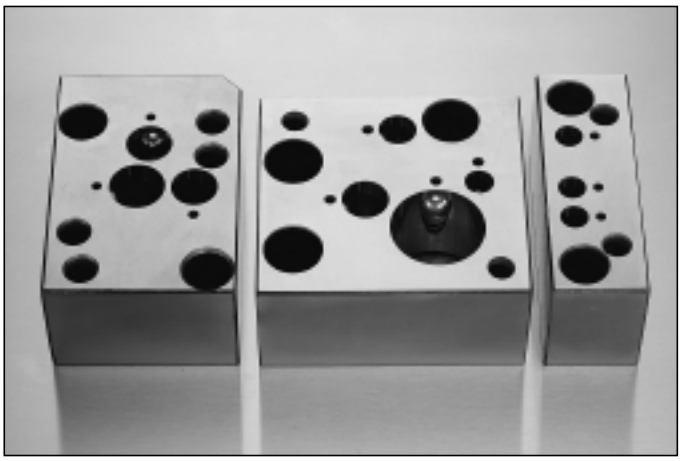
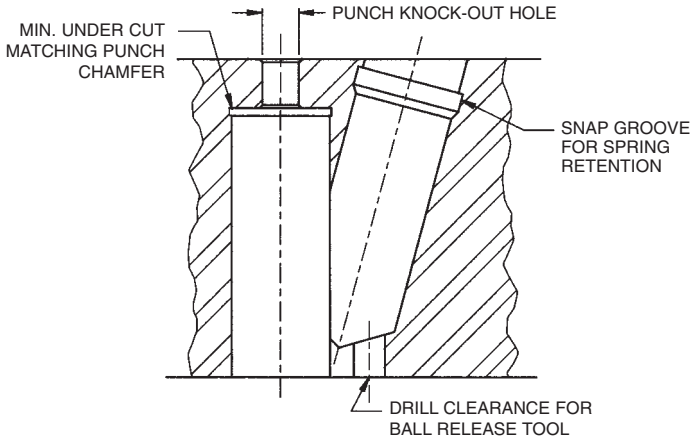
TRUE SET MULTI-HOLE RETAINERS

Moeller Manufacturing's patented True-Set multi hole retainer provides an innovative, low cost solution in building dies. They reduce die assembly time and allow for closer spacing of punches. The retainers are manufactured from a single piece of high alloy tool steel which is through hardened and ground for accuracy and long life. The simplified design eliminates troublesome backing plates, backing plugs and offers improved delivery and price.

TYPICAL MULTI HOLE RETAINERS

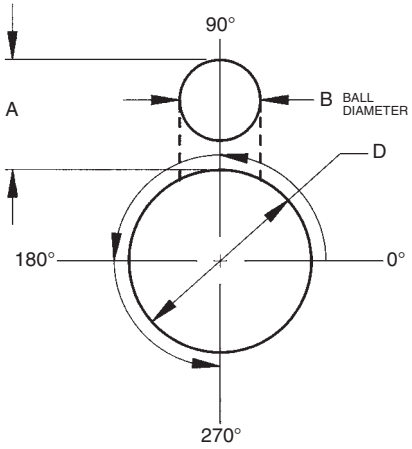


DETAIL VIEW OF PUNCH HOLE



GENERAL

- Unique design provides a 15-30% savings over backing plate styles, and reduces lead time.
- Available in both light and heavy duty, inch and metric sizes.
- Interchangeable with all competing brands, and 100% customer satisfaction guaranteed.



Specify radial location in degrees counterclockwise from 0°.

Punch Shape	Ball Hole Class	Radial Tolerance
Round	R	±5°
Shape	F	±0°5'

Class R provided unless otherwise specified.

SPACE REQUIREMENTS - INCH				SPACE REQUIREMENTS - METRIC			
CATALOG NUMBER	D	A	B	CATALOG NUMBER	D	A	B
IRL	.250	.44	.250	MRL	6	12	6
	.375	.44	.250		10	13	8
	.500	.50	.312		13	13	8
	.625	.50	.312		16	13	8
	.750	.56	.375		20	13	8
	.875	.56	.375		25	13	8
	1.000	.56	.375		—	—	—
	1.250	.56	.375		—	—	—
IRH	.375	.56	.375	MRH	10	15	10
	.500	.69	.500		13	17	12
	.625	.69	.500		16	17	12
	.750	.69	.500		20	17	12
	.875	.69	.500		25	17	12
	1.000	.69	.500		32	17	12
	1.250	.69	.500		40	17	12

STANDARD TOLERANCES	INCH	METRIC
OUTSIDE EDGES	±.020	±.50mm
DOWEL HOLE LOCATIONS	±.0005	±.01mm
SCREW HOLE LOCATIONS	±.005	±.10mm
COMPONENT HOLE LOCATIONS	±.0005	±.01mm

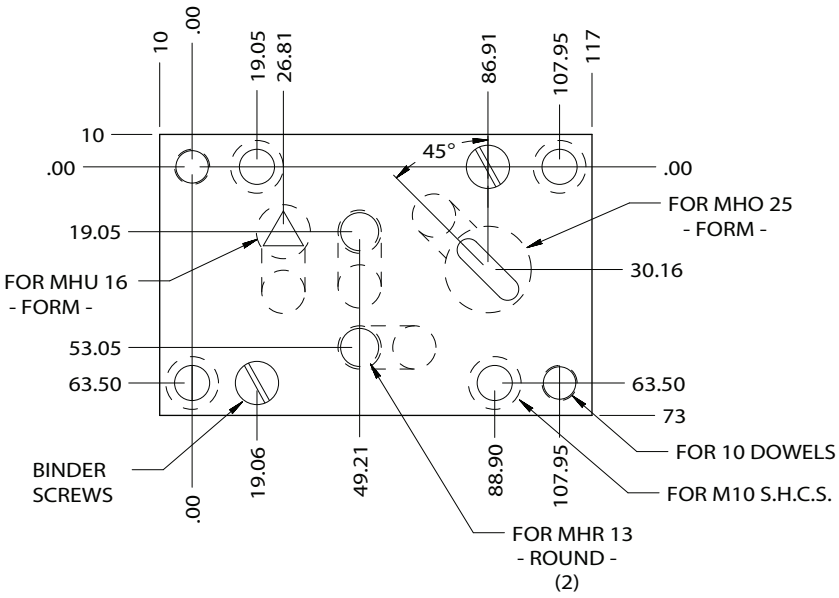
MANUFACTURED UNDER PATENT NO.'S 0351395, 5357835 INTERNATIONAL PATENTS PENDING

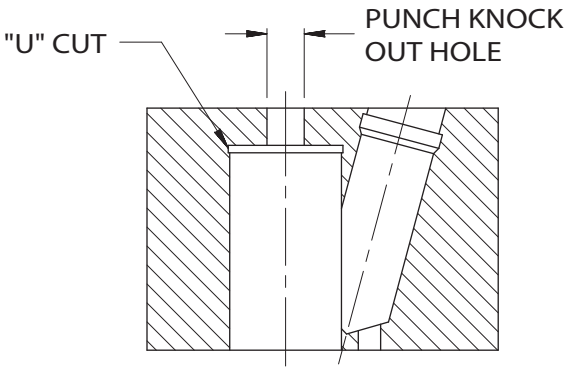
SPECIAL MULTI HOLE
BALL-LOCK RETAINERS

MOELLER MANUFACTURING COMPANY

Shown below are examples of the two styles of Special Multi-Hole Ball Lock Retainers offered by Moeller Manufacturing. The conventional style with hardened backing plate and the patented one-piece True Set style retainer. Notice the retainer is drawn in true die position, using datum line dimensioning starting from the upper left corner, and the zero start point being a punch or dowel hole. This aids in CNC programming and ensures proper mating of the punch retainer and its matching die section or button retainer. All Ball-Lock Retainer holes must be designated as using a round or shaped, punch or button. Where shaped components are being used, angle holes are precision jig ground. This guarantees radial location but adds costs to the retainer. **Note:** Ball-Seat class "R" will be supplied unless otherwise specified.

TRUE SET STYLE

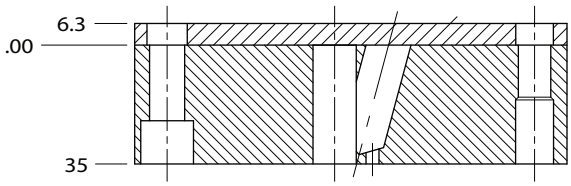




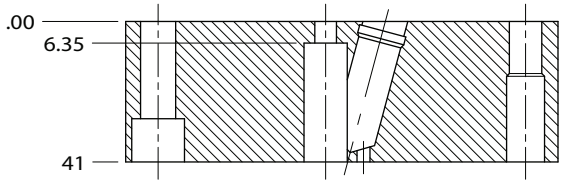
DETAIL VIEW OF PUNCH HOLE

SPECIAL FEATURES:

*AN EXCLUSIVE PATENTED MOELLER PRODUCT PATENT NO.'s 0351395 & 5357835 INTERNATIONAL PATENT PENDING
*ONE-PIECE CONSTRUCTION- (W/O BACKING PLATE OR PLUG)
*THRU HARDENED HIGH ALLOY TOOL STEEL



FULL BACKING PLATE STYLE



TRUE SET STYLE

TOLERANCES ALL TYPES

OUTSIDE EDGES	± .5
DOWEL HOLE LOCATIONS	± .01
SCREW HOLE LOCATIONS	± .1
COMPONENT HOLE LOCATIONS	± .01

BALL-HOLES

CLASS	RADIAL TOL.
R	± 5°
F	± .0°5'