court • Ontario, CA 91761
Toll-Free:
(800) 423-4478 • Fax: (866) 786-2437

Southwest
2532 Converse Street • Dallas, TX 75207
Toll-Free:
(800) 262-4695 • Fax: (800) 446-6651

Midwest
960 Industrial Drive • Elmhurst, IL 60126
Toll-Free:
(800) 334-7914 • Fax: (800) 554-9124

www.wagnerdiesupply.com