Mod-eez®

THE MASTER FASTENER

Mod-eez®

Flexible Joint Structural Fastening System

*An ISO 9001 : 2000 certified company

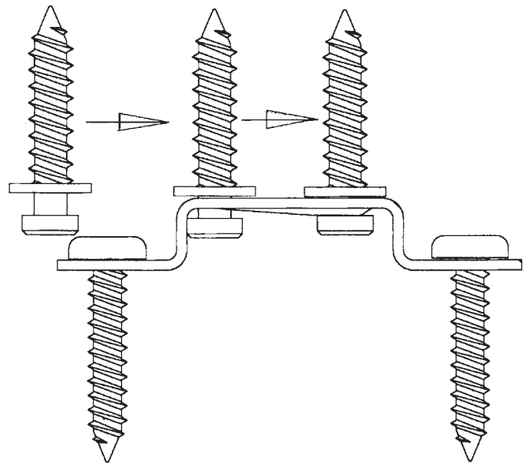
Modular Systems, Inc.
169 W. Park Street
Fruitport, MI 49415
USA
tel 231 865 3167 fax 231 865 6101
modularsystems@mod-eez.com
www.mod-eez.com

MODULAR · SYSTEMS · INC

3-702A-392

The Mod-eez® system was developed to accomplish three specific objectives:

1. To join panels securely together in such a manner that dimensional changes in the material or structure would not rupture or loosen the joints.
2. To achieve this objective with a fast and simple method of assembly, preferably without the need for tools.
3. To end up with a joint in which the fasteners are totally concealed.



The Mod-eez® Fastening system meets these objectives by utilizing a spring steel declining ramp "clip" and a large collared "shoulder screw" as the two mating members. Spring steel makes the joints strong, yet flexible, while the collar on the shoulder screw adds tremendous resistance to torsional pull-out. Assembly occurs by simply sliding the shoulder screw head down the clip's ramp. With the clip located in its pocket, and the system assembled, all fasteners disappear!

Mod-eez® products are covered by one or more of the following patents or trademarks:

U.S.	Foreign	
4,332,205	1,036,326	1,863,387
4,473,316	1,057,809	2,121,099
4,470,716	1,193,642	02,394,087.7
4,601,247	1,193,643	2,384,061
6,109,819	1,200,070	2,501,099
6,588,971	1,277,485	2,633,972
	1,491,073	02,121,760.2
	1,552,322	3,315,986
	1,554,416	

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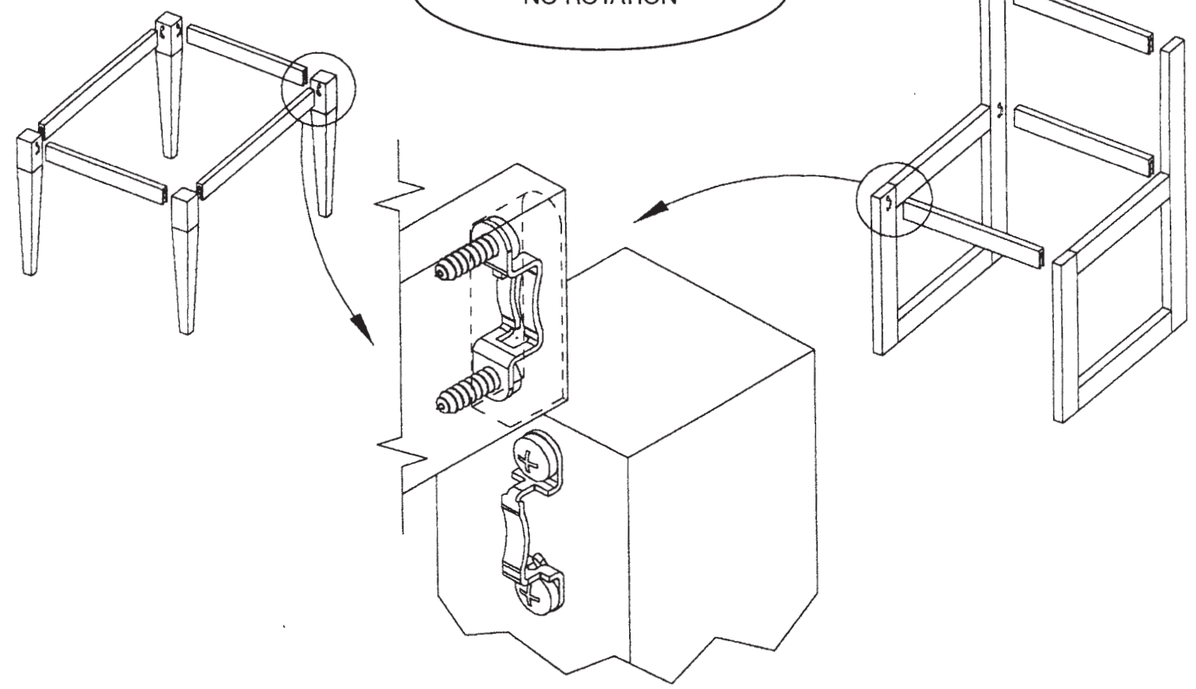
32mm ANTI-ROTATION CLIPS*

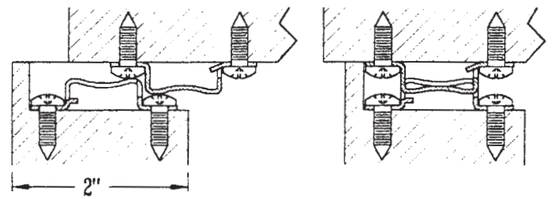
Seating, tables, case goods, store fixtures…wherever there's a stretcher.

ONE FASTENER, NO ROTATION

This clip to clip design provides a tight joint over a wide range of pocket depths – i.e. tolerance of ±.030".

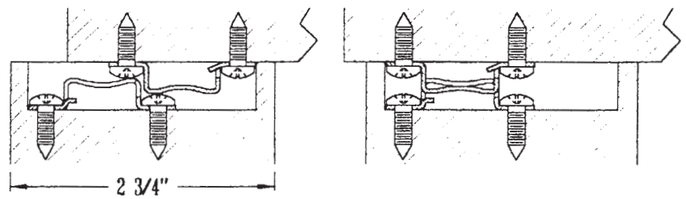


OPEN POCKET



32mm Anti-Rotation Clips fit into rails as narrow as 2" with an open pocket and 2 3/4" with a closed pocket.

CLOSED POCKET



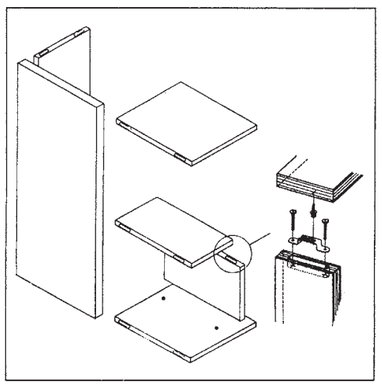
Semi-locking Female Anti-Rotation Clips provide more resistance to disassembly than non-lockers. Coded #2077 and #5077.

U.S. and Foreign Patents Applied For

OFFICE AND RESIDENTIAL FURNITURE

Mod-eez® fasteners are used by the Office Furniture Industry for the production of RTA office furniture. The hidden aspect of the Mod-eez® fastener gives the end product a high quality look. Panels can be shipped to the dealer for assembly, saving freight and reducing shipping damage.

Large RTA furniture manufacturers have switched from using cams and exposed screws to the Mod-eez® system to satisfy customer demand for a more "user friendly" RTA fastening system. Panels can be pushed together in a matter of seconds as opposed to inserting screws and turning cams. The end result is a stronger joint that is completely hidden!

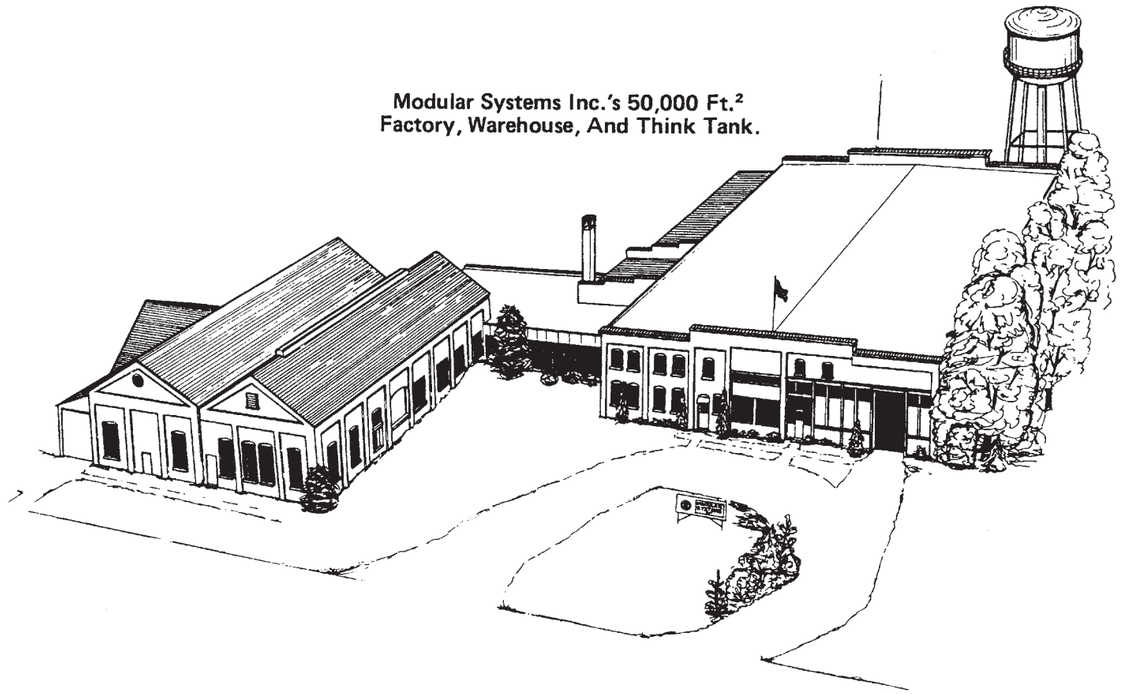


Modular Systems, Inc. was founded in 1965 in Muskegon, Michigan by P. Craig Welch. The original products he offered were a line of "Pole Hardware" and a pay telephone shelf made of particleboard covered in formica. Acceptance of the hardware line by furniture companies was limited, but the "knocked down" telephone shelves were an instant success with the Bell System. The operation moved to Fruitport, Michigan in 1968.

In order to meet the Bell System requirements for both damage free shipping of single telephone shelves and rapid installation by one person, several key advancements were made in the shelf packaging and in the design of the R.T.A. fastening system which held them together. By the early 1970's Mod-eez® telephone enclosures were the standard for many of the Bell System Companies. About this same time it occurred to our management team that perhaps the Fastening System, which was instrumental in the success of the phone shelves, could be marketed to furniture companies along with our hardware. Thus, Modular Systems experienced the birth of the Mod-eez® Fastener line.

In our Wood Plant, we still manufacture public telephone enclosures. They can be found in all 50 states, Canada, and the Caribbean. The hardware line died out in the 1980's. Today's Mod-eez® dominated telephone enclosure operation provides us with some unique opportunities, unavailable to most fastener providers. We test various assembly methods and evaluate the respective instructions for clarity. We make prototypes and test packaging. Utilizing the Diemakers in our Fastener Manufacturing Plant, we develop and test Mod-eez® Mortise, Bore, and Clip Insertion machinery. We definitely qualify as experts in the use of the Mod-eez® Fastening System and we welcome visitors to see how we do it. You can always find us here in Fruitport, conveniently located at the end of Spring Lake, where nature smiles for 7 miles.

Modular Systems Inc.'s 50,000 Ft.²
Factory, Warehouse, And Think Tank.



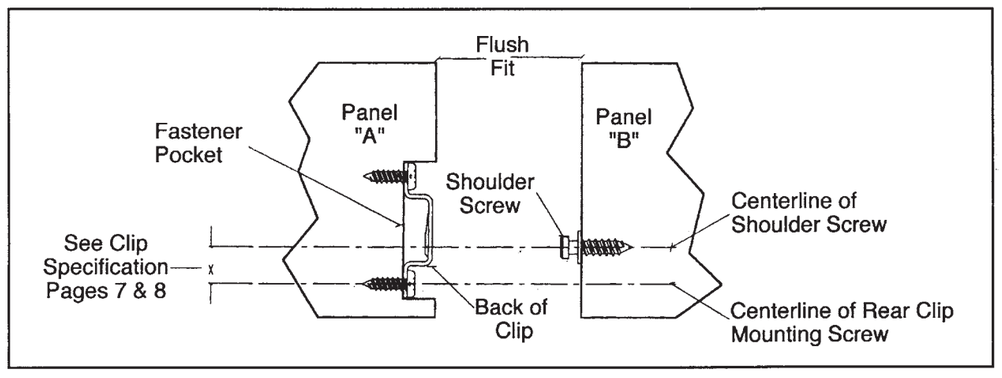
MOD-EEZ® MONTE'S HINTS AND AIDS

1 6000 Series clips mate only with 6000 series shoulder screws and vice versa.
2 Any non-6000 series clip (except the 2032 series) will mate with any non-6000 series shoulder screw (except the 1020B).
3 For all #12 SMT screws in wood, a 5\32" predrilled hole is recommended.
4 For all #14 SMT screws in wood, a 3/16" predrilled hole is required. For 2000 series female shoulder screws, a 5mm. predrilled hole is required.
5 For 5000 series female shoulder screws, a 1\4" predrilled hole is required. For 6000 series female shoulder screws, a 19/64" predrilled hole is required
6 For #10 SMT mounting screws (and with our drill fixtures), a 9\64" predrilled hole is required.
7 An Apex X492 (or equivalent) bit is recommended for driving male shoulder screws.
8 When driving clip mounting screws into predrilled holes in pocket, firmly clamp panel over pocket to prevent cracking from mounting hole to mounting hole (especially with 32mm clips)!
9 When routing pockets, don't let sawdust build up on back plate. An air jet can eliminate all dust buildup. Also use our pocket depth gage regularly.
10 Modular Systems has 1\2" shank router bits available to meet the pocket dimensions required by any Mod-eez® clip.
11 Use a 511, 512 or 513 to mount the 5055A or 5055B compression dowel.
12 When predrilling thin gauge metal for our thread cutting shoulder screws, use a #21 bit for the 5043 and a #3 bit for the 6043.

THE MOST COMMON PROBLEM IS IMPROPER POCKET DEPTH *i.e., joint is too tight or too loose. See "9" above.*

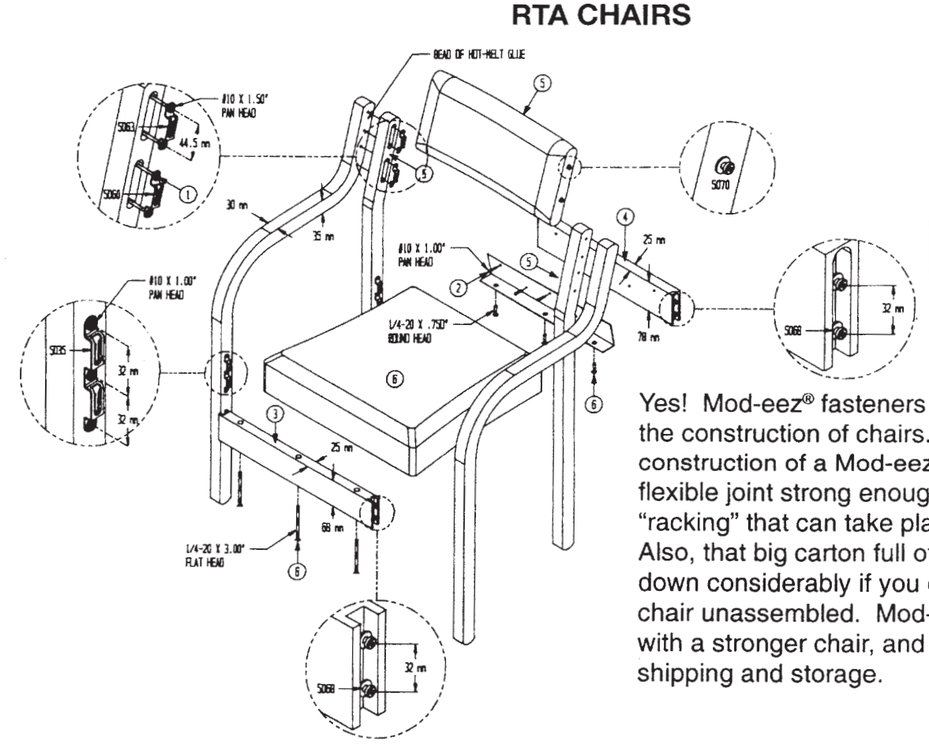
DEFINITIONS

BLIP - The narrow point on a semi-locking clip's ramp.
CLIP - The spring steel "female" portion of the Mod-eez® fastener system.
CLIP JOINT - Modular Systems, Inc.
PASS-THRU CLIP - A clip with both ends of the ramp open, enabling a shoulder screw to enter, tighten, and then "pop" through the clip.
R.T.A. - Ready To Assemble. Furniture which is not yet assembled, but is ready to be.
LOCKING CLIP - A clip with a locking tab which flexes over the top of the shoulder screw head when assembled and snaps down behind the head when assembly is complete.
NON-LOCKING CLIP - A clip with no locking or semi-locking features. It uses only friction to hold the joint together.
SEMI-LOCKING CLIP - A clip with a blip in the raceway. Once assembled, disassembly requires passing the shoulder screw through the blip, flexing the ramp sides outward as the shoulder screw passes, requiring more force than a non-locking clip, thus, semi-locking.
POCKET - The machined (routed) recess in which the clip is mounted and which ultimately hides the joint.
SEX BOLTS - "Female" shoulder screws (i.e. threaded internally to accept the threaded portion of a "male" shoulder screw).
SHOULDER SCREW - The "male" portion of the Mod-eez® fastener system.
SURFACE MOUNT - Mounting the shoulder screw in the pocket and the clip on the adjoining surface.
WINDOW - An opening in the side of a pocket to provide an entry point for a shoulder screw or screwdriver.



For flush fit of panel "A" to panel "B" with shoulder screw fully engaged in clip, locate shoulder screw from edge of "B" a distance equal to location of rear clip mounting screw from edge of "A" less dimension X (X varies with clip type, see specifications for your clip).
For instance, with 32mm system boring, drill shoulder screw holes .428" (11mm) closer to the edge than the rear clip mounting hole.

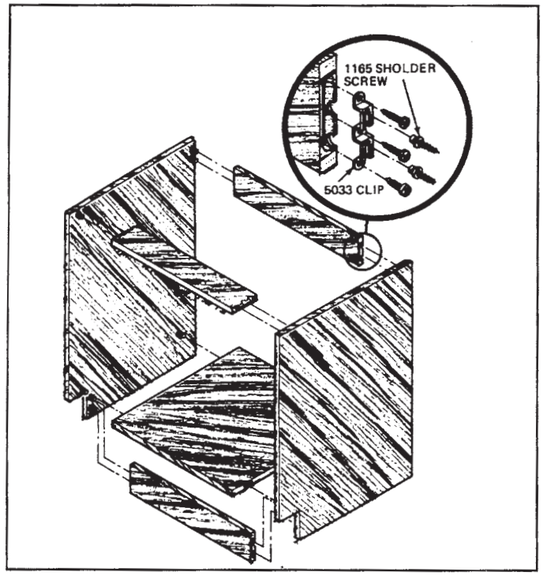
RTA CHAIRS



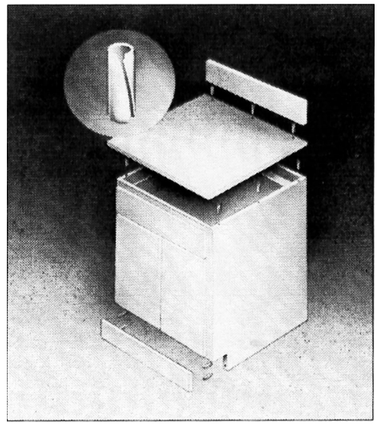
Yes! Mod-eez® fasteners are strong enough for the construction of chairs. The spring steel construction of a Mod-eez® fastener allows for a flexible joint strong enough to withstand the "racking" that can take place in a typical chair. Also, that big carton full of air can be shrunk down considerably if you decide to ship your chair unassembled. Mod-eez® can provide you with a stronger chair, and save you money on shipping and storage.

FRAMELESS KITCHEN CABINETS AND VANITIES

Frameless Cabinets are an ideal application for the Mod-eez® System. Our "double" clips give stretchers the maximum amount of strength in a minimum space. The completed cabinet looks clean, with no cams or screw heads visible. Panels can be stored flat until assembly – which takes just seconds with no glue or case clamping.



Mod-eez® Compression Dowels are also utilized for the assembly of toe kicks, tops, and backsplashes. Because the compression dowels eliminate the need for case clamping and gluing, many cabinet makers use them in conjunction with wood dowels to aid as a clamping device while the glue dries.



Typical Applications for Mod-eez® Fasteners

APPLICATIONS
On the following pages we will show you some examples of how to put Mod-eez® flexible Joint Structural Fasteners to work for you. How many other examples are there? You are limited only by your imagination.

The Mod-eez® Flexible Joint Fastener saves you money by eliminating costly manufacturing operations such as gluing and screwing. You can also ship several RTA units in the same box that one used to occupy. So, your warehouse suddenly becomes bigger because you can store knocked-down prior to shipment.

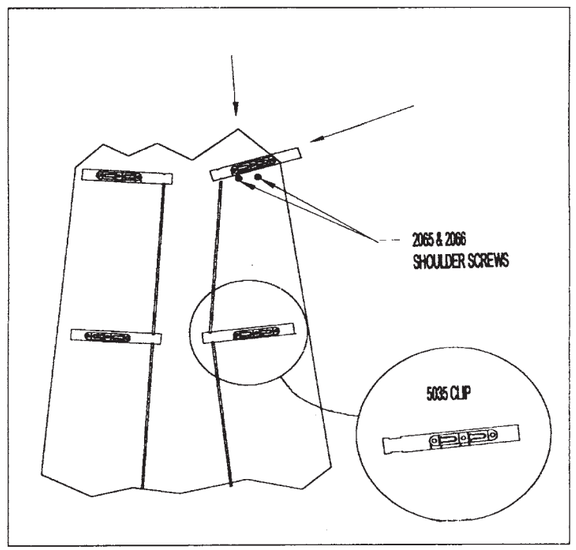
Your customers will like Mod-eez® too. Once installed, in wood, plastic or metal, the system becomes invisible, and adds structural strength. And the system's built-in flexibility keeps joints solid through climate changes and stress.

If you're building anything made of more than one piece, we think we can show you how to make a better product and a better profit. Write today for a free sample of the system, plus detailed applications and engineering data.

Get in touch. It's the first step toward making whatever you're making a little bit better.

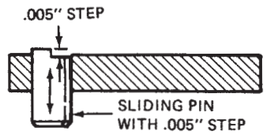
STORE FIXTURES

Mod-eez® fasteners are widely used by the Store Fixture Industry - such as the assembly of video store shelving. Store setup time is reduced by as much as half, or more, when units are assembled with Mod-eez®, and a rubber mallet is the only tool required!



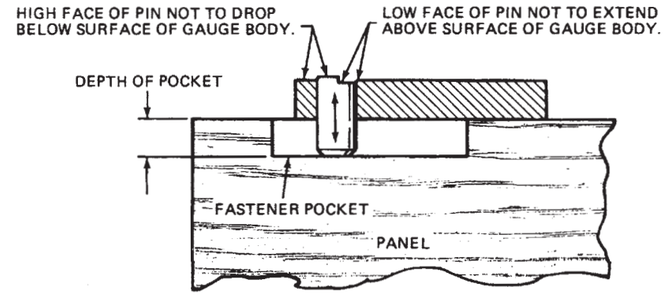
TO ENSURE CORRECT AND CONSTANT POCKET DEPTH

Be sure to refer to page 7 or 8 for proper depth for fastener being used.



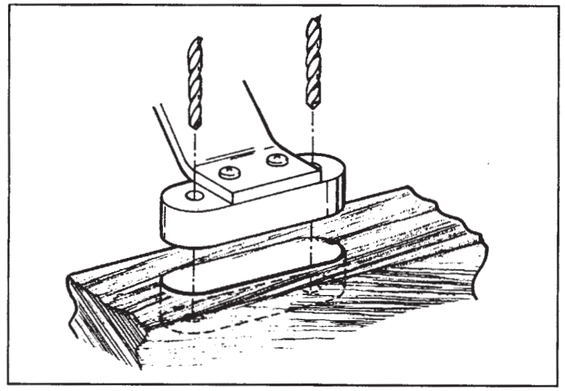
DEPTH GAUGE

NOTE: Separate gauges available for all fasteners. See price sheets.



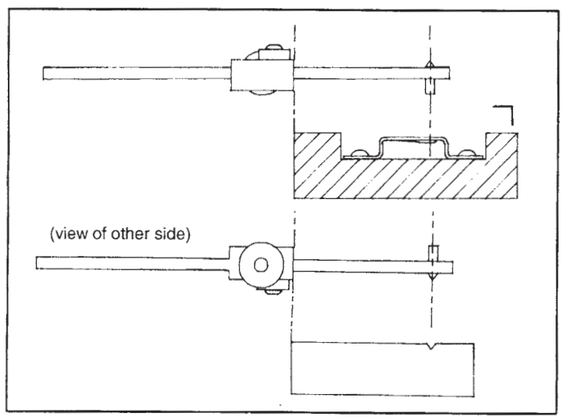
Hand Drill Fixture

For use when automatic boring equipment is not available. By positioning the Hand Drill Fixture at the back of the pocket, then drilling, you're assured that our clip will be consistently located at the back of the pocket.



Shoulder Screw Locating Gauge

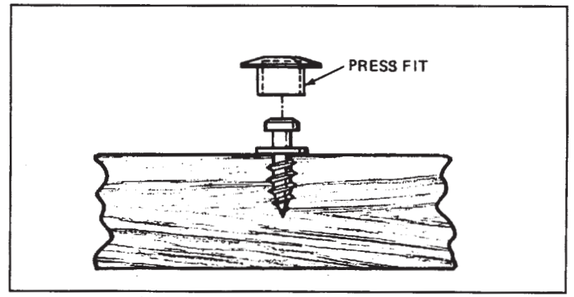
These take direct gauging from clip in one part and transfer shoulder screw location to mating part. Used for prototypes or for laying out drill bushing locations precisely on permanent drill jigs.



MOD-EEZ® COMPONENTS

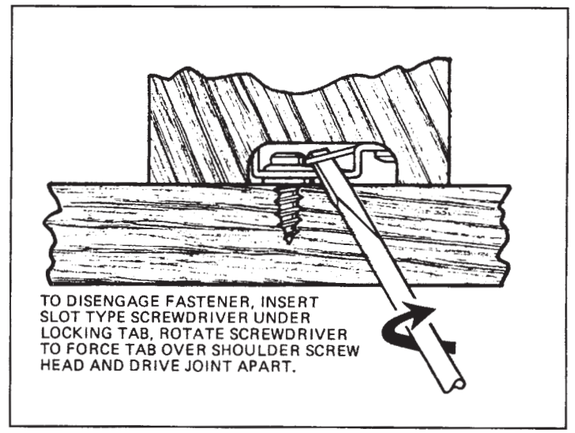
Protective Plastic Caps

These caps fit over shoulder screw heads and are available as protection to adjacent parts during transport although a piece of corrugated cardboard between panels can also do the job.



Locking Clips

Mod-eez® Locking Clips can ensure a joint that won't come apart, unless you want it to. If so, a "window" must be cut in the side of the pocket to provide access to the clip.



CLIP STYLES

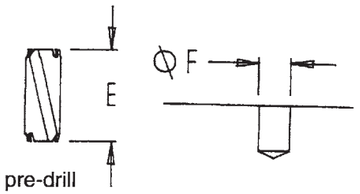
Non-Locking. Friction prevents the joint from disengaging.

Semi-Locking. Friction and a narrowing runway prevent the joint from disengaging. Requires more force to disengage than non-locking clip.

Locking. A locking tab prevents the joint from disengaging. Locking tab must be turned with a flat blade screwdriver for disengagement.

Pass-Thru. Used in grooved edge with another clip as an alternative to pockets with windows.

COMPRESSION DOWELS



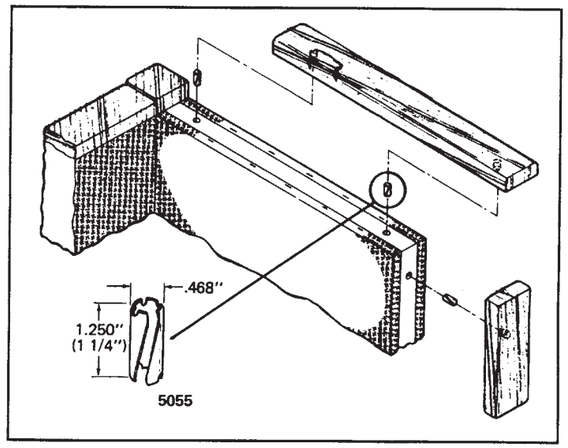
E: Overall Length
F: Recommended pre-drill

Part #	Inches E	MM E	Inches F	MM F
5052	1	25.4	1/4	6.4
5053	1 1/4	31.8	5/16	8.0
5055	1 1/4	31.8	27/64	10.5/11.0
5055-A	1 1/8	28.6	27/64	10.5/11.0
5055-B	5/8	15.9	27/64	10.5/11.0

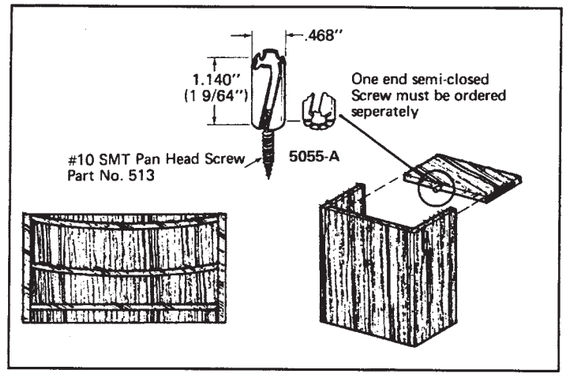
NOTE: We recommend that 1/3 of the dowel be inserted into the surface and 2/3 into the end grain of most wood products, except for the 5055A&B, which surface mount at one end.

Compression Dowels

Our Mod-eez® Compression Dowels are just right for fastening partition top caps or chair arms.



Shelves sagging? Try a Compression Dowel from shelf to back. It can also lock "drop in" type backs into place.



COMPRESSION DOWEL SIZES NOW AVAILABLE

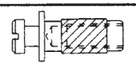
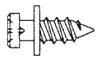
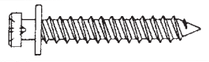
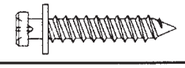
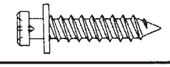
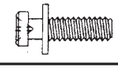
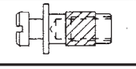
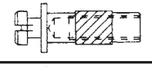
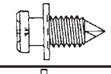
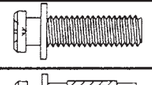
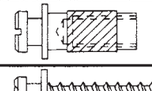
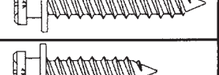
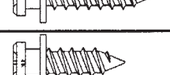
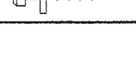
Model #5052 ..... 1/4" diameter hole
Model #5053 ..... 8mm diameter hole
Model #5055, #5055A, #5055B ..... 7/16" diameter hole

Mod-eez® Thread Cutting Shoulder Screws

These shoulder screws are just right for fastening panels to metal tubing. We recommend a 5/32" predrilled hole for the 5043 screw and a 7/32" predrilled hole for the 6043. Thicker stock may require a slightly larger hole.

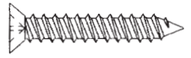
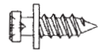
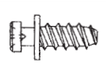
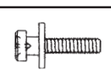
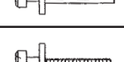
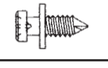
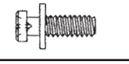
NOTE: Predrilling into any metal may leave a burr on the mounting surface. If so, the collar of the screw may hit the burr and not bottom out on the surface of the tubing. As with any shoulder screw that has not been driven deep enough, a loose joint will result. So punch holes or deburr!

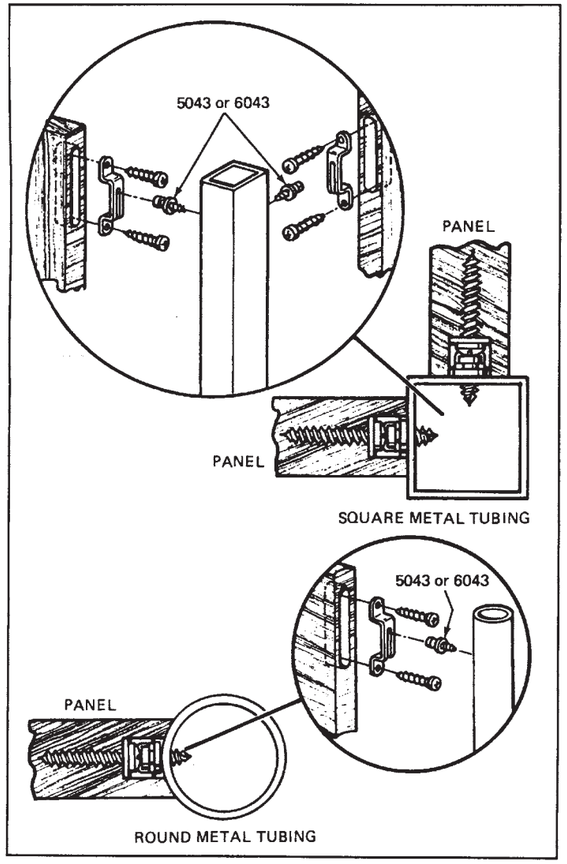
SPECIFICATIONS

DESCRIPTION				THREAD
Part No.	Verbal	Top	Side	Size: Type x length ± 1/32
5066	Female Shoulder Screw For 1/4" Predrilled Hole 5/8" Long Barrel			internal #10-32 MT x 1/2"
5067	For 1/2" Thick Panels			#12 SMT x 7*16"
5068	For 1 3/8" Thick Panels			#12 SMT x 1 1/4"
5069	For 1 1/8" Thick Panels			#12 SMT x 1"
5070	For 1" Thick Panels			#12 SMT x 7/8"
5565	For A Nut Or Threaded Hole			#10-32 MT x 1/2"
5566	Female Shoulder Screw For 1/4" Predrilled Hole 1/2" Long Barrel			internal #10-32 MT x 3/8"
5666	Female Shoulder Screw For 1/4" Predrilled Hole 3/4" Long Barrel			internal #10-32 MT x 5/8"
6043	Thread Cutting Metal Screw			1/4"28 MT x 7/16" thread cutting
6065	For A Nut Or Threaded Hole			1/4" 28 MT x 3/4"
6066	Female Shoulder Screw For 19/64" Predrilled Hole 3/4" Long Barrel			internal 1/4"28 MT x 5/8"
6068	For 1 3/8" Thick Panels			#14 SMT x 1 1/4"
6069	For 1" Thick Panels			#14 SMT x 7/8"
6165	For 3/4" Thick Panels			#14 SMT x 5/8"

For mortise & bore machinery and clip insertion machinery, new or used, lease or buy, call us!

SPECIFICATIONS

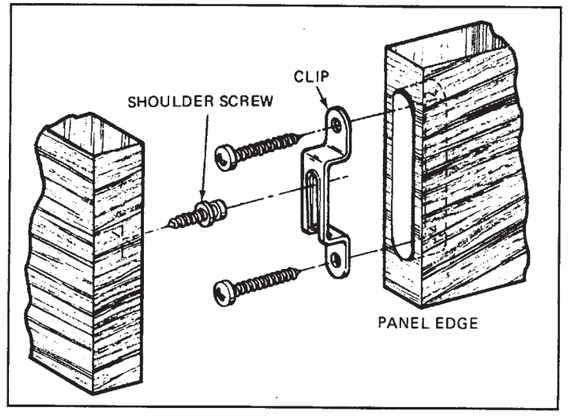
DESCRIPTION				THREAD
Part No.	Verbal	Top	Side	Size: Type x length ± 1/32
506	Mounting Screw For #2032			#8 SMT x 1" with #6 oval trim head
511	Clip Mounting Screw			#10 SMT x 1/2"
512	Clip Mounting Screw			#10 SMT x 5/8"
513	Clip Mounting Screw			#10 SMT x 1"
757	Anti-Rotation Mounting Screw			#8 flathead with #10 x 5/8
758	Anti-Rotation Mounting Screw			#8 flathead with #10 x 1 1/8
1020B	For #2032			#10 SMT x 7/16" with 9/32" hex collar
1065	For 5/8" Thick Panels			#12 SMT x 1/2"
1165	For 3/4" Thick Panels			#12 SMT x 5/8"
2053	Blunt Tip Shoulder Screw For 5mm Predrill			5mm x 10mm (#14 SMT x .390")
2055	Blunt Tip Shoulder Screw For 5mm Predrill			#14 SMT x 1/2"
2065	Male Shoulder Bolt			M4 x 12.0mm (.480")
2066	Female Shoulder Bolt For 5mm Predrilled Hole 15.8mm (.620") Barrel			internal M4 x 12mm (.480")
2069	Male Shoulder Bolt			M4 x 15.0 mm (.580")
2155	Shoulder Screw For A 5mm Predrill			#14 SMT x 5/8"
5043	Thread Cutting Metal Screw			#10-32 MT x 3/8" thread cutting
5045	Metal Screw			#10-32 MT x 7/16"
5065	For A Nut Or Threaded Hole			#10-32 MT x 5/8"

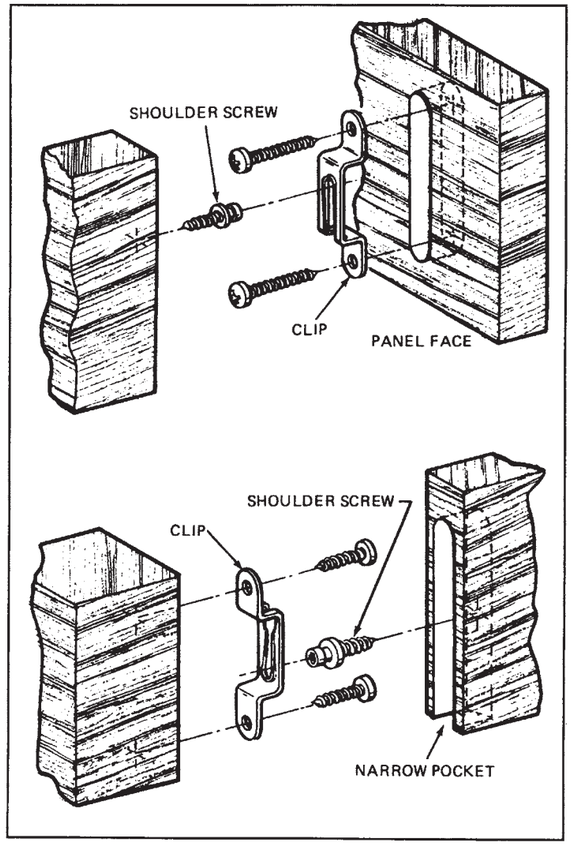


Welding clips to sheet steel (i.e. approximately 16 ga.), can be accomplished by "wire welding". Modular Systems has detailed specifications for the welding conditions required for this consumable spot process.

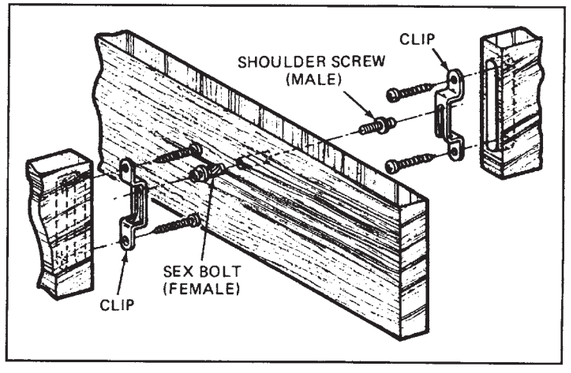
Fastener Mountings

Pockets to receive fasteners are normally routed into the edge of a panel, but can be routed into the face when design so requires.





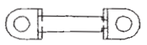
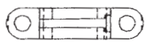
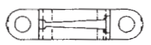
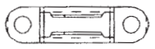
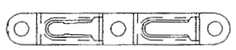
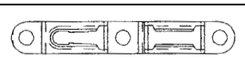
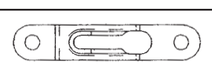
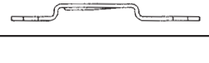
To prevent engaged members from rotating, locate the shoulder screw in the pocket and the clip on the surface. A narrow pocket for surface mount width must be cut (see specs page) and the open end of the rail must always face down.



This illustration shows how male - female fasteners can be used to fasten three panels together.

For more applications utilizing the unique Mod-eez® Flexible Joint Structural Fastener System, see the back portion of this catalog.

SPECIFICATIONS

Part No.	Verbal	DESCRIPTION Top	DESCRIPTION Side	POCKET IN INCHES Minimum Length x width x depth	"X" in Inches See Page 3
1763	Non-Locking Light Duty			2.375 x .525 x .288	1.125
2032	32mm Mounting Hole Ctrs. Non-Locking For 1/2" Stock			1.630 x .315 x .380	.392
2075	Male Anti-Rotation Clip For 1/2" And Larger Stock			open end pocket 1.674 x .390 x .550	0
2076	Female Anti-Rotation Clip For 1/2" And Larger Stock			open end pocket 1.674 x .390 x .550	0
2077	Semi-Locking Female Anti-Rotation Clip for 1/2" And Larger Stock			open end pocket 1.674 x .390 x .550	0
4031	32mm Mounting Hole Ctrs. Pass-Thru; For 5/8" Stock			1.674 x .430 x.438	.428
4032	32mm Mounting Hole Ctrs. Non-Locking; For 5/8" Stock			1.674 x .430 x .438	.428
4034	32mm Mounting Hole Ctrs. Locking; For 5/8" Stock			1.674 x .430 x .438	.428
4035	32mm Mounting Hole Ctrs. Semi-Locking; For 5/8" Stock			1.674 x .430 x .438	.428
4036	32mm Mounting Hole Ctrs. & 32mm Shoulder Screw Ctrs. Both Non-Locking			2.934 x .430 x .438	.428 1.688
4037	32mm Mounting Hole Ctrs. & 32mm Shoulder Screw Ctrs. Semi-Locking And Non-Locking			2.934 x .430 x .438	428 1.688
4038	32mm Mounting Hole Ctrs. & 32mm Shoulder Screw Ctrs. Locking And Non-Locking			2.934 x .430 x .438	428 1.688
4039	32 Mounting Hole Ctrs. & 32mm Shouldder Screw Ctrs. Non-Locking And Pass-Thru			2.934 x .430 x .438	428 1.688
4039A	32mm Mounting Hole Ctrs. & 32mm Shoulder Screw Ctrs. Semi-Locking And Pass-Thru			2.934 x .430 x .438	428 1.688
4060	Non-Locking			2.468 x .425 x .325	.625
4061	Non-Locking			2.468 x .485 x .325	.625
4062	Semi-Locking			2.468 x .425 x .325	.625
4063A	Semi-Locking			2.468 x .485 x .325	.625
4064	Severe Semi-Locking			2.468 x .485 x .325	.625
5030	32mm Mounting Hole Ctrs. Pass-Thru			1.674 x .525 x .438	.428
5031	32mm Mounting Hole Ctrs. Locking			1.674 x .525 x .438	.428
5032	32mm Mounting Hole Ctrs. Non-Locking			1.674 x .525 x .438	.428
5032A	32mm Mounting Hole Ctrs. Semi-Locking			1.674 x .525 x .438	.428

SPECIFICATIONS

Part No.	Verbal	DESCRIPTION Top	DESCRIPTION Side	POCKET IN INCHES Minimum Length x width x depth	"X" in Inches See Page 3
5033	32mm Mounting Hole Ctrs. & 32mm Shoulder Screw Ctrs. Both Non-Locking			2.934 x .525 x .438	.428 1.688
5034	32mm Mounting Hole Ctrs. & 32mm Shoulder Screw Ctrs. Locking And Non-Locking			2.934 x .525 x .438	428 1.688
5035	32mm Mounting Hole Ctrs. & 32mm Shoulder Screw Ctrs. Semi-Locking And Non-Locking			2.934 x .525 x .438	428 1.688
5039	32mm Mounting Hole Ctrs. & 32mm Shoulder Screw Ctrs. Non-Locking And Pass-Thru			2.934 x .525 x .438	428 1.688
5039A	32mm Mounting Hole Ctrs. & 32mm Shoulder Screw Ctrs. Semi-Locking And Pass-Thru			2.934 x .525 x .438	428 1.688
5052	1/4" x 1" Long Compression Dowel			surface .250 x .350 end grain .250 x .650	N.A.
5053A	8mm x 1 3/8" Long Compression Dowel			surface 8mm x .400 end grain 8mm x .850	N.A.
5055	7/16" x 1 1/4" Long Compression Dowel			surface .421 x .400 end grain .421 x .850	N.A.
5055A	7/16" x 1 1/8" Long Compression Dowel; One End Screwed In			N.A. x .421 x 1.141	N.A.
5055B	7/16" x 5/6" Long Compression Dowel; Low Profile, One End Screwed In			N.A. x .421 x .625	N.A.
5060	Severe Semi-Locking			2.285 x .525 x .444	.625
5061	Pass-Thru			2.285 x .525 x .444	.625
5062	Semi-Locking			2.285 x .525 x .444	.625
5063	Non-Locking			2.285 x .525 x .444	.625
5064	Locking			2.285 x .525 x .444	.625
5071	Pass-Thru Male Anti-Rotation Clip For3/4" And Larger Stock			open end pocket 1.674 x .525 x .475	0
5072	Pass-Thru Female Anti-Rotation Clip For3/4" And Larger Stock			open end pocket 1.674 x .525 x .475	0
5073	Locking Male Anti-Rotation Clip For3/4" And Larger Stock			open end pocket 1.674 x .525 x .475	0
5074	Locking Female Anti-Rotation Clip For 3/4" And Larger Stock			open end pocket 1.674 x .525 x .475	0
5075	Male Anti-Rotation Clip For 3/4" And Larger Stock			open end pocket 1.674 x .525 x .475	0
5076	Female Anti-Rotation Clip For 3/4" And Larger Stock			open end pocket 1.674 x .525 x .475	0
6063	Non-Locking Heavy Duty			2.285 x .650 x .453	.625
6064	Locking Heavy Duty			2.285 x .650 x .453	.625