

instructions for installation and operation

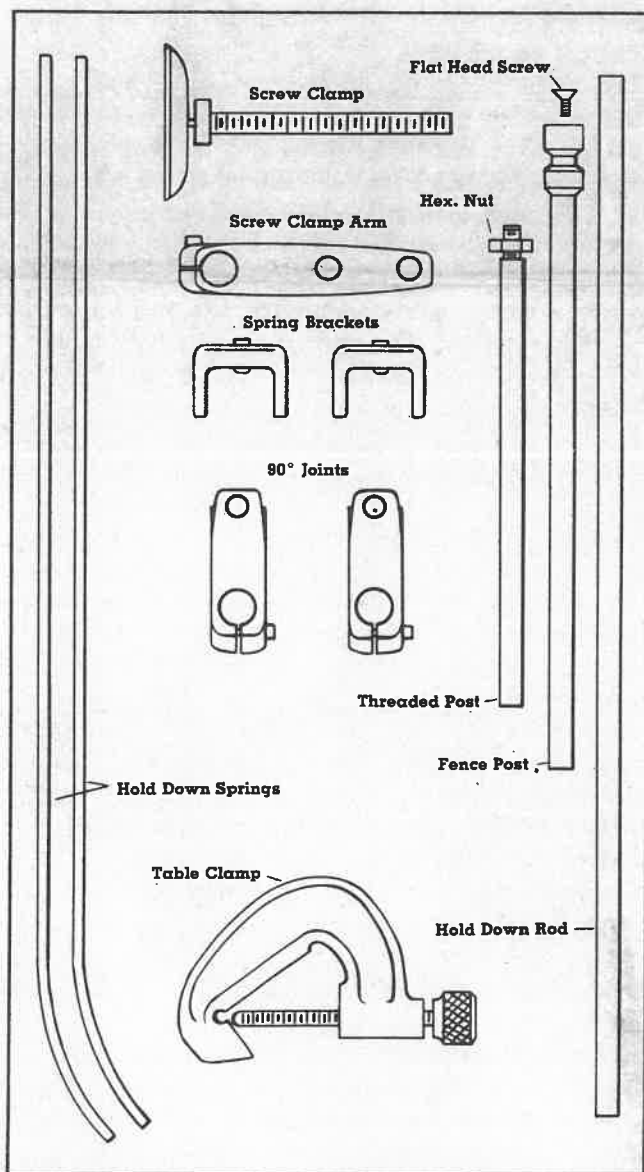


UNIVERSAL HOLD DOWN

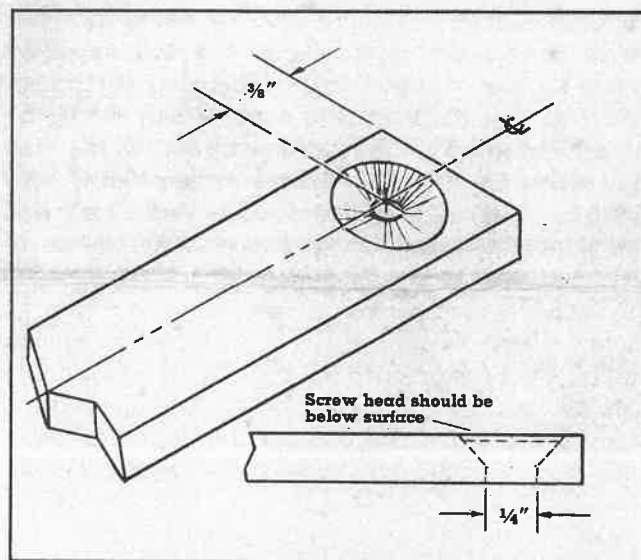
The Universal Hold Down is a multi-purpose accessory designed to increase convenience, accuracy and safety on many power tool operations. By utilizing its components in various combinations it may be used on the miter gauge, rip fence, shaper fence, or it may be clamped directly to any side of the table with SHOPS MITH in vertical or horizontal position. Primarily, its purpose is to secure work snugly against the rip fence and table as the pass is being made, thereby keeping hands out of danger zones. By holding the work firmly, it prevents chatter and helps produce a smoother cut on such operations as shaping, routing, molding head cuts and even some common sawing procedures. Used on the miter gauge, it will insure accuracy of miter cuts by preventing "creep" and will hold odd-shaped pieces firmly for cutting.

To obtain maximum utility from the Universal Hold Down, learn the names of the parts included in the set (see drawing below). Then, after you have studied the instruction sheet, you will avoid time-consuming, trial-and-error methods of setup.

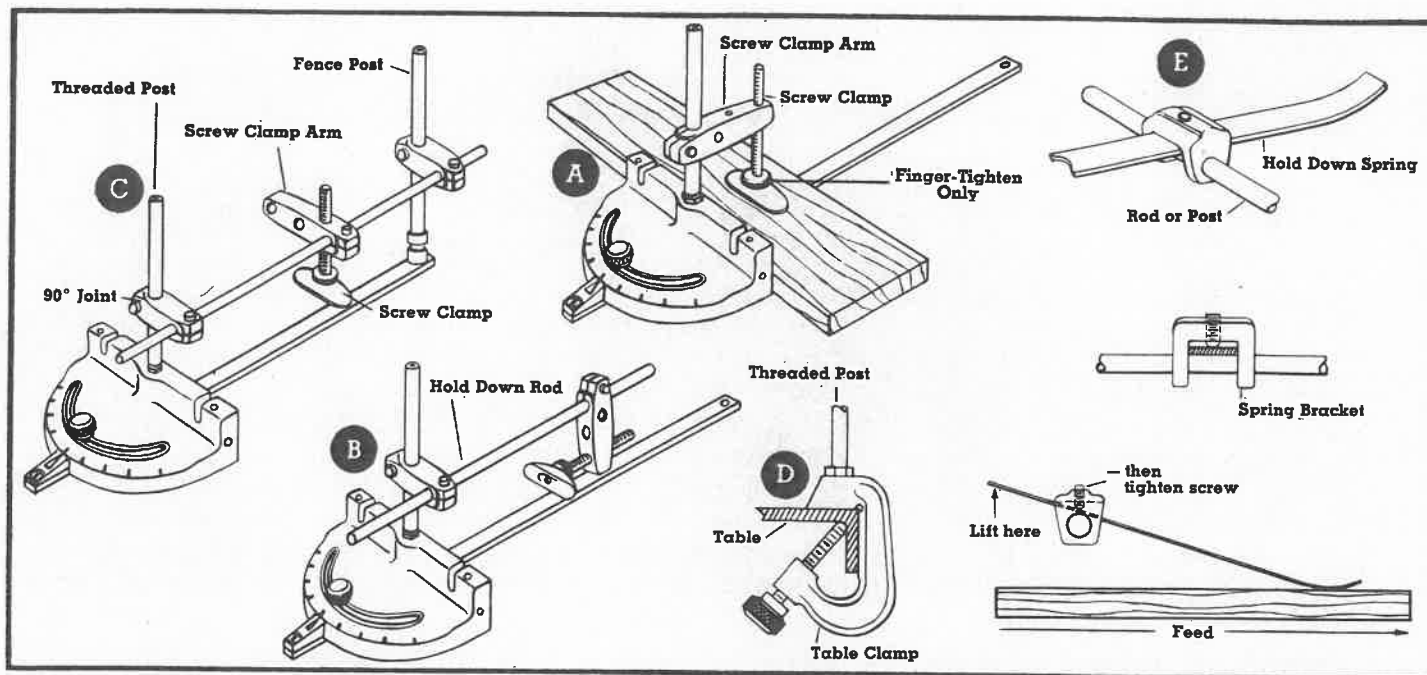
Universal Hold Down parts



Drilling miter gauge hole



If your SHOPS MITH miter gauge bar does not have a countersunk hole near the free end, you can quickly drill one as follows: Situate the miter gauge bottom side up and use a scriber or sharp awl to mark intersecting lines dimensioned as shown in the drawing above. With a prick punch, form a slight indentation directly where the lines intersect. Place a $\frac{1}{4}$ " drill in the chuck and bring the point down to engage the mark made by the prick punch. Clamp the miter gauge to the table—be sure the miter gauge is bottom up. Drill a $\frac{1}{4}$ " hole through the bar. Then countersink the hole to provide clearance for the head of the flat-head socket screw. A $\frac{1}{2}$ " drill may be used to form the countersink. Do not leave the screw head flush with the bottom of the miter gauge bar, but countersink sufficiently deep so that the screw head does not extend to the miter gauge bar surface.



Combining the Hold Down parts

To obtain maximum utility from the Hold Down you must have the correct relationship of component parts for the particular operation being performed. Each part serves a specific purpose and should be used accordingly. The threaded post, which may be secured to the miter gauge, shaper fence base casting, or table clamp, provides a vertical support for either the screw clamp support arm or one of the 90-degree joints. (Note—set 90-degrees joints so as to have easy access to lock screws.) When the screw clamp is used alone, it is threaded through either one of the tapped holes in the arm depending on the width of the work being cut. The arm is adjusted up or down the post for height of work and then secured with the socket screw. Finger-tightening the knurled thumb nut will secure the work for the pass (see sketch A above). On work where this particular setup is applicable you could situate the Hold Down to achieve a holding action, which is against the miter gauge head rather than down on the table. Place one of the 90 degree joints over the post and the screw clamp arm on the rod. Slip one end of the rod through the vacant hole in the 90-degree joint. Then, after the parts have been secured relative to size of work, finger-tighten the knurled thumb nut to hold the work against the miter gauge head (see sketch B). To hold wide work, secure the fence post to the free end of the miter gauge bar with the flat head socket screw and lock the rod to both posts by using a 90-degree joint on each. Now, the screw clamp arm can be moved along the rod between posts and situated to provide holding action down on the work where needed. In this situation remember this—the 90 degree joints will hold the rod out of vertical alignment with the miter gauge bar, so set the screw clamp arm in the opposite direction to bring the screw clamp itself directly over the miter gauge bar

(see sketch C). If the screw clamp is not directly above the miter gauge bar it might cause the work to bind on the table.

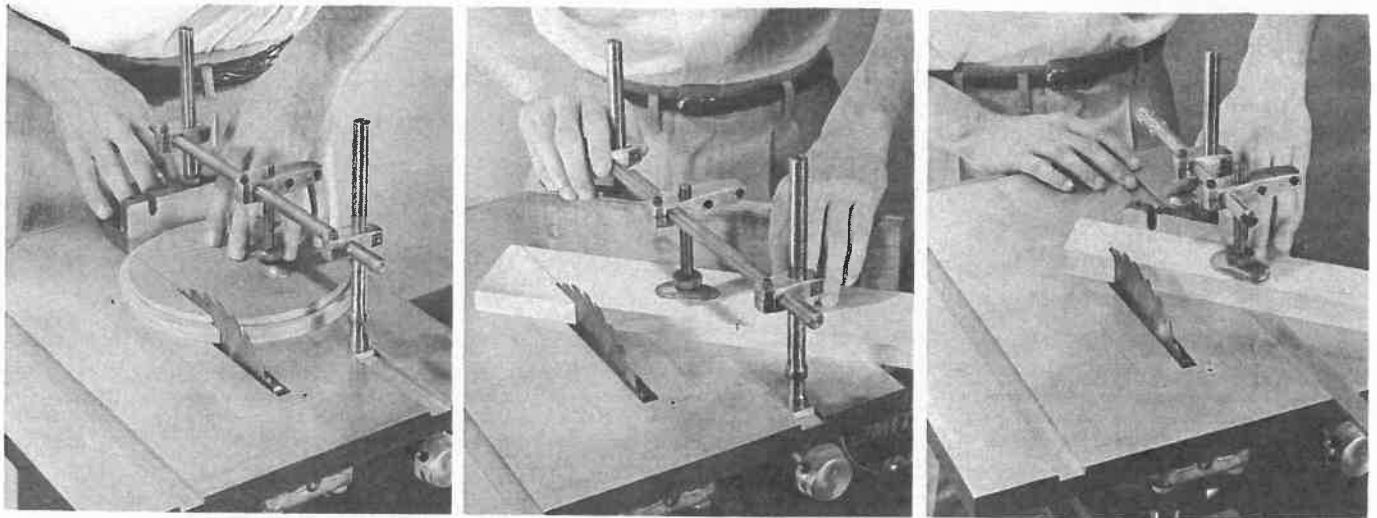
The table clamp provides a means of positioning the threaded post on any side of the table. It fits snugly over the table edge and is held in place with the knurled knob (see sketch D). A 90-degree joint is used to add the rod when pressure is required down on the work—or—two 90-degree joints are used to add both the rod and fence post when pressure against both the side and top of the work is required. The springs may be held to either of the posts or to the rod by means of the U-shaped spring brackets (see sketch E).

Points to remember

The screw clamp is used only when the Hold Down is attached to the miter gauge. When the Hold Down is used on operations not involving the miter gauge, one or both of the springs are used. Always locate the castings so that the heads of the socket screws are readily accessible. **TIGHTEN THE SCREWS JUST ENOUGH TO DO THE JOB.** When situating the springs be sure they will not snap into the cutting tool when the pass is complete. The holding action is usually required just ahead of the cutting tool. When the fence post is not held in the free end of the miter gauge keep the flat-head socket screw threaded in the end of the post so it will not be lost. When the threaded post is used in the miter gauge, table clamp or shaper fence, lock it with the hex nut to keep it from turning.

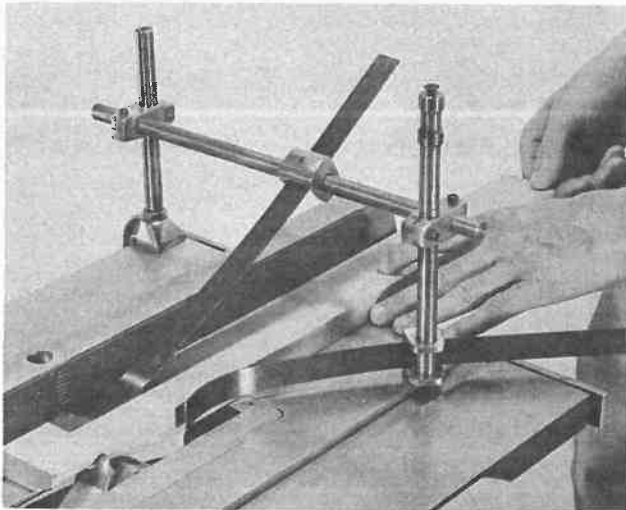
When learning to use the Hold Down, plan the setup beforehand to avoid having to break down the arrangement because you forgot to slip on a part or have placed one of the castings so that you can't get at a socket screw with the Allen wrench. Soon this will become second nature and setting up the Hold Down will be a smooth and quick operation.

Using the Hold Down on the miter gauge



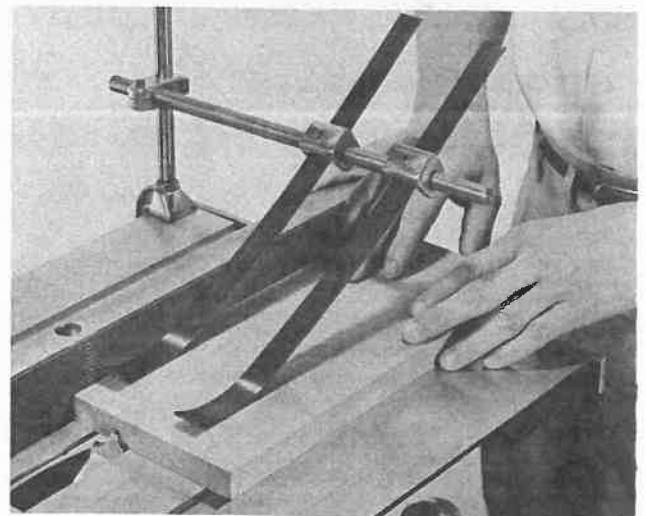
The photographs above illustrate typical procedures where the use of the Hold Down on the miter gauge increases ease and accuracy of operation. On the left, a section is being cut from a circular piece of work that might be required for the end members of a planter or similar project. Freehand, this would not be recommended as a table saw operation, but with the Hold Down keeping the work firm and in position it is accomplished easily and accurately. The center photo shows a setup which will insure accuracy on miter cuts. Notice that the Hold Down does not interfere with use of the Miter Gauge Extension (12 356), and that the Miter Gauge Stop Rod (12 355) could be utilized for duplicate cutting. Miter cuts requiring a table tilt will be accomplished with greater facility if the Hold Down is used to help keep the work from slipping. When the work is narrow (picture frame moldings), the Hold Down is used as shown in the photograph at the right. Notice how the casting under the knurled thumb nut on the screw clamp is designed to conform to the bevel on just such a piece. Here, as explained on page two, the holding action could be against the miter gauge head instead of down on the table.

Use of Hold Down with Molding Head



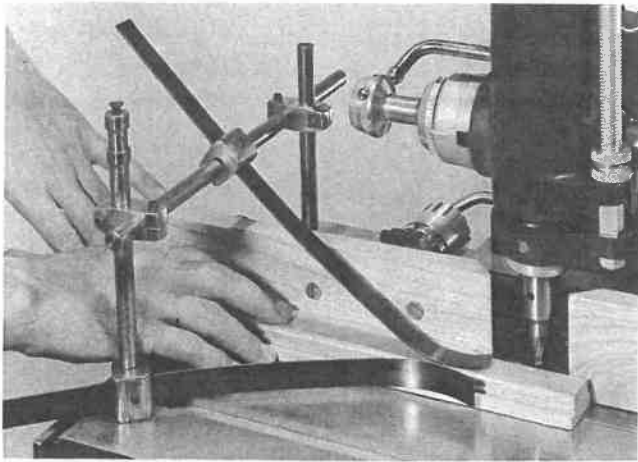
A Molding Head (12 375) operation which illustrates the use of the table clamp to situate the Hold Down is shown above. The springs hold the work firmly down on the table and against the side of the rip fence. On this and similar arrangements remember to place the spring brackets on the rod or posts before these are placed in the 90-degree joints. Since the table clamp may be used on any side of the table, the Hold Down can be positioned to avoid interference with the work regardless of which side of the blade the fence is situated.

Surface cutting with Magna Molder



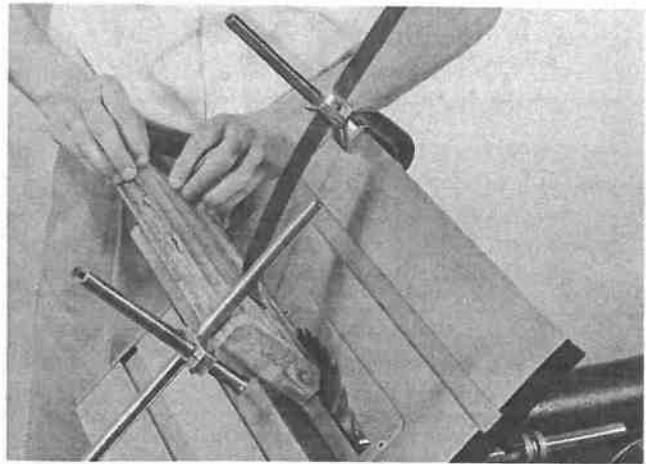
Most surface cutting operations require greater pressure down on the work than they do against the side of the work. To achieve this, both springs may be positioned as shown in the photograph above. They may be placed on either side of the cutter—or—close together in front of the cutter—or—one may be placed in front of the cutter while the other is extended to hold down on one side of the cutter. As always, and especially on applications of this nature, be sure the springs are situated to snap down on the table—NOT THE CUTTER—when the pass is complete.

Hold Down used on shaper fence

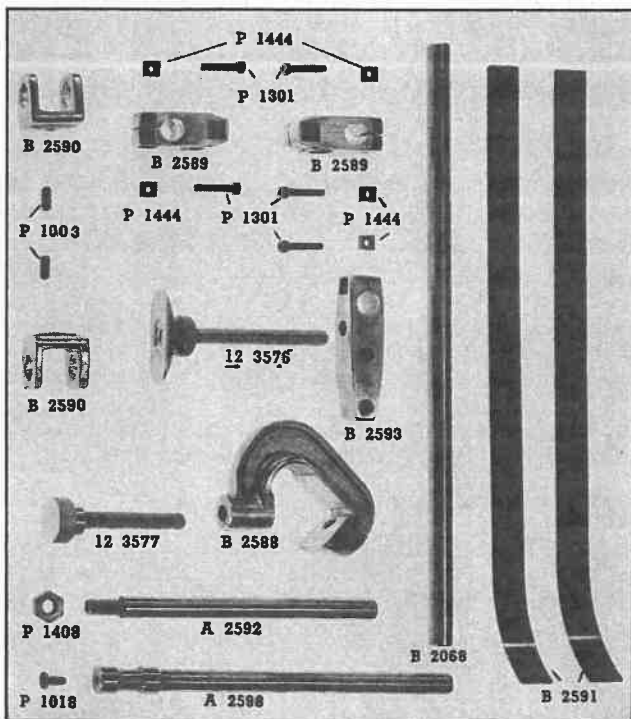


The most common application of the Hold Down on the shaper fence is shown above. The threaded post is secured in the tapped hole at the infeed end of the shaper fence base casting. The two 90-degree joints are used to add the rod and fence post while the spring brackets and springs are situated most advantageously for the thickness and width of the work. The springs hold the work piece down on the table and against the shaper fence thereby keeping it firm as the pass is being made, and making it unnecessary to use the hands too close to the cutting tool. The miter gauge, with the Hold Down set up as previously described for table saw operations, may be used here when shaping cross-grain on the edge of a work piece. (Note: Some shaper fences require use of the table clamp to situate the Hold Down.)

Chamfer cut on table saw



This is typical of the myriad "special" jobs that may be accomplished through various combinations of the Hold Down parts. The spring secures the work snugly against the fence which guarantees exactness of cut throughout the length of the work piece. The fence post is secured in the rip fence hole while a 90-degree joint is used to hold the rod and extend it out over the work piece. The chamfer cut shown here is a finishing cut on a piece of stock that has already been cut to size. Sides of the work are parallel and present no problem in passing under the rod. Setups of this nature are especially useful on production runs. The job becomes a matter of feeding the work through while the Hold Down helps SHOPSMITH do all the work.



part no.	description	no. required	list price (ea.)	shpg. wt. oz. (ea.)
B 2588	Clamp—table	1	\$.75	7
12 3577	Knob and stud	1	.50	5
B 2589	Joint—90-degree	2	.75	4
P 1301	Screw—socket head	5	.10	3
P 1444	Nut—square (#8)	5	.05	3
B 2590	Bracket—spring	2	.50	4
P 1003	Screw—socket set	2	.10	3
B 2591	Spring—Hold Down	2	.50	5
B 2068	Rod—Hold Down	1	.50	16
B 2593	Arm—clamp support	1	.50	5
12 3576	Screw clamp assembly	1	.50	6
A 2598	Post—fence	1	.75	10
P 1018	Screw—flat-head	1	.10	3
A 2592	Post—threaded	1	.50	8
P 1408	Nut—jam	1	.05	3

For complete information on all woodworking procedures see the new book **POWER TOOL WOODWORKING FOR EVERYONE** which is available through your SHOPSMTIH dealer.

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