

TABLE OF CONTENTS

	page
Terms & Policies.....	2
“U” Series Mold Base Frames & Interchangeable Molding Inserts Descriptions.....	4
Index for “U” Series Mold Base Frames & Interchangeable Molding Inserts.....	5
“H” & “Double H” Series Interchangeable Molding Inserts Descriptions.....	40
Index for “H” Series Interchangeable Molding Inserts	41
Index for “Double H” Series Interchangeable Molding Inserts.....	43
Components Index.....	59
Forms Index.....	70



TERMS & POLICIES

CROSS TOOL & MANUFACTURING, INC.

SALES POLICY:

SALES TAX:

Cross Tool and Manufacturing, Incorporated is required to charge applicable State and local sales tax on every item for which a sales tax exemption certificate has not been provided. When ordering, please indicate clearly which items are or are not taxable.

RETURNED GOODS:

Our authorization to return materials is required. To expedite the issuance of credit, please furnish our invoice number and date of invoice. Materials returned due to our error will be promptly credited in full provided they are returned within 30 days and are received in original saleable condition. All other returns are subject to charges for inspection or restocking. We cannot accept materials which have been in any way damaged or altered.

SPECIAL GOODS:

Orders for nonstandard material/design, special order, or altered at your request cannot be cancelled or returned unless production has not yet begun. If cancelled, customer will be charged for any work done before production is stopped.

CANCELLATIONS:

Our permission in writing is required to cancel orders placed with us and are subject to a cancellation charge. Such permission can only be granted on the merit of each case.

FREIGHT POLICY:

F.O.B. POINT:

All orders and quotations are F.O.B. our warehouse unless otherwise noted.

SHIPPING:

In the absence of explicit customer shipping instructions, we shall determine and select the most satisfactory routing. All merchandise shipped, except Parcel Post shipments, becomes the property of the purchaser upon delivery in good order. Claims for loss, damage, or delay must be made in writing to the carrier and notation made on the receipt at the time of delivery.

WARRANTY POLICY:

LIMITATION OF REMEDY:

Any liability for consequential and incidental damages is expressly disclaimed. The liability of Cross Tool & Manufacturing, Inc. in all events is limited to, and shall not exceed, the purchase price paid.

DELAYS BEYOND SELLER'S CONTROL:

Seller shall not be responsible for delays in performance caused by delays in manufacturing, transportation or due to strikes, fires, floods, storms, war, insurrections, riots, any governmental regulation, order, act or instruction, or any circumstances beyond the Seller's reasonable control. Buyer's acceptance of goods and/or services shall constitute a waiver of any claims for damages due to delay. Under no circumstances shall the Seller be liable for any loss or use by Buyer or for any indirect or consequential damages arising from such delays.

ERRORS:

Clerical and Statistical errors are subject to correction.

CONDITIONS:

GENERAL:

Prices & Discounts are subject to change without notice.

TERMS:

2% discount if paid within 10 days of invoice date - NET 30 days. Terms valid on approved credit only.

SHIPPING INFORMATION:

FedEx is used whenever possible. Almost all inserts are split as needed and shipped FedEx Ground. If your order exceeds FedEx size or weight limits, "Common Freight Carrier" will be selected. Please specify when placing your order if you have a preference.

Cross Tool Reserves the right to delete products, make product improvements, changes, or modifications to all products manufactured or sold without incurring any liabilities to incorporate these changes in any part or component - past, present, or future.

Every effort has been made to insure that the specifications listed in this catalog are correct. However, Cross Tool does not guarantee the accuracy or correctness of such information listed in this catalog.

The design guidelines & prints in this catalog serve as a reference only. Due to the wide variety of possible uses by our customers, no warranties are expressed or implied.

“U” SERIES MOLD BASE FRAMES INTERCHANGEABLE MOLDING INSERTS

“U” Series Mold Base Frames

The U-Frame is a “U” shaped Mold Base Frame designed to hold a SSU, SLU, or TLU Molding Insert of the same series. U-Frames are designed to run millions of cycles and allow for fast changeovers. All of our larger U-Frames, from the 10/12 series to the 14/16 series, include SEPU Slots in standard pricing. Our 84/90 Series includes mounting holes and clamping plates which overhang ½” per side.

“A” & “B” dimensions are supplied .004” to .007” oversize at parting line unless otherwise specified.

Standard Solid Insert **SSU**

Standard Solid Inserts are designed to fit into “U” Series Mold Base Frames. A SSU is made up of a two plate design, which consists of a solid “A” plate and a solid “B” plate.

Standard Laminated Insert **SLU**

Standard Laminated Inserts are designed to fit into “U” Series Mold Base Frames. A SLU is made up of a four plate design. The SLU Molding Insert is made up of both “A” and “B” ear plates that clamp into the U-Frame, and “A2” and “B2” plates that can be separated allowing for Core Pin and through pocket machining.

T-Style Laminated Insert **TLU**

T-Style Laminated Inserts are designed to fit into “U” Series Mold Base Frames. A TLU is made up of a four plate design. The TLU Molding Insert is made up of both “A” and “B” ear plates that clamp into the U-Frame, and “A2” and “B2” plates that can be separated allowing for Core Pin and through pocket machining. The T-Style Insert overhangs the U-Frame, this allows additional Mold Base area for maximum molding capacity. TLU’s are shipped with loose ear plates.

STEEL GRADES AVAILABLE:

- Standard materials for inserts are P-20 Prehard and 4140 Prehard. Other grades available: PX5, H-13 Annealed, 420 Stainless Annealed or Prehard, S-7 Annealed, and ALUMOLD®¹ (comparable to QC-7®²)
- Standard material for Frames is 4140 Prehard.
- Other materials for Frames/Inserts are available upon request.

(NOTE: Shoulder Leader Pins & Bushings are retained with Snap Rings.)

¹ALUMOLD® is a registered trademark of Alcan/Pechiney.

²QC-7® is a registered trademark of ALCOA.

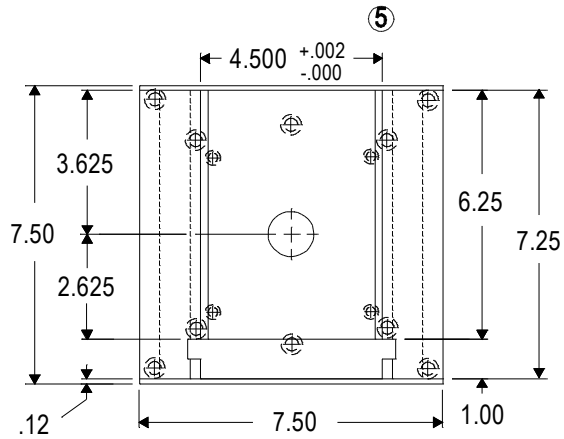
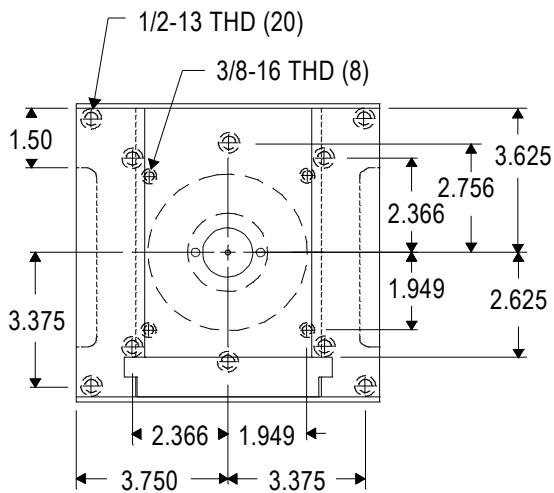
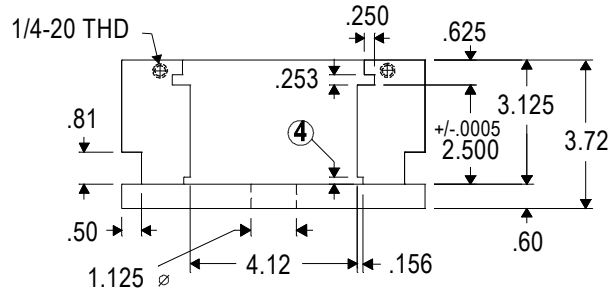
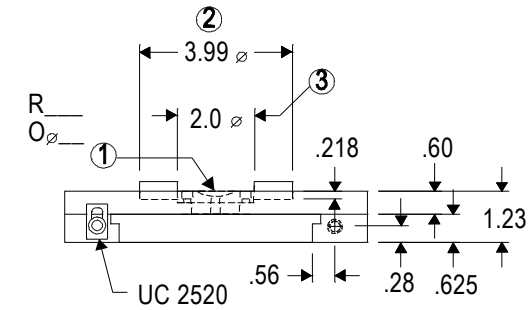
“U” SERIES MOLD BASE FRAMES & INTERCHANGEABLE MOLDING INSERTS

	PAGE
07/07 UF Mold Base Frame	6
Interchangeable Molding Inserts (4.5x6.25, Standard) and (6.0x7.25, T-Style)	7
08/09 UF Mold Base Frame	8
Interchangeable Molding Inserts (5.0x8.0, Standard) and (7.85x9.0, T-Style)	9
08/09 T-Extreme Interchangeable Molding Inserts (7.0x8.0)	10
T-Extreme Options	11
08/09 Extreme Interchangeable Molding Inserts (5.0x8.0)	12
Extreme Options	13
08/10 UF Mold Base Frame	14
Interchangeable Molding Inserts (5.0x9.0, Standard) and (7.85x9.0, T-Style)	15
84/90 UF Mold Base Frame	16
Interchangeable Molding Inserts (6.5x8.0, Standard) and (8.4x9.0, T-Style)	17
84/90 T-Extreme Interchangeable Molding Inserts (8.5x8.0)	18
T-Extreme Options	19
09/07 UF Mold Base Frame	20
Interchangeable Molding Inserts (6.0x6.75, Standard) and (9.0x6.75, T-Style)	21
09/07 EB Mold Base Frame	22
Interchangeable Molding Inserts (6.0x6.75, Standard) and (9.0x6.75, T-Style)	23
10/12 UF Mold Base Frame	24
Interchangeable Molding Inserts (7.0x10.9, Standard) and (9.9x10.9, T-Style)	25
10/14 UF Mold Base Frame	26
Interchangeable Molding Inserts (7.0x12.9, Standard) and (9.9x12.9, T-Style)	27
10/16 UF Mold Base Frame	28
Interchangeable Molding Inserts (7.0x14.9, Standard) and (9.9x14.9, T-Style)	29
11/11 UF Mold Base Frame	30
Interchangeable Molding Inserts (8.0x10.0, Standard) and (11.5x11.0, T-Style)	31
12/14 UF Mold Base Frame	32
Interchangeable Molding Inserts (8.0x12.9, Standard) and (11.9x12.9, T-Style)	33
12/16 UF Mold Base Frame	34
Interchangeable Molding Inserts (8.0x14.9, Standard) and (11.9x14.9, T-Style)	35
13/16 UF Mold Base Frame	36
Interchangeable Molding Inserts (9.0x14.9, Standard) and (12.9x14.9, T-Style)	37
14/16 UF Mold Base Frame	38
Interchangeable Molding Inserts (10.0x14.9, Standard) and (13.9x14.9, T-Style)	39

07/07 U-Frame

U-FRAME

Catalog #	07/07 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2½" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

<u>frames</u>
▪ Please specify Quantity & Catalog #
▪ Specify Locating Ring Diameter & Sprue Bushing R & O sizes
▪ Standard Material for Frames is 4140 Prehard

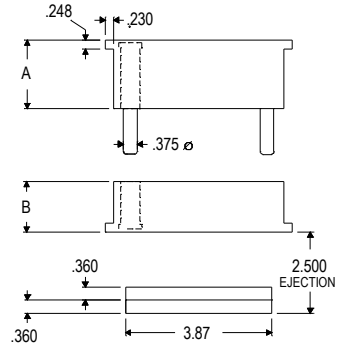
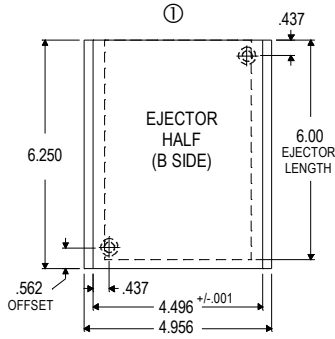
<u>Inserts</u>
▪ Please specify Quantity & Catalog #
▪ Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
▪ Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

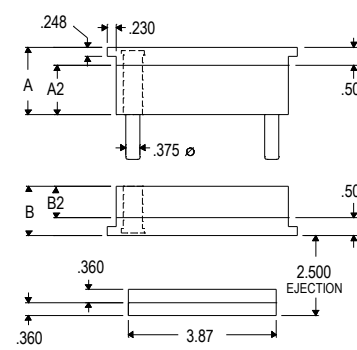
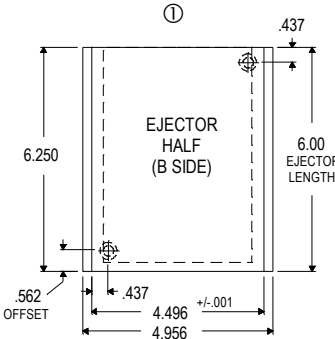
4.5 X 6.25 & 6.0 X 7.25 INSERTS

FITS 07/07 U-FRAME

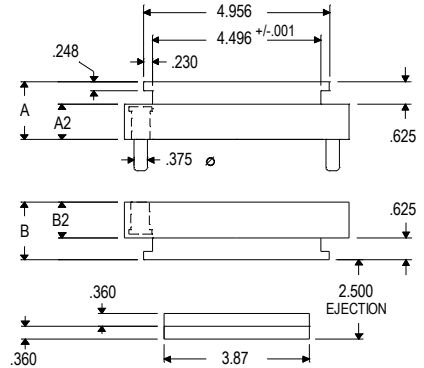
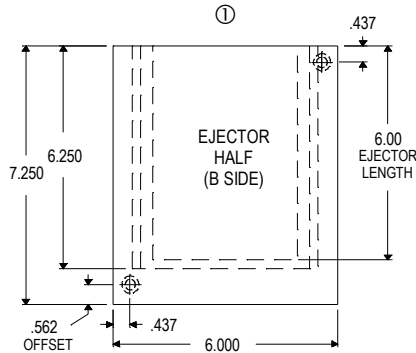
Standard Solid Insert (4.5 X 6.25)		
Catalog #	A	B
07/07 SSU 221	1.377	1.377
07/07 SSU 222	1.377	1.877
07/07 SSU 223	1.877	1.377
07/07 SSU 224	1.877	1.877



Standard Laminated Insert (4.5 X 6.25)				
Catalog #	A	A2	B2	B
07/07 SLU 281	1.377	0.877	0.877	1.377
07/07 SLU 282	1.377	0.877	1.377	1.877
07/07 SLU 283	1.877	1.377	0.877	1.377
07/07 SLU 284	1.877	1.377	1.377	1.877



T-Style Laminated Insert (6.0 X 7.25)				
Catalog #	A	A2	B2	B
07/07 TLU 201	1.625	1.000	1.000	1.625
07/07 TLU 202	1.875	1.250	1.250	1.875



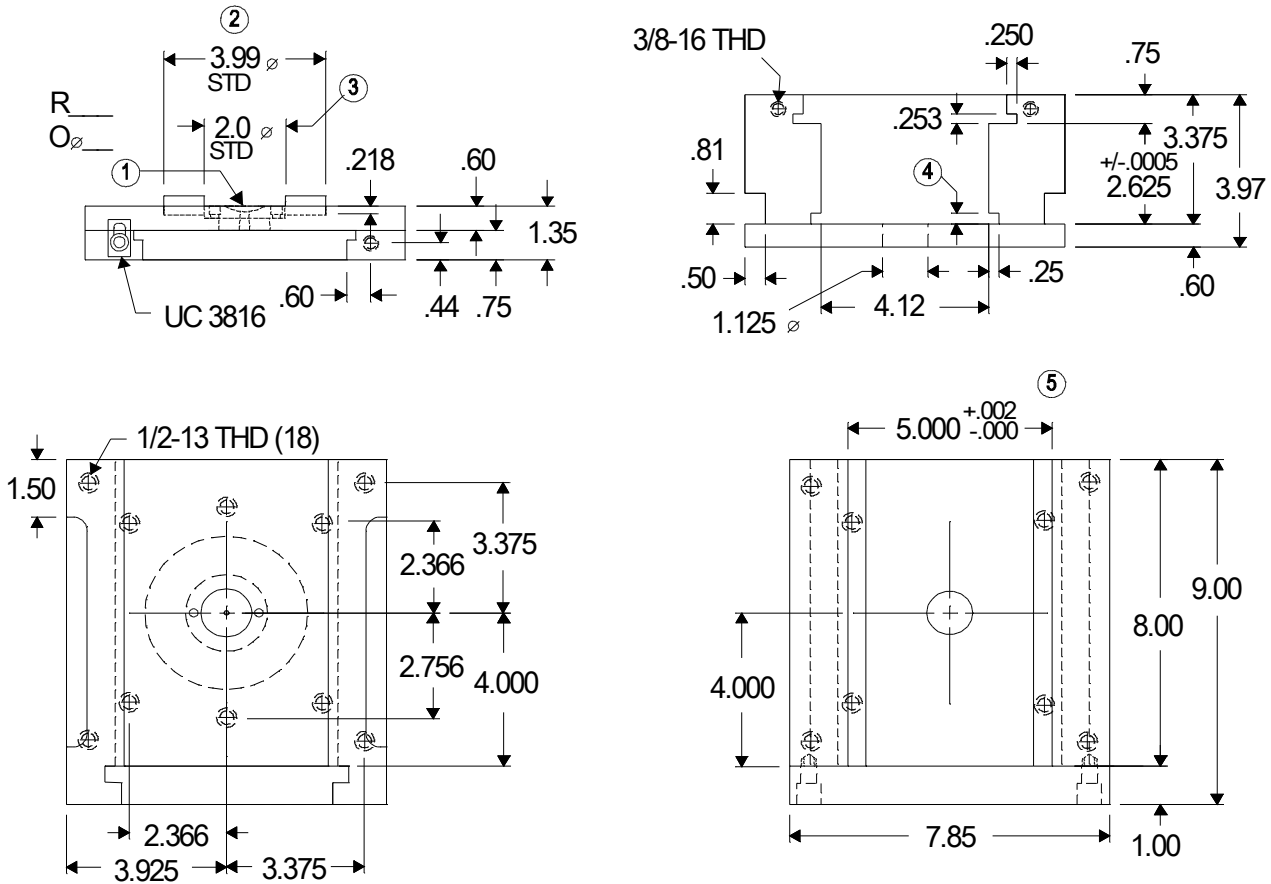
① Clamp Side

"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

08/09 U-Frame

U-FRAME

Catalog #	08/09 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2 1/2" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

<u>frames</u>
▪ Please specify Quantity & Catalog #
▪ Specify Locating Ring Diameter & Sprue Bushing R & O sizes
▪ Standard Material for Frames is 4140 Prehard

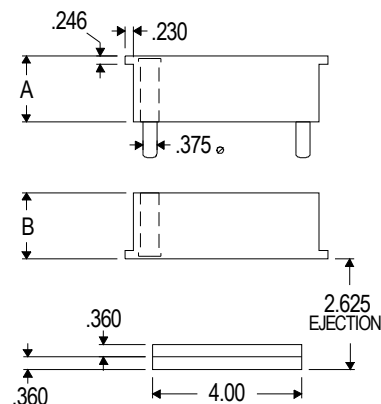
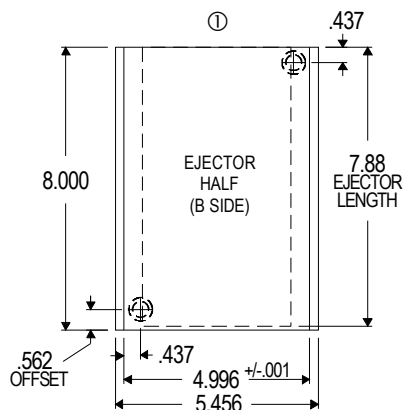
<u>Inserts</u>
▪ Please specify Quantity & Catalog #
▪ Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
▪ Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

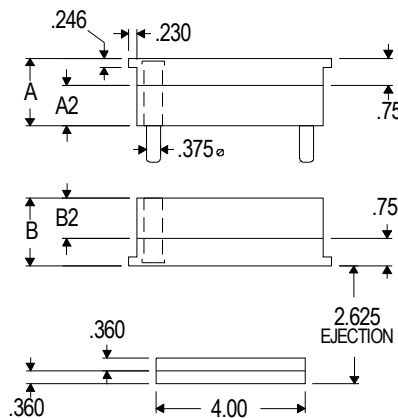
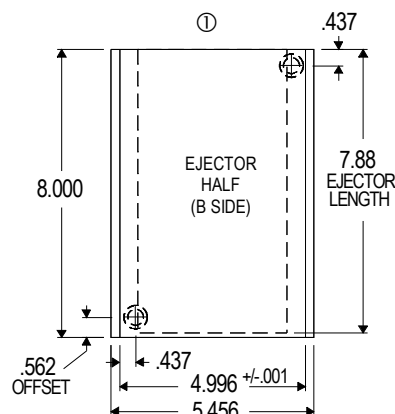
5.0 X 8.0 & 7.85 X 9.0 INSERTS

FITS 08/09 U-FRAME

Standard Solid Insert (5.0 X 8.0)		
Catalog #	A	B
08/09 SSU 221	1.377	1.377
08/09 SSU 222	1.377	1.877
08/09 SSU 223	1.877	1.377
08/09 SSU 224	1.877	1.877
08/09 SSU 225	1.877	2.377
08/09 SSU 226	2.377	1.877
08/09 SSU 227	2.377	2.377
08/09 SSU 228	2.377	2.877
08/09 SSU 229	2.877	2.377
08/09 SSU 230	2.877	2.877

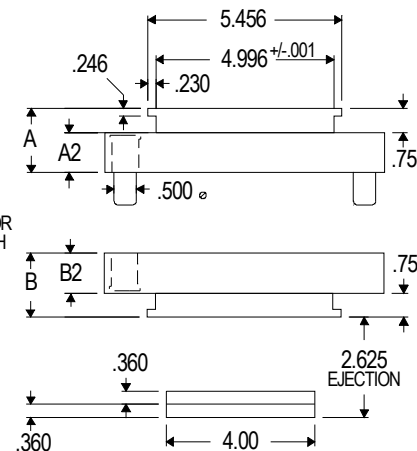
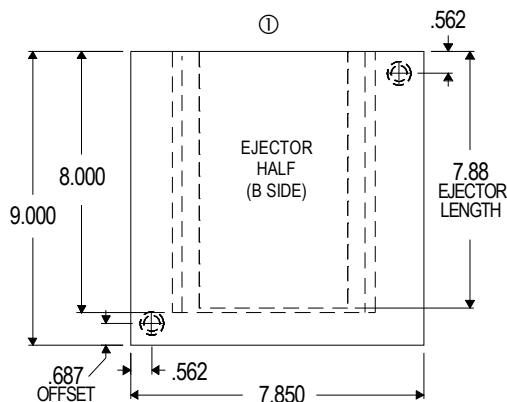


Standard Laminated Insert (5.0 X 8.0)				
Catalog #	A	A2	B2	B
08/09 SLU 281	1.377	0.627	0.627	1.377
08/09 SLU 282	1.377	0.627	1.127	1.877
08/09 SLU 283	1.877	1.127	0.627	1.377
08/09 SLU 284	1.877	1.127	1.127	1.877
08/09 SLU 285	1.877	1.127	1.627	2.377
08/09 SLU 286	2.377	1.627	1.127	1.877
08/09 SLU 287	2.377	1.627	1.627	2.377
08/09 SLU 288	2.377	1.627	2.127	2.877
08/09 SLU 289	2.877	2.127	1.627	2.377
08/09 SLU 290	2.877	2.127	2.127	2.877



T-Style Laminated Inserts are shipped with loose ear plates

T-Style Laminated Insert (7.85 X 9.0)				
Catalog #	A	A2	B2	B
08/09 TLU 201	1.750	1.000	1.000	1.750
08/09 TLU 202	1.750	1.000	1.500	2.250
08/09 TLU 203	2.000	1.250	1.250	2.000
08/09 TLU 204	2.250	1.500	1.000	1.750
08/09 TLU 205	2.250	1.500	1.500	2.250
08/09 TLU 206	2.625	1.875	1.875	2.625

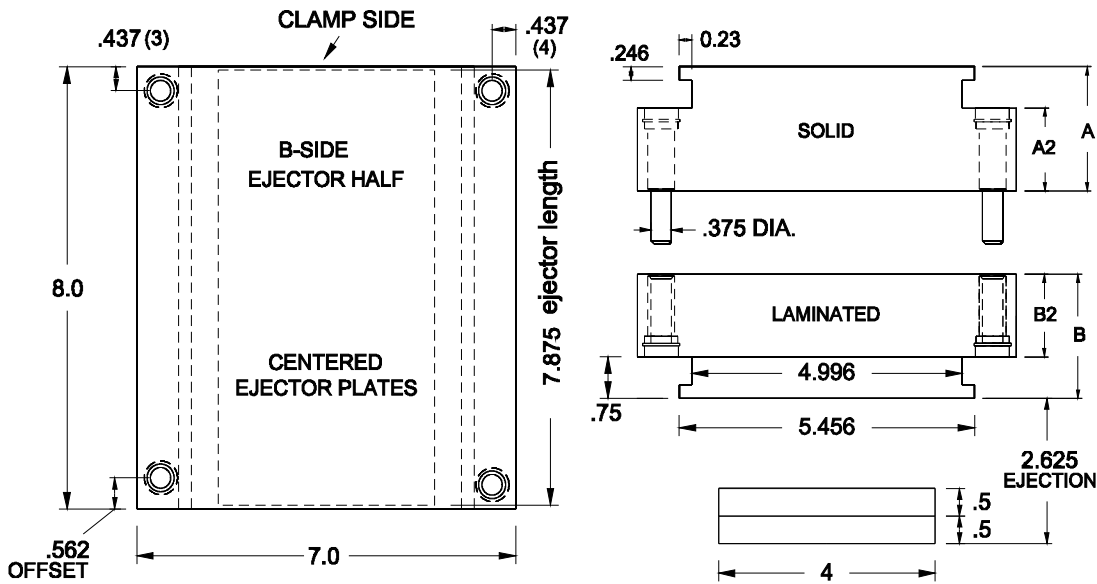


① Clamp Side

"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

7.0 X 8.0 T-EXTREME INSERTS

FITS 08/09 U-FRAME



T-Extreme Solid Insert (7.0 X 8.0)				
Catalog #	A	A2	B2	B
08/09 TXS 541	1.750	1.000	1.000	1.750
08/09 TXS 542	1.750	1.000	1.500	2.250
08/09 TXS 543	2.250	1.500	1.000	1.750
08/09 TXS 544	2.250	1.500	1.500	2.250
08/09 TXS 545	2.250	1.500	2.000	2.750
08/09 TXS 546	2.750	2.000	1.500	2.250
08/09 TXS 547	2.750	2.000	2.000	2.750

T-Extreme Laminated Insert (7.0 X 8.0)				
Catalog #	A	A2	B2	B
08/09 TXL 501	1.750	1.000	1.000	1.750
08/09 TXL 502	1.750	1.000	1.500	2.250
08/09 TXL 503	2.250	1.500	1.000	1.750
08/09 TXL 504	2.250	1.500	1.500	2.250
08/09 TXL 505	2.250	1.500	2.000	2.750
08/09 TXL 506	2.750	2.000	1.500	2.250
08/09 TXL 507	2.750	2.000	2.000	2.750

- Also available mix & match thickness' and half solid/half laminate combinations.
- Available in 4140, P-20, PX5, 420SS Prehard, and ALUMOLD®¹ (comparable to QC-7®²)

Ear plates in 4140 Prehard

Laminates only: 1/4" dowels are centered on the 7" width and located .250" in from each end on TXL's 8" length

The 84/90 TXL is available with 08/09 Ear Plates

¹ALUMOLD® is a registered trademark of Alcan/Pechiney.
²QC-7® is a registered trademark of ALCOA.

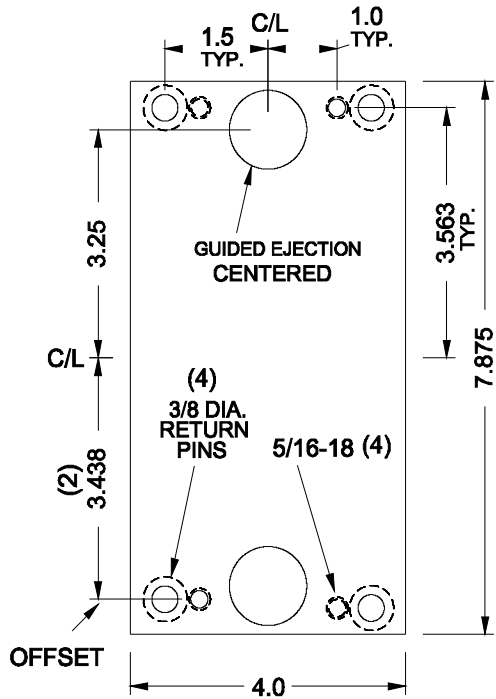
"A" & "B" dimensions are supplied .004" to .007" oversized at parting line unless otherwise specified.

T-EXTREME OPTIONS

FOR 08/09 T-EXTREME INSERTS

Return Pin Machining
The Molding Insert's B-side and ejector plates are machined for return pins and the ejector plates are bolted together.
Includes Return Pins & 5/16-18 cap screws
.500" ejector plates are standard (.360" are optional)
Ejector Plates are centered with insert

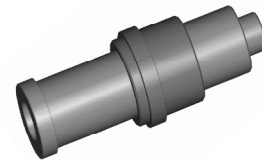
08/09 Return Pin/Guide Layout



Guided Support Pillar Ejection
Available with .500" ejector plates and return pin option only
Includes all machining
(2) Hardened Shoulder Support Pillars (keeps ejector plates captive)
(2) Aluminum Bronze Bushings
(2) 5/16-18 Cap screws

Guided Support Pillar and Aluminum Bronze Guide Bushing

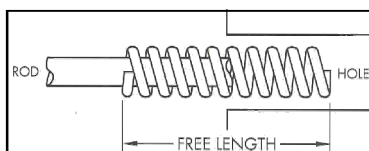
(Detailed print on page 64)



Stripper Plate Conversion
3/4" Stripper Plate includes (4) Shoulder Bushings
(4) Extended Shoulder Pins are installed in the B-side, Shoulder Bushings are installed in the A-side
Note: Pin guide is extended by 3/4" to accommodate stripper plate

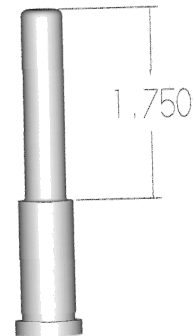
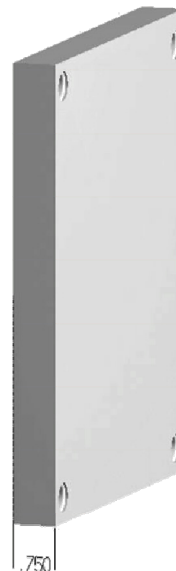
Spring Return
Available with .500" ejector plates and return pin option only
B-Plate is counter-bored to a depth of 1.850" and cleared for springs
Includes (4) medium duty 3/8" I.D. X 3/4" O.D. X 3 1/2" Long die springs
Note: Because of compression restrictions this option is only available on TXS and TXL inserts where the B-side is a minimum of 2 1/4" in combination with the guided ejector system or 2 3/4" thick without the guided system.

Spring Return



Stripper Plate

Extended Shoulder Pin



5.0 X 8.0 EXTREME INSERTS

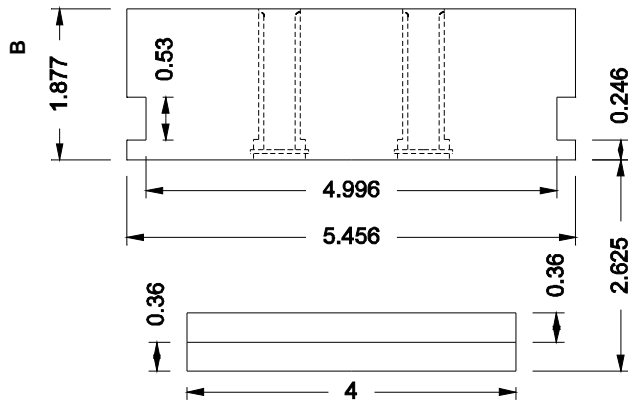
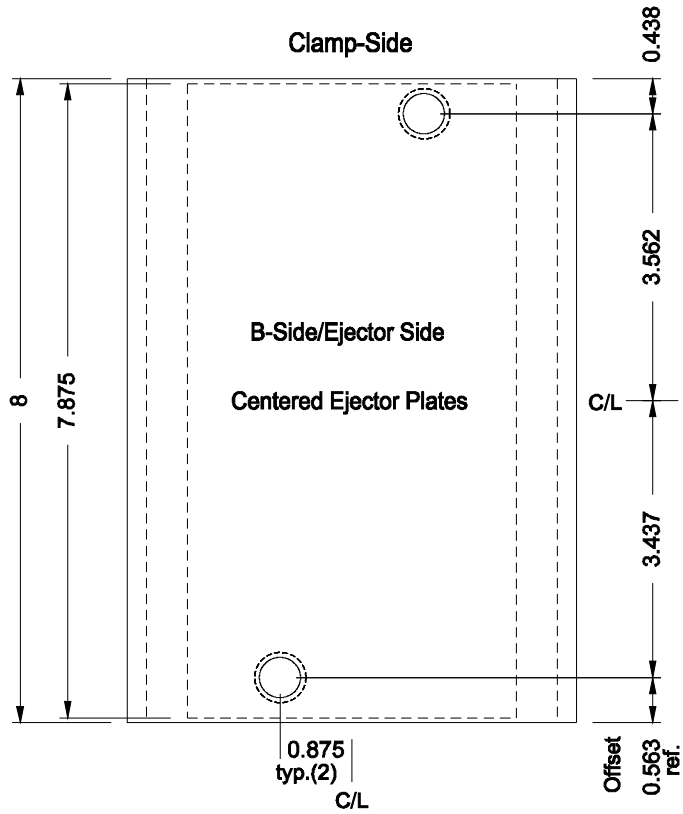
FITS 08/09 U-FRAME

08/09 Extreme Solid Insert (5.0 X 8.0)		
Catalog #	A	B
08/09 XSU 221	1.377	1.377
08/09 XSU 222	1.377	1.877
08/09 XSU 223	1.877	1.377
08/09 XSU 224	1.877	1.877
08/09 XSU 225	1.877	2.377
08/09 XSU 226	2.377	1.877
08/09 XSU 227	2.377	2.377

- Standard material is P-20
- Also available in 4140, PX5, 420SS Prehard, and ALUMOLD®¹ (comparable to QC-7®²)

¹ALUMOLD® is a registered trademark of Alcan/Pechiney.

²QC-7® is a registered trademark of ALCOA.



NOTE: .360" ejectors are standard,
.500" ejectors are optional.

"A" & "B" dimensions are supplied .004" to .007"
oversize at parting line unless otherwise specified.

EXTREME OPTIONS

FOR 08/09 EXTREME INSERTS

optional

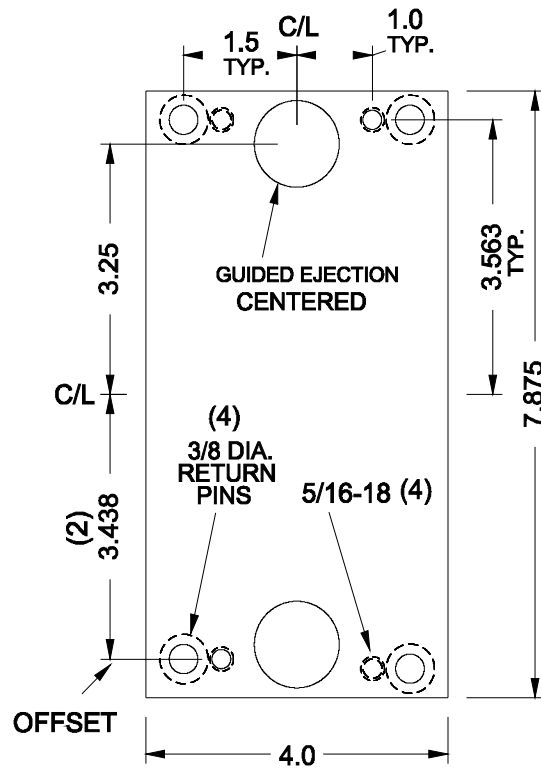
08/09 Return Pin/Guide Layout

Standard Features *Included in Insert Price*

- **Relocated Pins:** Shoulder pins are moved inside the return pin location to allow wide open cooling line placement.
- **Five Degree Lead-In**
- **Flat Sides**

“The Works”

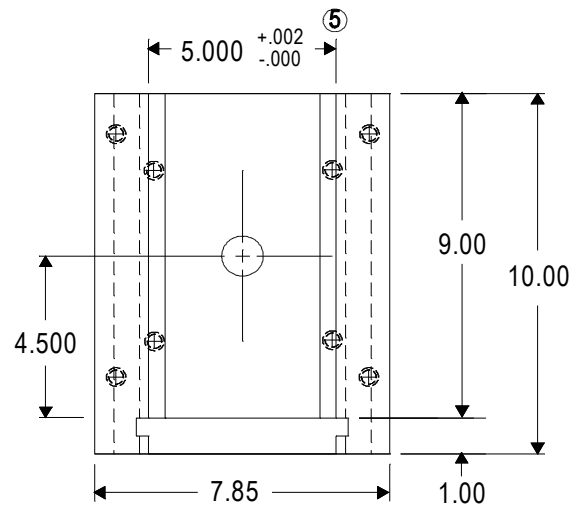
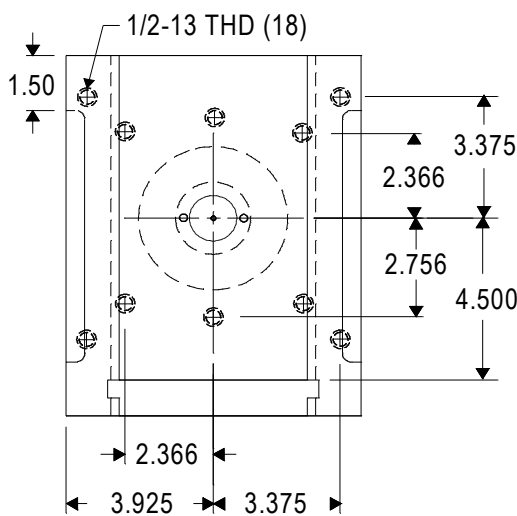
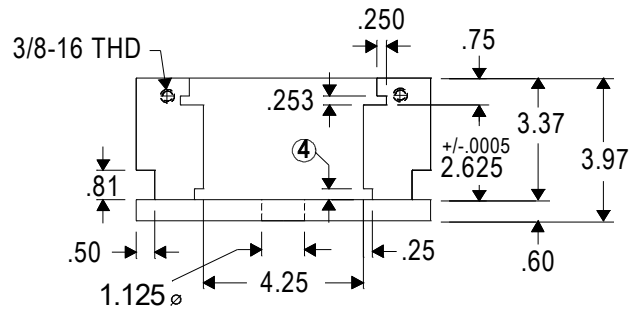
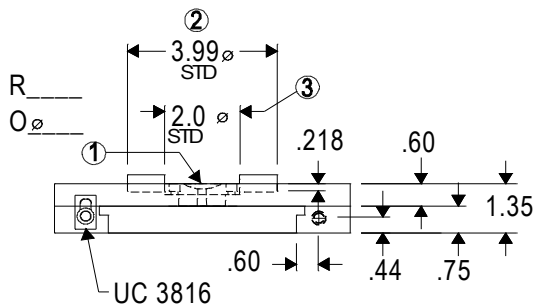
- *Heavy Duty* **Guided Support Pillar Ejection**
(.500" ejectors included with this option)
- **Return Pins**
- **Eyebolt Package:** Includes eyebolt, tapped holes, strap and Socket Head Cap Screw
- **Die Bar Slots**



08/10 U-Frame

U-FRAME

Catalog #	08/10 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2½" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

<u>frames</u>
▪ Please specify Quantity & Catalog #
▪ Specify Locating Ring Diameter & Sprue Bushing R & O sizes
▪ Standard Material for Frames is 4140 Prehard

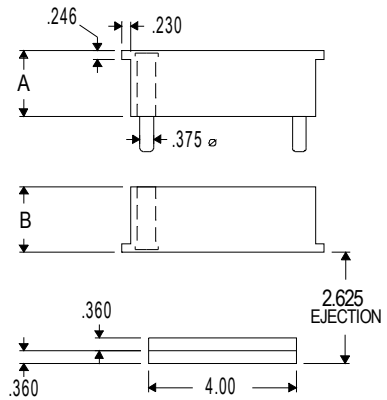
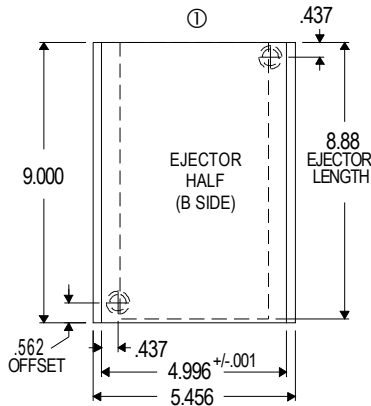
<u>Inserts</u>
▪ Please specify Quantity & Catalog #
▪ Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
▪ Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

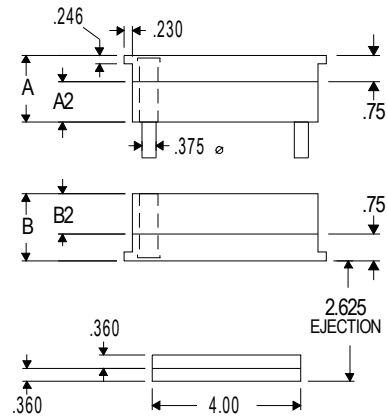
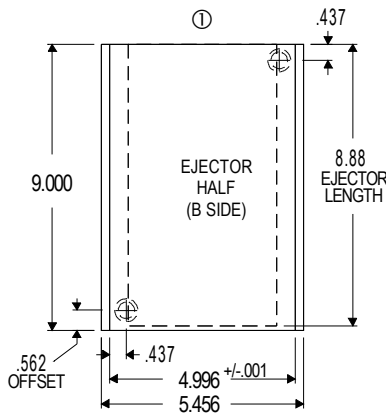
5.0 X 9.0 & 7.85 X 9.0 INSERTS

FITS 08/10 U-FRAME

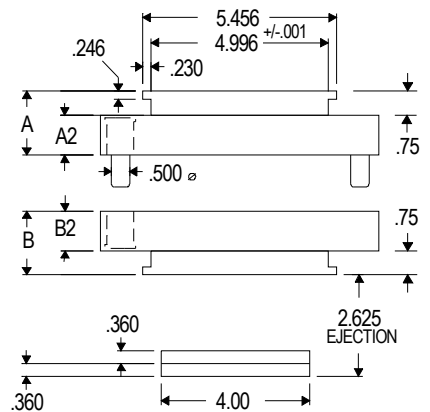
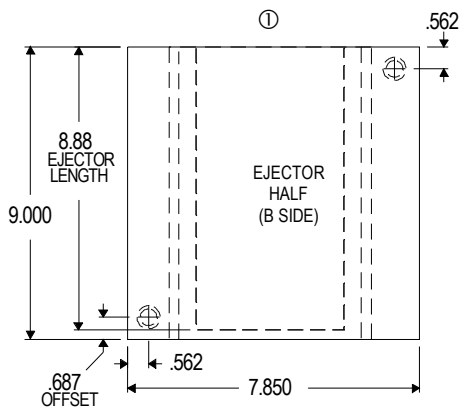
Standard Solid Insert (5.0 X 9.0)		
Catalog #	A	B
08/10 SSU 221	1.377	1.377
08/10 SSU 222	1.377	1.877
08/10 SSU 223	1.877	1.377
08/10 SSU 224	1.877	1.877
08/10 SSU 225	1.877	2.377
08/10 SSU 226	2.377	1.877
08/10 SSU 227	2.377	2.377
08/10 SSU 228	2.377	2.877
08/10 SSU 229	2.877	2.377
08/10 SSU 230	2.877	2.877



Standard Laminated Insert (5.0 X 9.0)				
Catalog #	A	A2	B2	B
08/10 SLU 281	1.377	0.627	0.627	1.377
08/10 SLU 282	1.377	0.627	1.127	1.877
08/10 SLU 283	1.877	1.127	0.627	1.377
08/10 SLU 284	1.877	1.127	1.127	1.877
08/10 SLU 285	1.877	1.127	1.627	2.377
08/10 SLU 286	2.377	1.627	1.127	1.877
08/10 SLU 287	2.377	1.627	1.627	2.377
08/10 SLU 288	2.377	1.627	2.127	2.877
08/10 SLU 289	2.877	2.127	1.627	2.377
08/10 SLU 290	2.877	2.127	2.127	2.877



T-Style Laminated Insert (7.85 X 9.0)				
Catalog #	A	A2	B2	B
08/10 TLU 201	1.750	1.000	1.000	1.750
08/10 TLU 202	1.750	1.000	1.500	2.250
08/10 TLU 203	2.000	1.250	1.250	2.000
08/10 TLU 204	2.250	1.500	1.000	1.750
08/10 TLU 205	2.250	1.500	1.500	2.250
08/10 TLU 206	2.625	1.875	1.875	2.625



Ⓞ Clamp Side

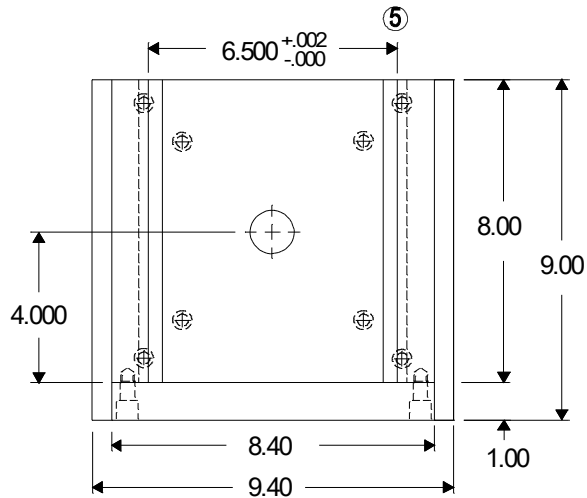
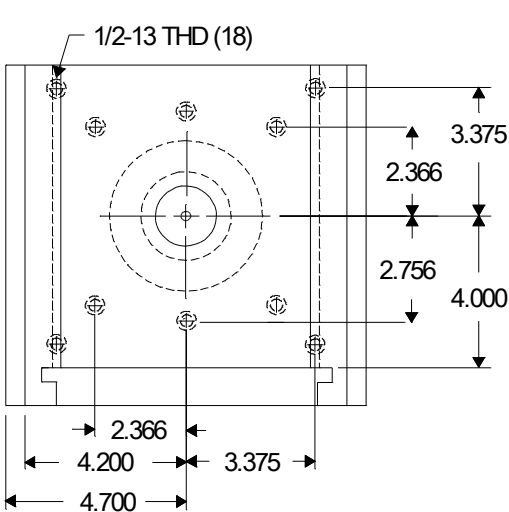
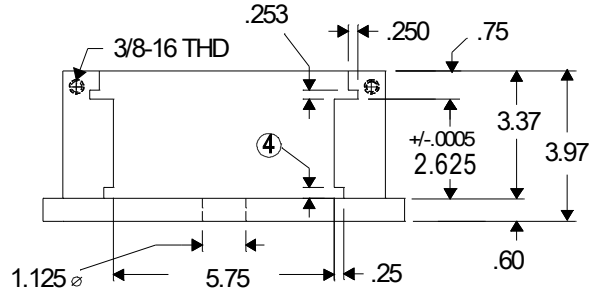
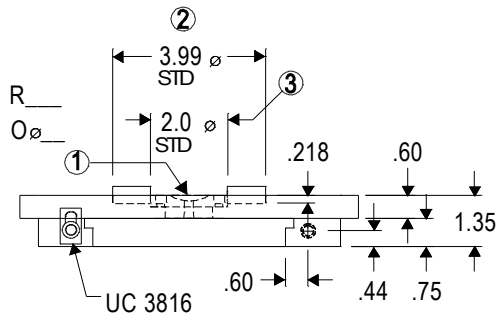
"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

84/90 U-Frame

Note: This size includes Mounting Holes & Extended Clamp Plates in standard pricing

U-FRAME

Catalog #	84/90 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2 1/2" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

<u>frames</u>
▪ Please specify Quantity & Catalog #
▪ Specify Locating Ring Diameter & Sprue Bushing R & O sizes
▪ Standard Material for Frames is 4140 Prehard

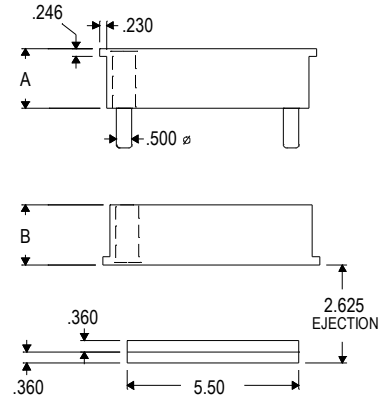
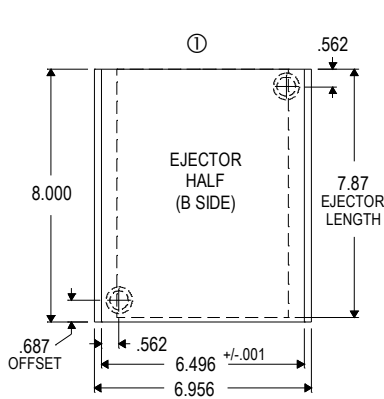
<u>Inserts</u>
▪ Please specify Quantity & Catalog #
▪ Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
▪ Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

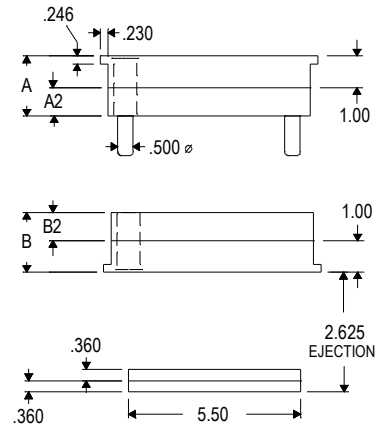
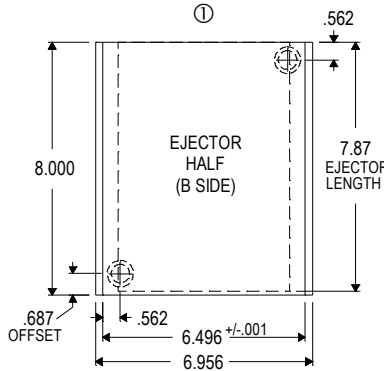
6.5 X 8.0 & 8.4 X 9.0 INSERTS

FITS 84/90 U-FRAME

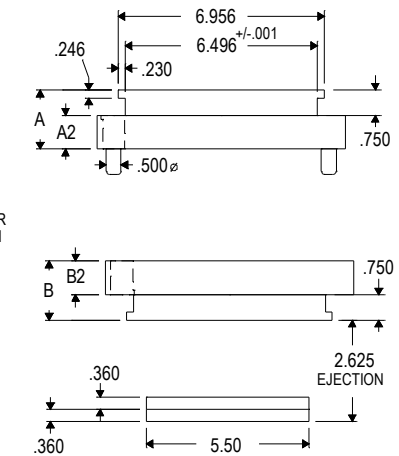
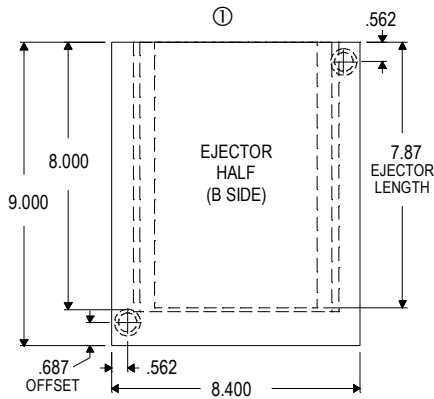
Standard Solid Insert (6.5 X 8.0)		
Catalog #	A	B
84/90 SSU 221	1.377	1.377
84/90 SSU 222	1.377	1.877
84/90 SSU 223	1.877	1.377
84/90 SSU 224	1.877	1.877
84/90 SSU 225	1.877	2.377
84/90 SSU 226	2.377	1.877
84/90 SSU 227	2.377	2.377
84/90 SSU 228	2.377	2.877
84/90 SSU 229	2.877	2.377
84/90 SSU 230	2.877	2.877



Standard Laminated Insert (6.5 X 8.0)				
Catalog #	A	A2	B2	B
84/90 SLU 281	1.877	0.877	0.877	1.877
84/90 SLU 282	1.877	0.877	1.377	2.377
84/90 SLU 283	2.377	1.377	0.877	1.877
84/90 SLU 284	2.377	1.377	1.377	2.377
84/90 SLU 285	2.377	1.377	1.877	2.877
84/90 SLU 286	2.877	1.877	1.377	2.377
84/90 SLU 287	2.877	1.877	1.877	2.877



T-Style Laminated Insert (8.4 X 9.0)				
Catalog #	A	A2	B2	B
84/90 TLU 201	1.500	0.750	1.250	2.000
84/90 TLU 202	1.750	1.000	1.000	1.750
84/90 TLU 203	1.750	1.000	1.500	2.250
84/90 TLU 204	2.000	1.250	1.250	2.000
84/90 TLU 205	2.250	1.500	1.000	1.750
84/90 TLU 206	2.250	1.500	1.500	2.250
84/90 TLU 207	2.625	1.875	1.875	2.625

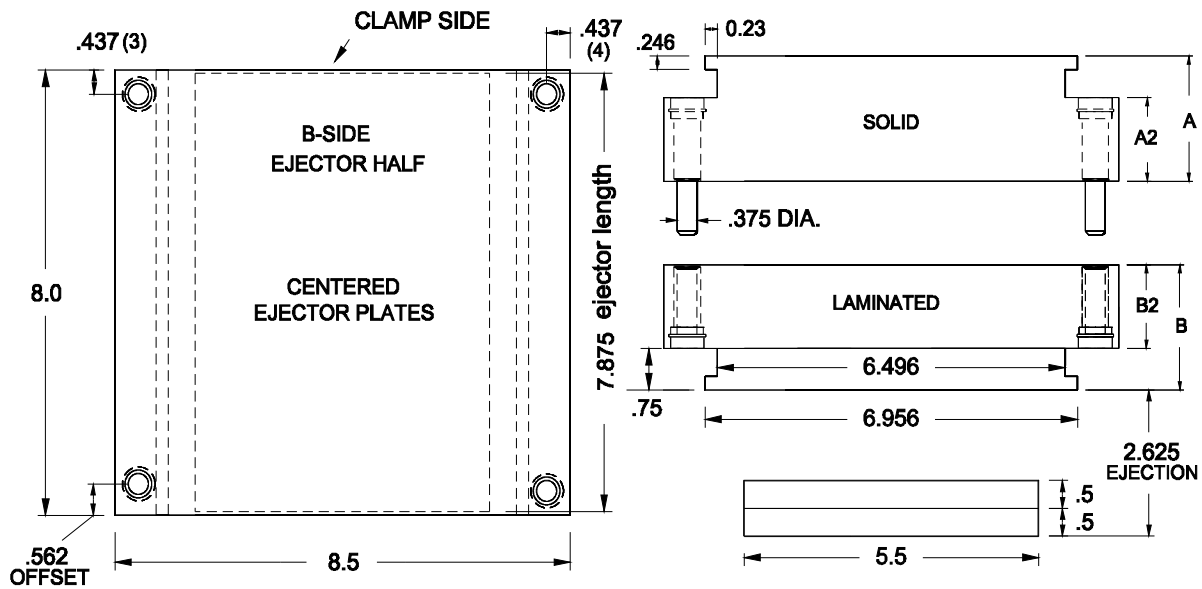


① Clamp Side

"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

8.5 X 8.0 T-EXTREME INSERTS

FITS 84/90 U-FRAME



T-Extreme Solid Insert (8.0 X 8.5)				
Catalog #	A	A2	B2	B
84/90 TXS 541	1.750	1.000	1.000	1.750
84/90 TXS 542	1.750	1.000	1.500	2.250
84/90 TXS 543	2.250	1.500	1.000	1.750
84/90 TXS 544	2.250	1.500	1.500	2.250
84/90 TXS 545	2.250	1.500	2.000	2.750
84/90 TXS 546	2.750	2.000	1.500	2.250
84/90 TXS 547	2.750	2.000	2.000	2.750

T-Extreme Laminated Insert (8.0 X 8.5)				
Catalog #	A	A2	B2	B
84/90 TXL 501	1.750	1.000	1.000	1.750
84/90 TXL 502	1.750	1.000	1.500	2.250
84/90 TXL 503	2.250	1.500	1.000	1.750
84/90 TXL 504	2.250	1.500	1.500	2.250
84/90 TXL 505	2.250	1.500	2.000	2.750
84/90 TXL 506	2.750	2.000	1.500	2.250
84/90 TXL 507	2.750	2.000	2.000	2.750

- Also available mix & match thickness' and half solid/half laminate combinations.
- Available in 4140, P-20, PX5, 420SS Prehard, and ALUMOLD®¹ (comparable to QC-7®²)

Ear plates in 4140 Prehard

Laminates only: 1/4" dowels are centered on the 8.5" width and located .250" in from each end on TXL's 8" length

The 84/90 TXL is available with 08/09 Ear Plates

¹ALUMOLD® is a registered trademark of Alcan/Pechiney.
²QC-7® is a registered trademark of ALCOA.

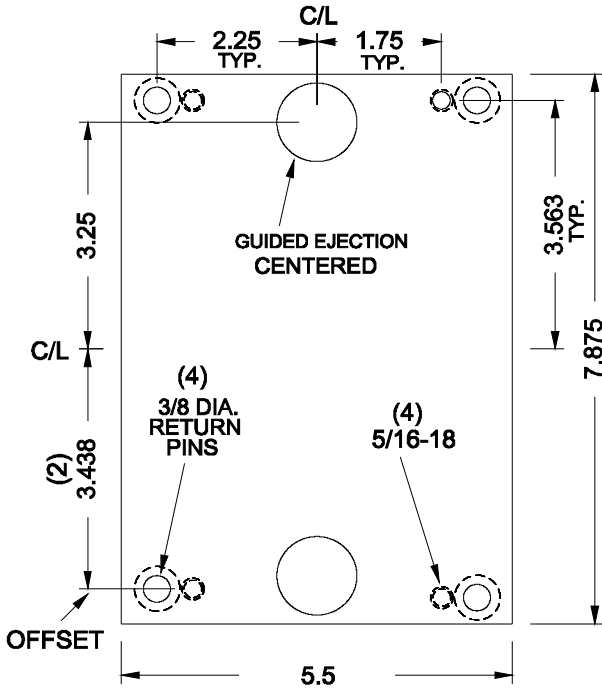
"A" & "B" dimensions are supplied .004" to .007" oversized at parting line unless otherwise specified.

T-EXTREME OPTIONS

FOR 84/90 T-EXTREME INSERTS

Return Pin Machining
The Molding Insert's B-side and ejector plates are machined for return pins and the ejector plates are bolted together.
Includes Return Pins & 5/16-18 cap screws
.500" ejector plates are standard (.360" are optional)
Ejector Plates are centered with insert

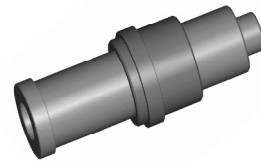
84/90 Return Pin/Guide Layout



Guided Support Pillar Ejection
Available with .500" ejector plates and return pin option only
Includes all machining
(2) Hardened Shoulder Support Pillars (keeps ejector plates captive)
(2) Aluminum Bronze Bushings
(2) 5/16-18 Cap screws

Guided Support Pillar and Aluminum Bronze Guide Bushing

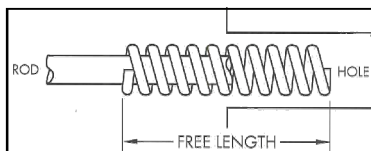
(Detailed print on page 64)



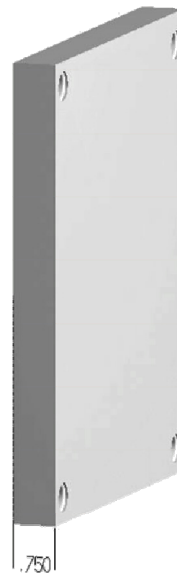
Stripper Plate Conversion
3/4" Stripper Plate includes (4) Shoulder Bushings
(4) Extended Shoulder Pins are installed in the B-side, Shoulder Bushings are installed in the A-side
Note: Pin guide is extended by 3/4" to accommodate stripper plate

Spring Return
Available with .500" ejector plates and return pin option only
B-Plate is counter-bored to a depth of 1.850" and cleared for springs
Includes (4) medium duty 3/8" I.D. X 3/4" O.D. X 3 1/2" Long die springs
Note: Because of compression restrictions this option is only available on TXS and TXL inserts where the B-side is a minimum of 2 1/4" in combination with the guided ejector system or 2 3/4" thick without the guided system.

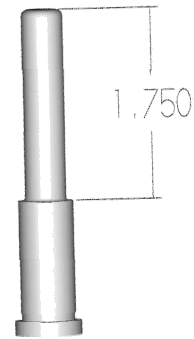
Spring Return



Stripper Plate



Extended Shoulder Pin

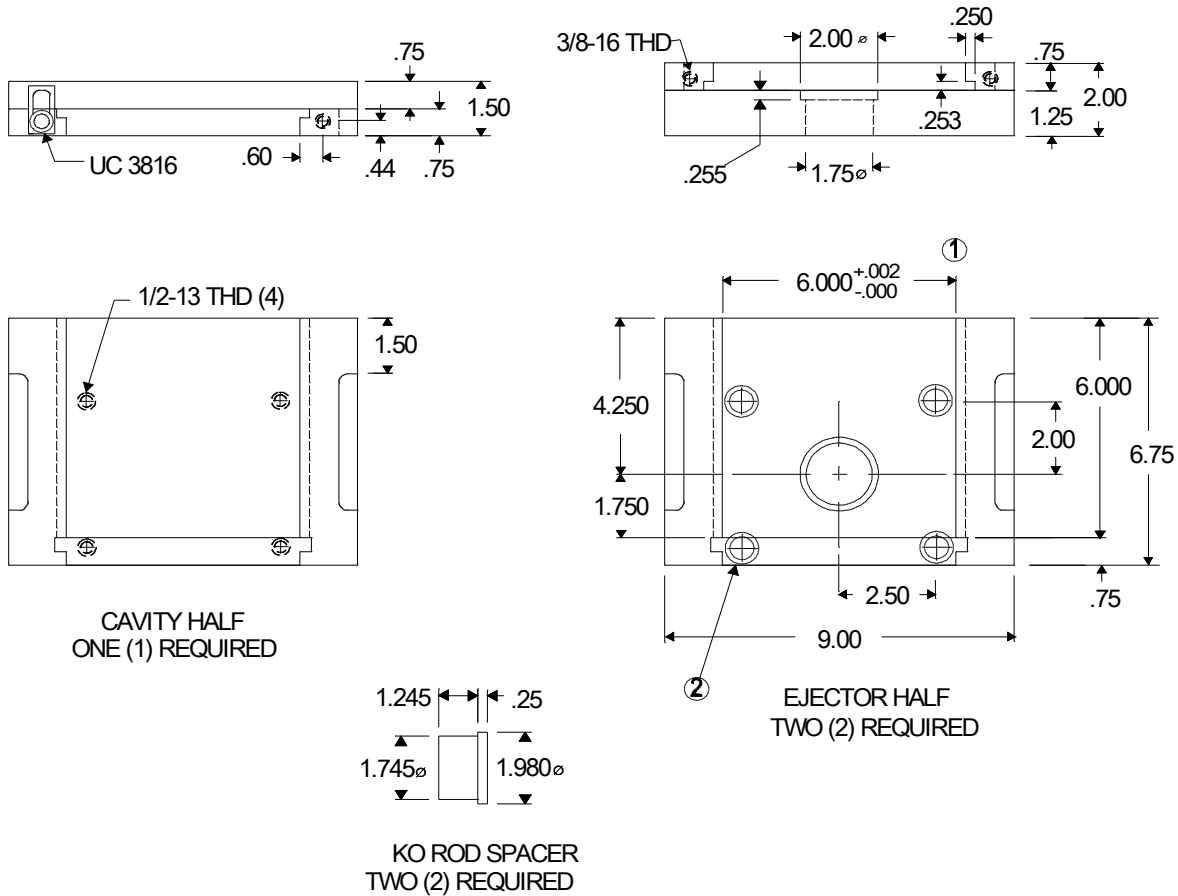


09/07 U-Frame

"Shuttle Style" U-Frame Denotes two "B" halves.

SHUTTLE STYLE U-FRAME

Catalog #	09/07 UF 321
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① 3/8 X 5 Degree Lead-in

② Drill & Counterbore for 1/2-13 SHCS (4)

ORDERING INFORMATION

frames

- Please specify Quantity & Catalog #
- Specify Locating Ring Diameter & Sprue Bushing R & O sizes
- Standard Material for Frames is 4140 Prehard

Inserts

- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
- Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

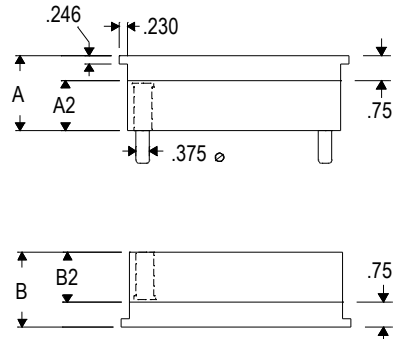
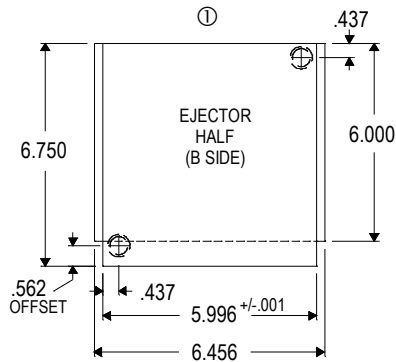
6.0 X 6.75 & 9.0 X 6.75 INSERTS

FITS 09/07 U-FRAME

Note: This insert does not include ejector plates. When ejection is required, pockets can be machined in ejector half of Molding Insert and ejector plates installed. (For Molding Inserts this size that include ejector plates see 09/07 EB Series on catalog pages 22-23.)

Standard Solid Insert (6.0 X 6.75)				
Catalog #	A	A2	B2	B
09/07 SSU 221	2.250	1.500	1.500	2.250
09/07 SSU 221S	2.250	1.500	1.500	2.250

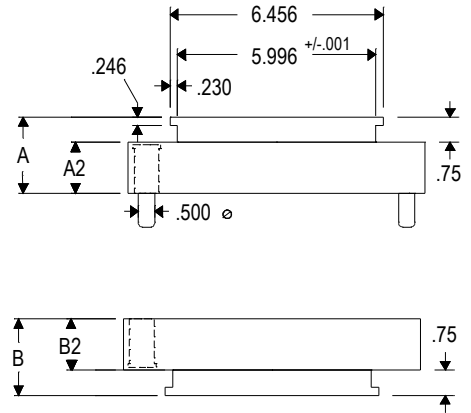
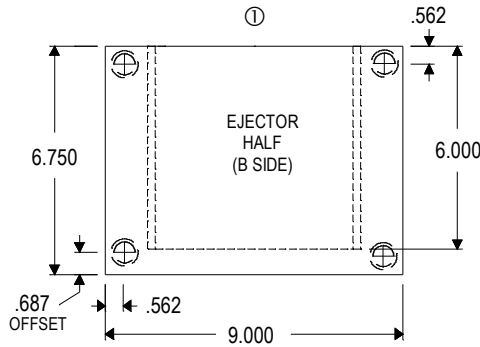
"S" Denotes two "B" halves.



Note: This insert does not include ejector plates.

T-Style Laminated Inserts are shipped with loose ear plates				
T-Style Laminated Insert (9.0 X 6.75)				
Catalog #	A	A2	B2	B
09/07 TLU 201	2.250	1.500	1.500	2.250
09/07 TLU 201S	2.250	1.500	1.500	2.250

"S" Denotes two "B" halves.



Note: This insert does not include ejector plates.

Ⓢ Clamp Side

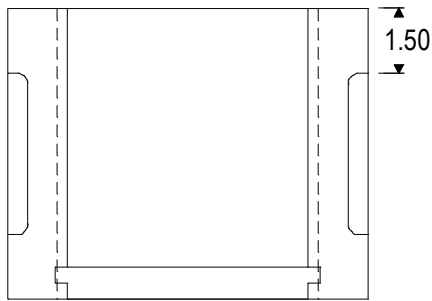
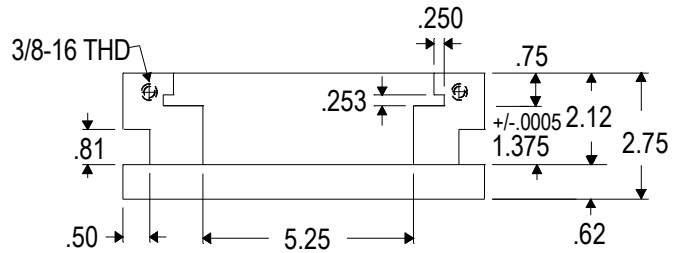
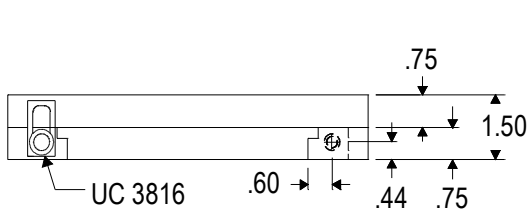
"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

09/07 EB U-Frame

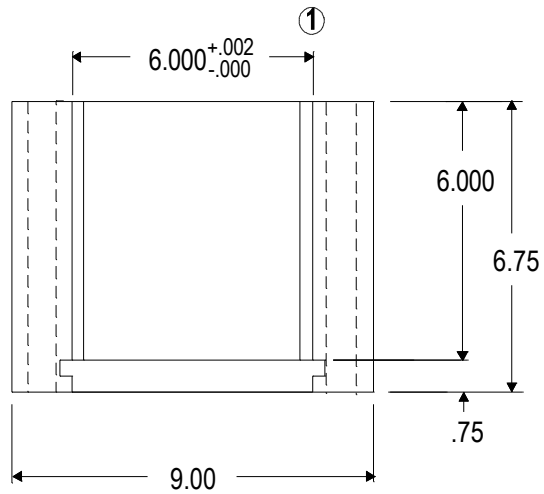
"Shuttle Style" U-Frame Denotes two "B" halves.

SHUTTLE STYLE U-FRAME

Catalog #	09/07 EB 321
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CAVITY HALF
ONE (1) REQUIRED



EJECTOR HALF
TWO (2) REQUIRED

① 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

frames

- Please specify Quantity & Catalog #
- Specify Locating Ring Diameter & Sprue Bushing R & O sizes
- Standard Material for Frames is 4140 Prehard

Inserts

- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
- Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

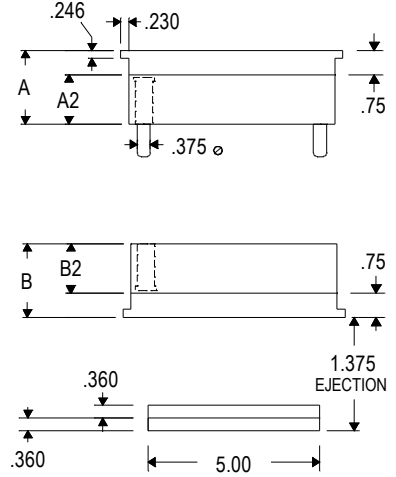
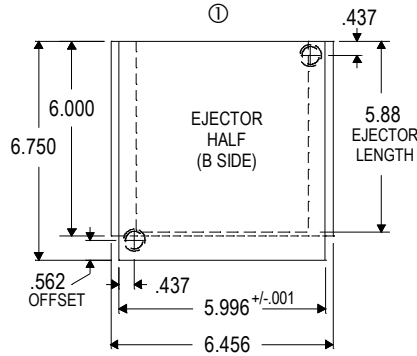
6.0 X 6.75 & 9.0 X 6.75 INSERTS

FITS 09/07 EB U-FRAME

Standard Solid Insert (6.0 X 6.75)

Catalog #	A	A2	B2	B
09/07 SSE 221	2.250	1.500	1.500	2.250
09/07 SSE 221S	2.250	1.500	1.500	2.250

"S" Denotes two "B" halves.

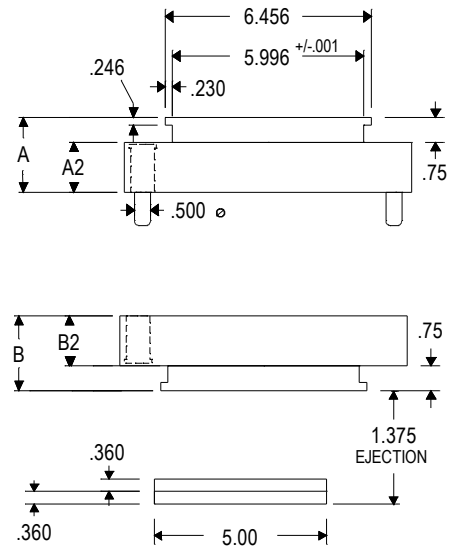
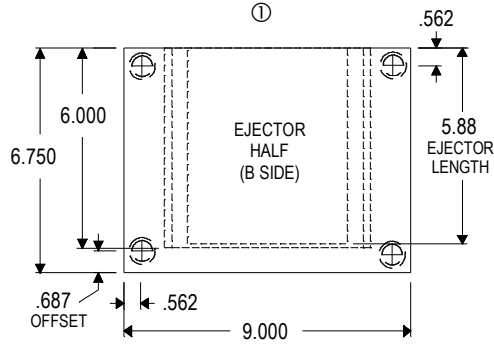


T-Style Laminated Inserts are shipped with loose ear plates

T-Style Laminated Insert (9.0 X 6.75)

Catalog #	A	A2	B2	B
09/07 TLE 201	2.250	1.500	1.500	2.250
09/07 TLE 201S	2.250	1.500	1.500	2.250

"S" Denotes two "B" halves.



① Clamp Side

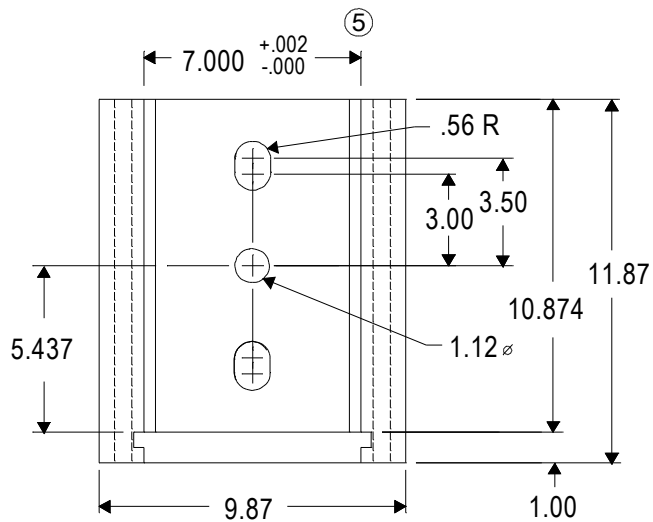
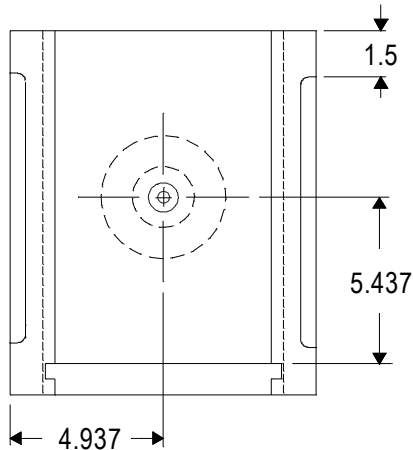
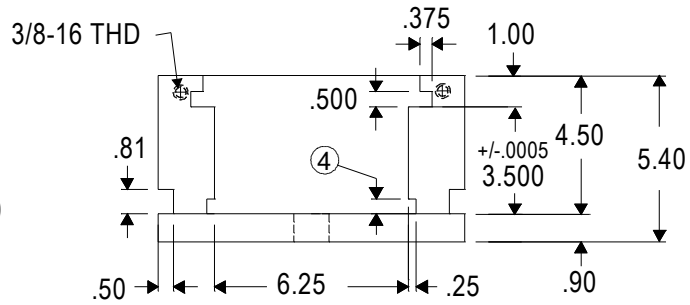
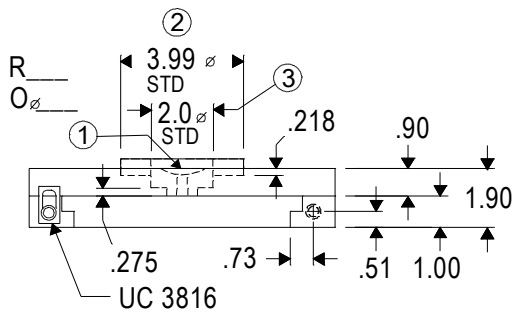
"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

10/12 U-Frame

Note: This size includes SEPU
Slots in standard pricing

U-FRAME

Catalog #	10/12 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2½" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

frames

- Please specify Quantity & Catalog #
- Specify Locating Ring Diameter & Sprue Bushing R & O sizes
- Standard Material for Frames is 4140 Prehard

Inserts

- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
- Optional "A", "A2", "B2", & "B" thickness'

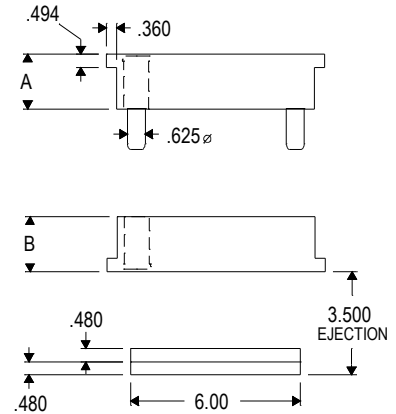
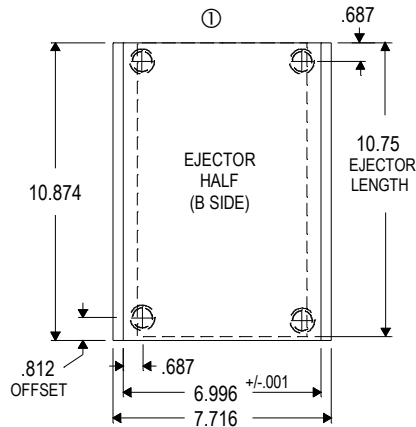
(See compatible inserts on opposite page →)

Cross Tool & Manufacturing, Inc.
1-800-832-3993
crosstool.com

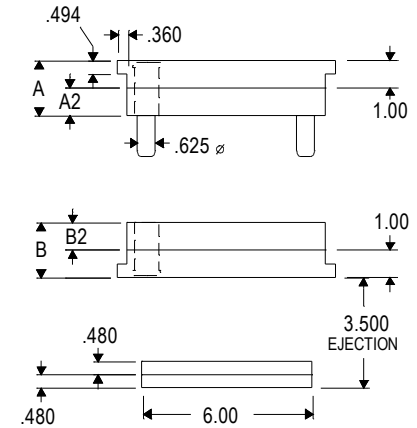
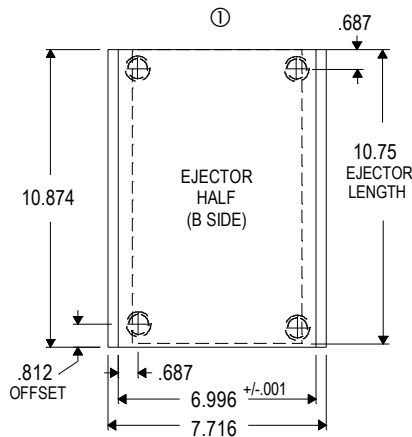
7.0 X 10.9 & 9.9 X 10.9 INSERTS

FITS 10/12 U-FRAME

Standard Solid Insert (7.0 X 10.9)		
Catalog #	A	B
10/12 SSU 221	1.377	1.377
10/12 SSU 222	1.377	1.877
10/12 SSU 223	1.877	1.377
10/12 SSU 224	1.877	1.877
10/12 SSU 225	1.877	2.377
10/12 SSU 226	2.377	1.877
10/12 SSU 227	2.377	2.377
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10/12 SSU 230	2.877	2.877

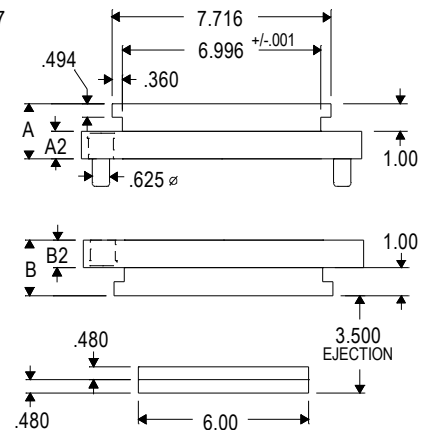
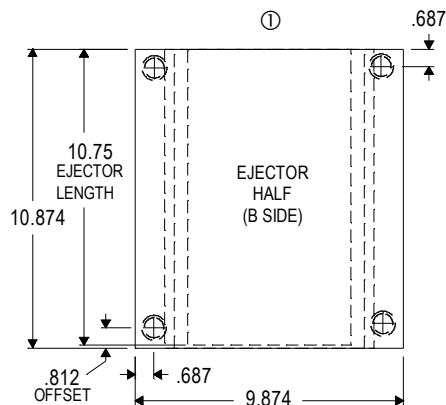


Standard Laminated Insert (7.0 X 10.9)				
Catalog #	A	A2	B2	B
10/12 SLU 281	1.877	0.877	0.877	1.877
10/12 SLU 282	1.877	0.877	1.377	2.377
10/12 SLU 283	1.877	0.877	1.877	2.877
10/12 SLU 284	2.377	1.377	0.877	1.877
10/12 SLU 285	2.377	1.377	1.377	2.377
10/12 SLU 286	2.377	1.377	1.877	2.877
10/12 SLU 287	2.877	1.877	0.877	1.877
10/12 SLU 288	2.877	1.877	1.377	2.377
10/12 SLU 289	2.877	1.877	1.877	2.877



T-Style Laminated Inserts are shipped with loose ear plates

T-Style Laminated Insert (9.9 X 10.9)				
Catalog #	A	A2	B2	B
10/12 TLU 201	1.877	0.877	0.877	1.877
10/12 TLU 202	1.877	0.877	1.377	2.377
10/12 TLU 203	2.377	1.377	0.877	1.877
10/12 TLU 204	2.377	1.377	1.377	2.377
10/12 TLU 205	2.377	1.377	1.877	2.877
10/12 TLU 206	2.877	1.877	1.377	2.377
10/12 TLU 207	2.877	1.877	1.877	2.877
10/12 TLU 208	2.877	1.877	2.377	3.377
10/12 TLU 209	3.377	2.377	1.877	2.877
10/12 TLU 210	3.377	2.377	2.377	3.377



① Clamp Side

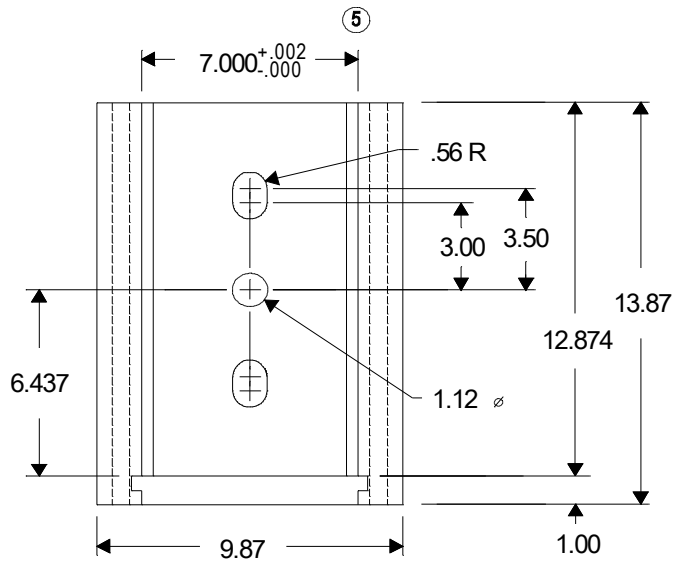
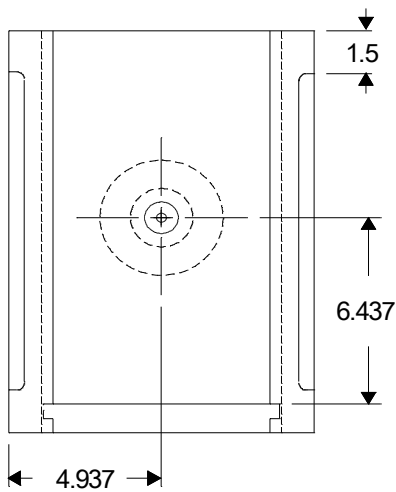
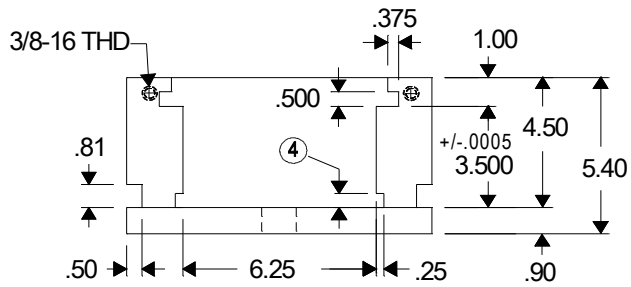
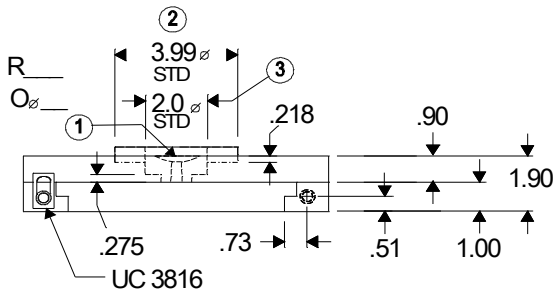
"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

10/14 U-Frame

Note: This size includes SEPU
Slots in standard pricing

U-FRAME

Catalog #	10/14 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2½" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

frames

- Please specify Quantity & Catalog #
- Specify Locating Ring Diameter & Sprue Bushing R & O sizes
- Standard Material for Frames is 4140 Prehard

Inserts

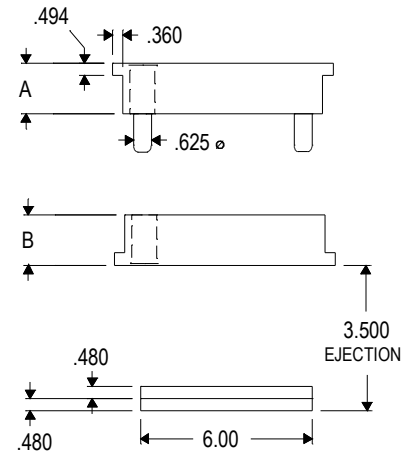
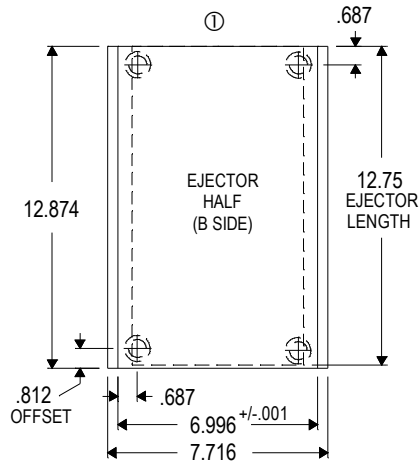
- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
- Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

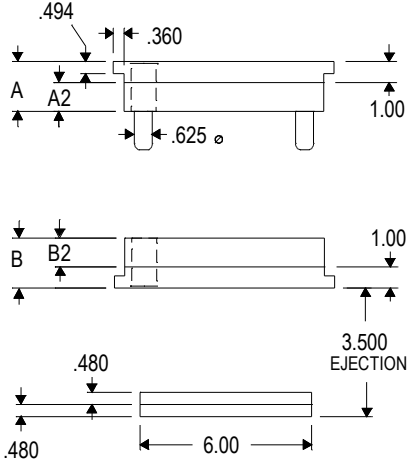
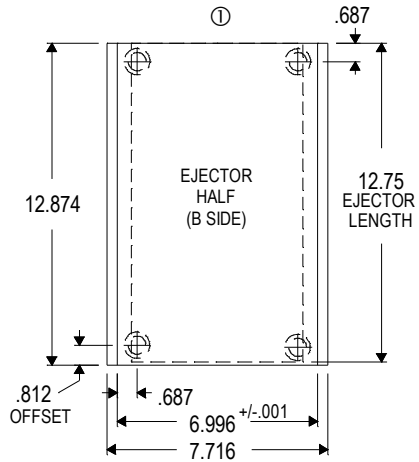
7.0 X 12.9 & 9.9 X 12.9 INSERTS

FITS 10/14 U-FRAME

Standard Solid Insert (7.0 X 12.9)		
Catalog #	A	B
10/14 SSU 221	1.377	1.377
10/14 SSU 222	1.377	1.877
10/14 SSU 223	1.877	1.377
10/14 SSU 224	1.877	1.877
10/14 SSU 225	1.877	2.377
10/14 SSU 226	2.377	1.877
10/14 SSU 227	2.377	2.377
10/14 SSU 228	2.377	2.877
10/14 SSU 229	2.877	2.377
10/14 SSU 230	2.877	2.877

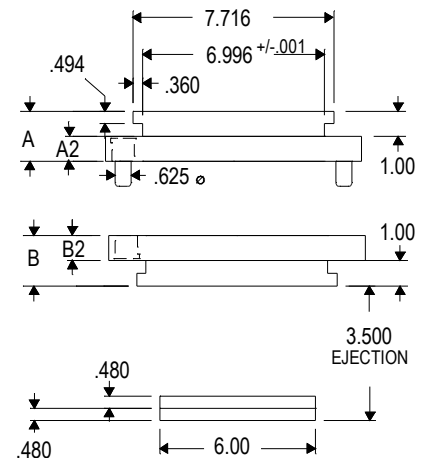
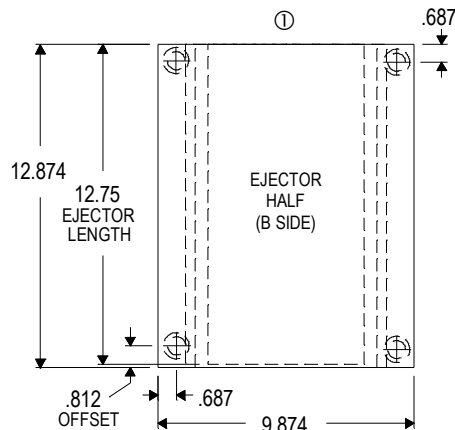


Standard Laminated Insert (7.0 X 12.9)				
Catalog #	A	A2	B2	B
10/14 SLU 281	1.877	0.877	0.877	1.877
10/14 SLU 282	1.877	0.877	1.377	2.377
10/14 SLU 283	1.877	0.877	1.877	2.877
10/14 SLU 284	2.377	1.377	0.877	1.877
10/14 SLU 285	2.377	1.377	1.377	2.377
10/14 SLU 286	2.377	1.377	1.877	2.877
10/14 SLU 287	2.877	1.877	0.877	1.877
10/14 SLU 288	2.877	1.877	1.377	2.377
10/14 SLU 289	2.877	1.877	1.877	2.877



T-Style Laminated Inserts are shipped with loose ear plates

T-Style Laminated Insert (9.9 X 12.9)				
Catalog #	A	A2	B2	B
10/14 TLU 201	1.877	0.877	0.877	1.877
10/14 TLU 202	1.877	0.877	1.377	2.377
10/14 TLU 203	2.377	1.377	0.877	1.877
10/14 TLU 204	2.377	1.377	1.377	2.377
10/14 TLU 205	2.377	1.377	1.877	2.877
10/14 TLU 206	2.877	1.877	1.377	2.377
10/14 TLU 207	2.877	1.877	1.877	2.877
10/14 TLU 208	2.877	1.877	2.377	3.377
10/14 TLU 209	3.377	2.377	1.877	2.877
10/14 TLU 210	3.377	2.377	2.377	3.377



① Clamp Side

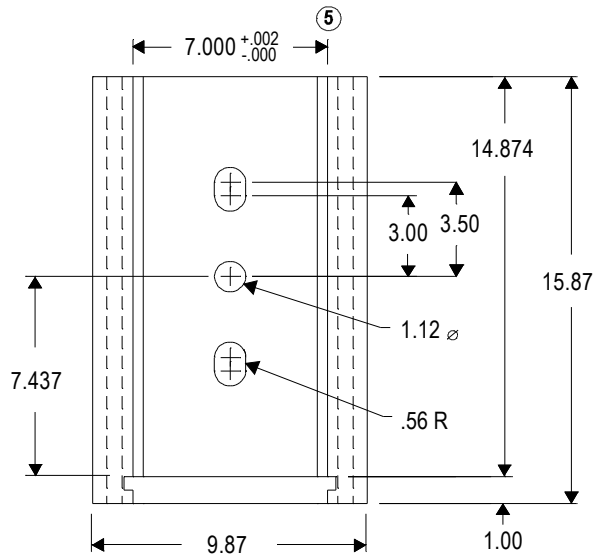
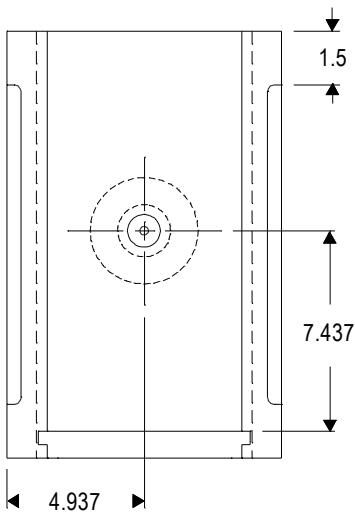
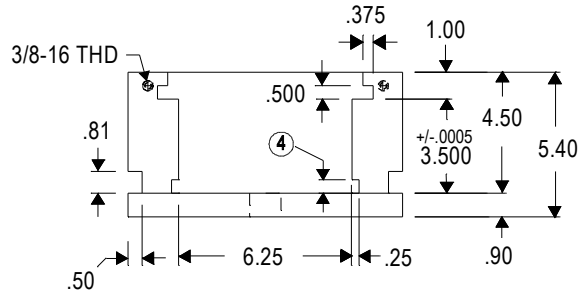
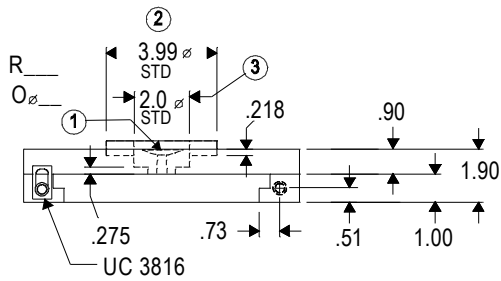
"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

10/16 U-Frame

Note: This size includes SEPU
Slots in standard pricing

U-FRAME

Catalog #	10/16 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2½" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

frames

- Please specify Quantity & Catalog #
- Specify Locating Ring Diameter & Sprue Bushing R & O sizes
- Standard Material for Frames is 4140 Prehard

Inserts

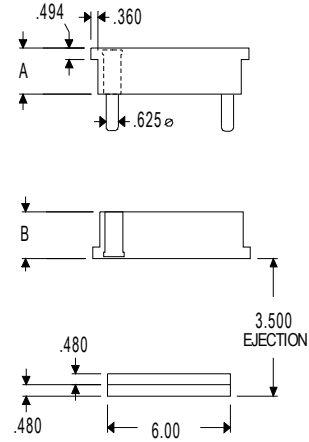
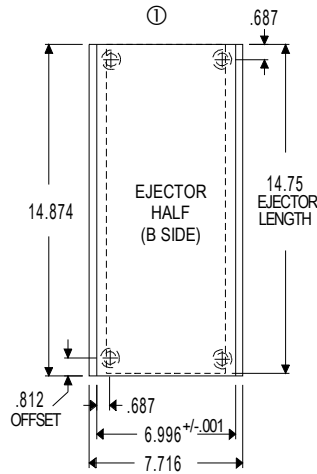
- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
- Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

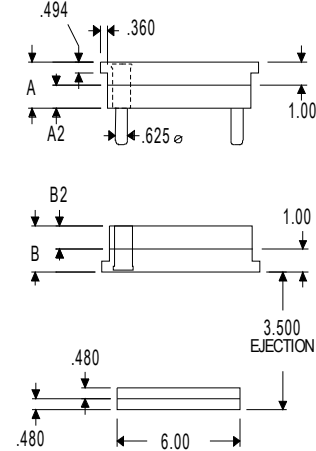
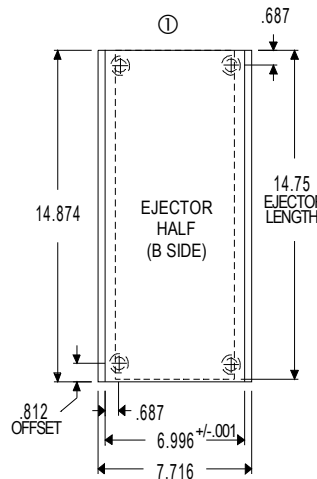
7.0 X 14.9 & 9.9 X 14.9 INSERTS

FITS 10/16 U-FRAME

Standard Solid Insert (7.0 X 14.9)		
Catalog #	A	B
10/16 SSU 221	1.377	1.377
10/16 SSU 222	1.377	1.877
10/16 SSU 223	1.877	1.377
10/16 SSU 224	1.877	1.877
10/16 SSU 225	1.877	2.377
10/16 SSU 226	2.377	1.877
10/16 SSU 227	2.377	2.377
10/16 SSU 228	2.377	2.877
10/16 SSU 229	2.877	2.377
10/16 SSU 230	2.877	2.877

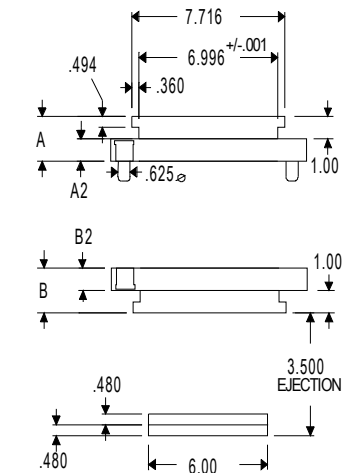
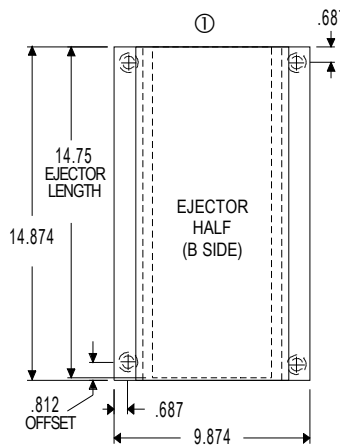


Standard Laminated Insert (7.0 X 14.9)				
Catalog #	A	A2	B2	B
10/16 SLU 281	1.877	0.877	0.877	1.877
10/16 SLU 282	1.877	0.877	1.377	2.377
10/16 SLU 283	1.877	0.877	1.877	2.877
10/16 SLU 284	2.377	1.377	0.877	1.877
10/16 SLU 285	2.377	1.377	1.377	2.377
10/16 SLU 286	2.377	1.377	1.877	2.877
10/16 SLU 287	2.877	1.877	0.877	1.877
10/16 SLU 288	2.877	1.877	1.377	2.377
10/16 SLU 289	2.877	1.877	1.877	2.877



T-Style Laminated Inserts are shipped with loose ear plates

T-Style Laminated Insert (9.9 X 14.9)				
Catalog #	A	A2	B2	B
10/16 TLU 201	1.877	0.877	0.877	1.877
10/16 TLU 202	1.877	0.877	1.377	2.377
10/16 TLU 203	2.377	1.377	0.877	1.877
10/16 TLU 204	2.377	1.377	1.377	2.377
10/16 TLU 205	2.377	1.377	1.877	2.877
10/16 TLU 206	2.877	1.877	1.377	2.377
10/16 TLU 207	2.877	1.877	1.877	2.877
10/16 TLU 208	2.877	1.877	2.377	3.377
10/16 TLU 209	3.377	2.377	1.877	2.877
10/16 TLU 210	3.377	2.377	2.377	3.377



Ⓞ Clamp Side

"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

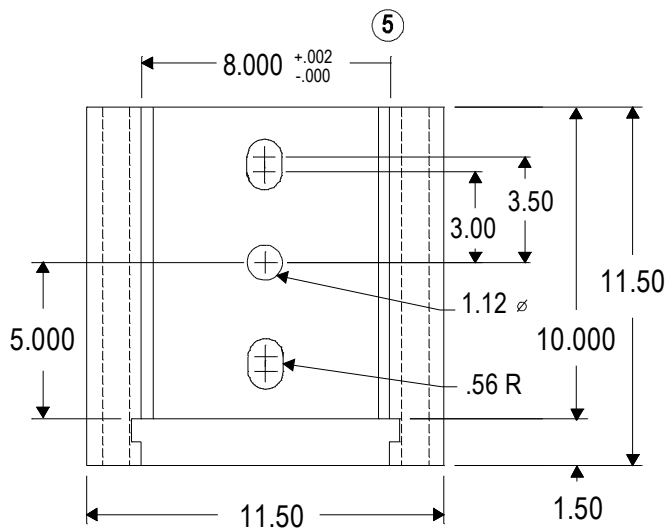
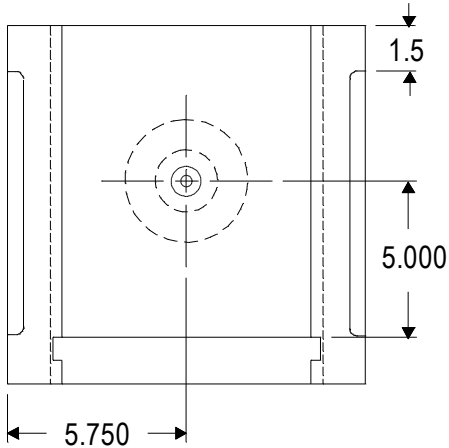
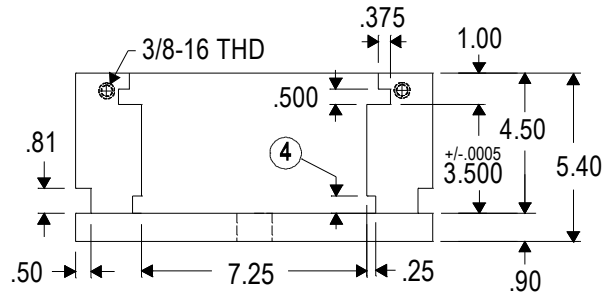
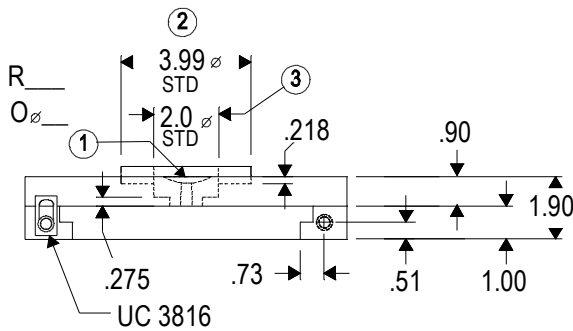
Cross Tool & Manufacturing, Inc.
1-800-832-3993
crosstool.com

11/11 U-Frame

Note: This size includes SEPU
Slots in standard pricing

U-FRAME

Catalog #	11/11 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2½" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

frames

- Please specify Quantity & Catalog #
- Specify Locating Ring Diameter & Sprue Bushing R & O sizes
- Standard Material for Frames is 4140 Prehard

Inserts

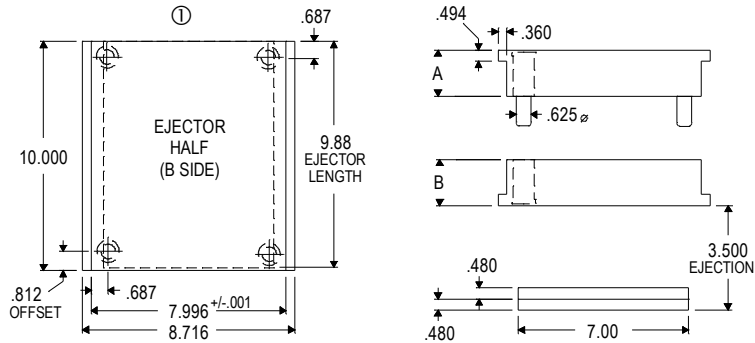
- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
- Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

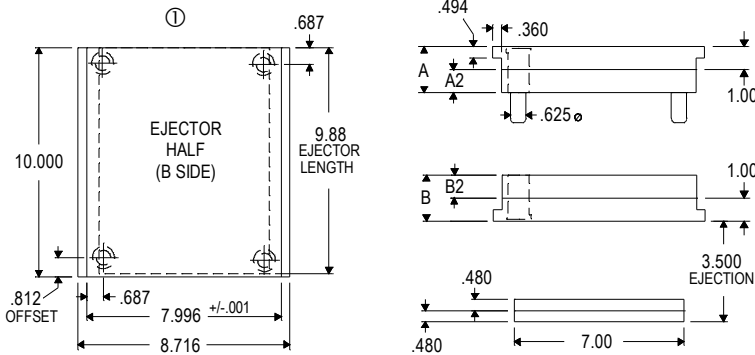
8.0 X 10.0 & 11.5 X 11.0 INSERTS

FITS 11/11 U-FRAME

Standard Solid Insert (8.0 X 10.0)		
Catalog #	A	B
11/11 SSU 221	1.377	1.377
11/11 SSU 222	1.377	1.877
11/11 SSU 223	1.877	1.377
11/11 SSU 224	1.877	1.877
11/11 SSU 225	1.877	2.377
11/11 SSU 226	2.377	1.877
11/11 SSU 227	2.377	2.377
11/11 SSU 228	2.377	2.877
11/11 SSU 229	2.877	2.377
11/11 SSU 230	2.877	2.877

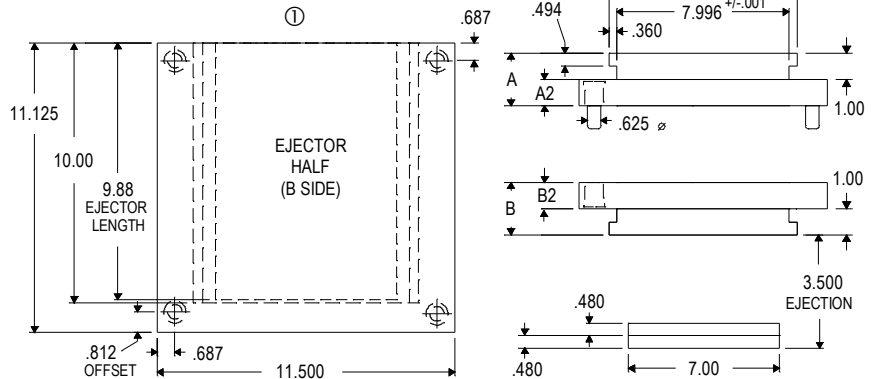


Standard Laminated Insert (8.0 X 10.0)				
Catalog #	A	A2	B2	B
11/11 SLU 281	1.877	0.877	0.877	1.877
11/11 SLU 282	1.877	0.877	1.377	2.377
11/11 SLU 283	1.877	0.877	1.877	2.877
11/11 SLU 284	2.377	1.377	0.877	1.877
11/11 SLU 285	2.377	1.377	1.377	2.377
11/11 SLU 286	2.377	1.377	1.877	2.877
11/11 SLU 287	2.877	1.877	0.877	1.877
11/11 SLU 288	2.877	1.877	1.377	2.377
11/11 SLU 289	2.877	1.877	1.877	2.877



T-Style Laminated Inserts are shipped with loose ear plates

T-Style Laminated Insert (11.5 X 11.0)				
Catalog #	A	A2	B2	B
11/11 TLU 201	1.877	0.877	0.877	1.877
11/11 TLU 202	1.877	0.877	1.377	2.377
11/11 TLU 203	2.377	1.377	0.877	1.877
11/11 TLU 204	2.377	1.377	1.377	2.377
11/11 TLU 205	2.377	1.377	1.877	2.877
11/11 TLU 206	2.877	1.877	1.377	2.377
11/11 TLU 207	2.877	1.877	1.877	2.877
11/11 TLU 208	2.877	1.877	2.377	3.377
11/11 TLU 209	3.377	2.377	1.877	2.877
11/11 TLU 210	3.377	2.377	2.377	3.377



Ⓞ Clamp Side

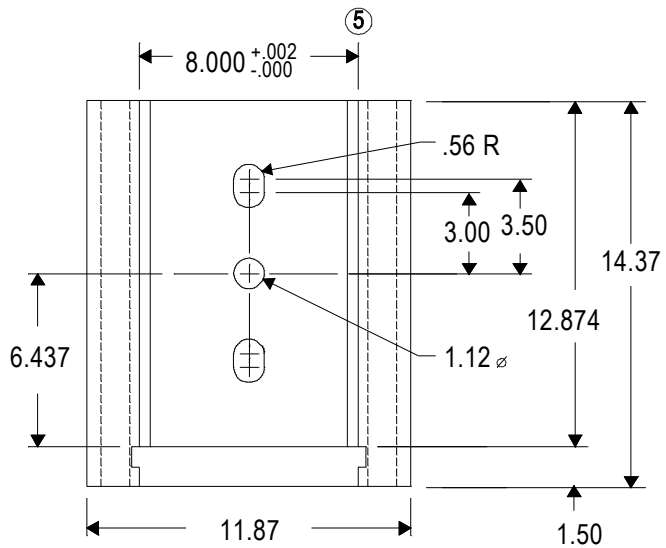
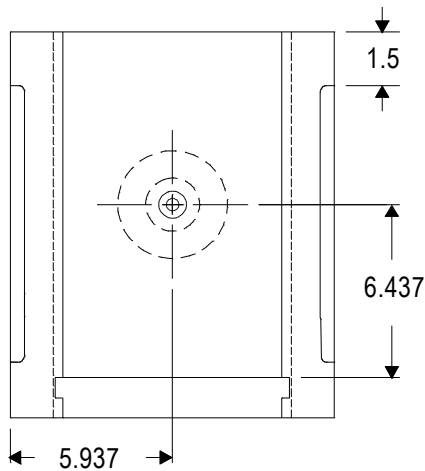
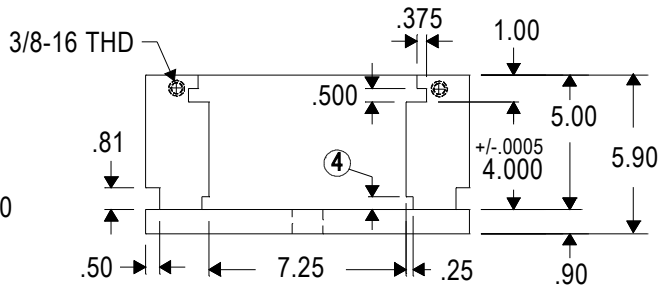
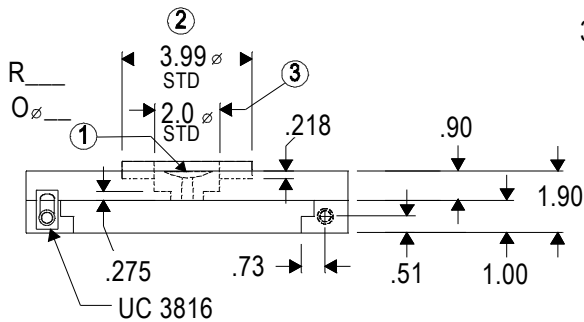
"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

12/14 U-Frame

Note: This size includes SEPU
Slots in standard pricing

U-FRAME

Catalog #	12/14 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2½" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

frames

- Please specify Quantity & Catalog #
- Specify Locating Ring Diameter & Sprue Bushing R & O sizes
- Standard Material for Frames is 4140 Prehard

Inserts

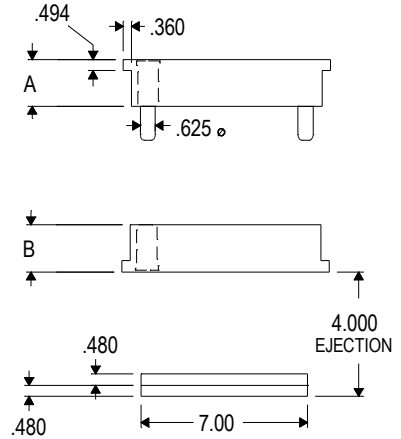
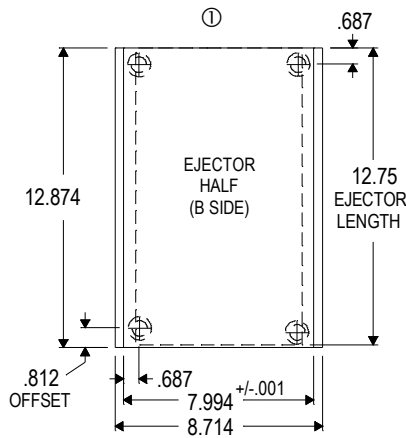
- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
- Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

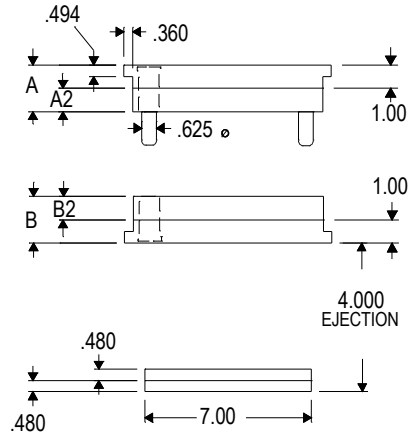
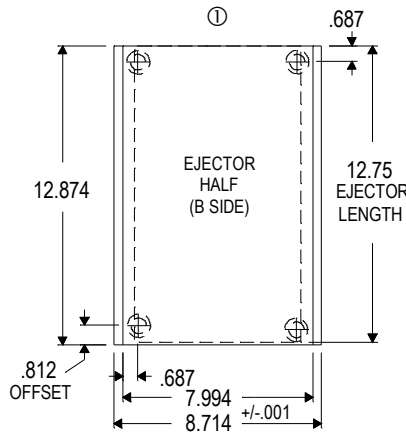
8.0 X 12.9 & 11.9 X 12.9 INSERTS

FITS 12/14 U-FRAME

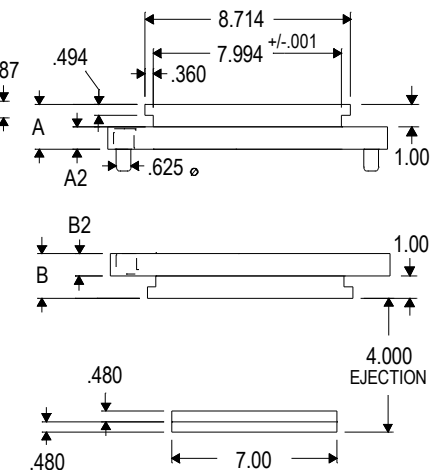
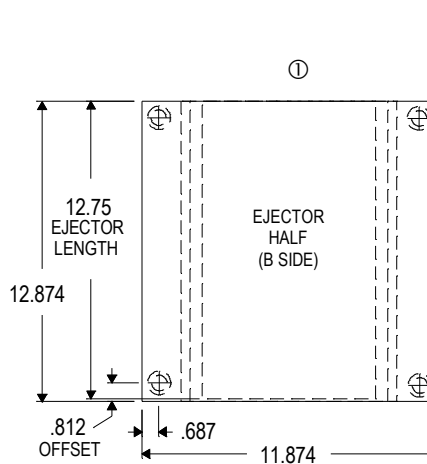
Standard Solid Insert (8.0 X 12.9)		
Catalog #	A	B
12/14 SSU 221	1.377	1.377
12/14 SSU 222	1.377	1.877
12/14 SSU 223	1.377	2.377
12/14 SSU 224	1.877	1.377
12/14 SSU 225	1.877	1.877
12/14 SSU 226	1.877	2.377
12/14 SSU 227	1.877	2.877
12/14 SSU 228	2.377	1.377
12/14 SSU 229	2.377	1.877
12/14 SSU 230	2.377	2.377
12/14 SSU 231	2.377	2.877
12/14 SSU 232	2.877	1.877
12/14 SSU 233	2.877	2.377
12/14 SSU 234	2.877	2.877



Standard Laminated Insert (8.0 X 12.9)				
Catalog #	A	A2	B2	B
12/14 SLU 281	1.877	0.877	0.877	1.877
12/14 SLU 282	1.877	0.877	1.377	2.377
12/14 SLU 283	1.877	0.877	1.877	2.877
12/14 SLU 284	2.377	1.377	0.877	1.877
12/14 SLU 285	2.377	1.377	1.377	2.377
12/14 SLU 286	2.377	1.377	1.877	2.877
12/14 SLU 287	2.377	1.377	2.377	3.377
12/14 SLU 288	2.877	1.877	0.877	1.877
12/14 SLU 289	2.877	1.877	1.377	2.377
12/14 SLU 290	2.877	1.877	1.877	2.877
12/14 SLU 291	2.877	1.877	2.377	3.377
12/14 SLU 292	3.377	2.377	1.377	2.377
12/14 SLU 293	3.377	2.377	1.877	2.877
12/14 SLU 294	3.377	2.377	2.377	3.377



T-Style Laminated Insert (11.9 X 12.9)				
Catalog #	A	A2	B2	B
12/14 TLU 201	2.377	1.377	1.377	2.377
12/14 TLU 202	2.377	1.377	1.877	2.877
12/14 TLU 203	2.377	1.377	2.377	3.377
12/14 TLU 204	2.877	1.877	1.377	2.377
12/14 TLU 205	2.877	1.877	1.877	2.877
12/14 TLU 206	2.877	1.877	2.377	3.377
12/14 TLU 207	2.877	1.877	2.877	3.877
12/14 TLU 208	3.377	2.377	1.377	2.377
12/14 TLU 209	3.377	2.377	1.877	2.877
12/14 TLU 210	3.377	2.377	2.377	3.377
12/14 TLU 211	3.377	2.377	2.877	3.877
12/14 TLU 212	3.877	2.877	1.877	2.877
12/14 TLU 213	3.877	2.877	2.377	3.377
12/14 TLU 214	3.877	2.877	2.877	3.877



T-Style Laminated Inserts are shipped with loose ear plates

"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

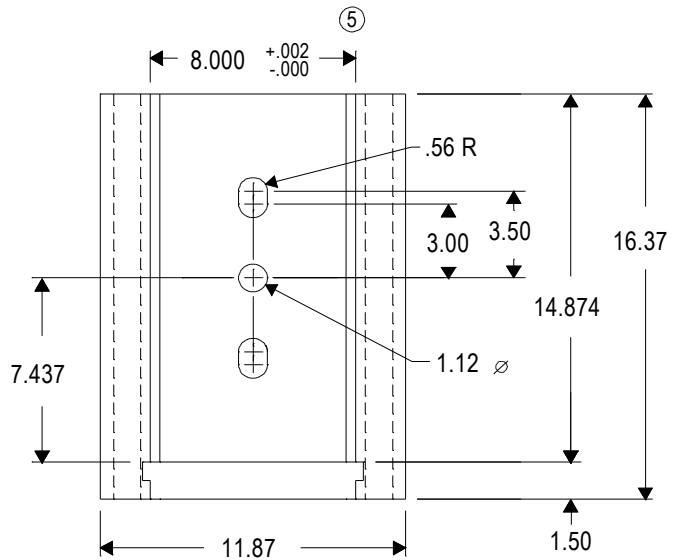
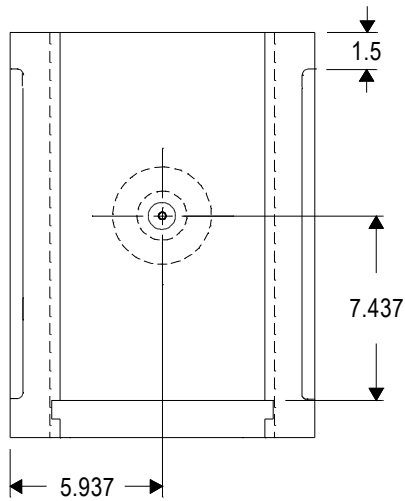
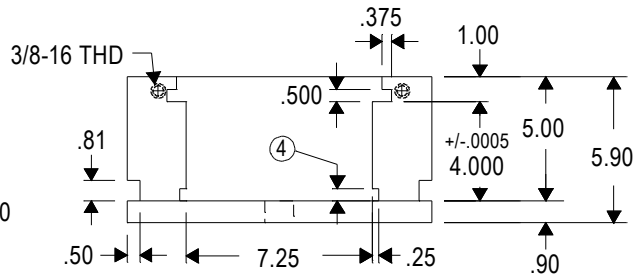
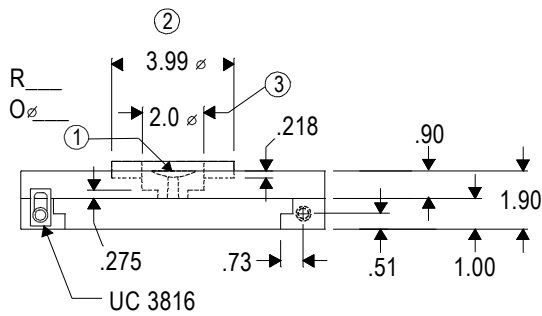
① Clamp Side

12/16 U-Frame

Note: This size includes SEPU
Slots in standard pricing

U-FRAME

Catalog #	12/16 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2½" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

frames

- Please specify Quantity & Catalog #
- Specify Locating Ring Diameter & Sprue Bushing R & O sizes
- Standard Material for Frames is 4140 Prehard

Inserts

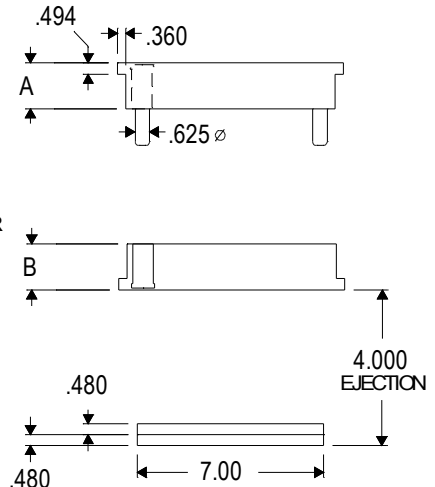
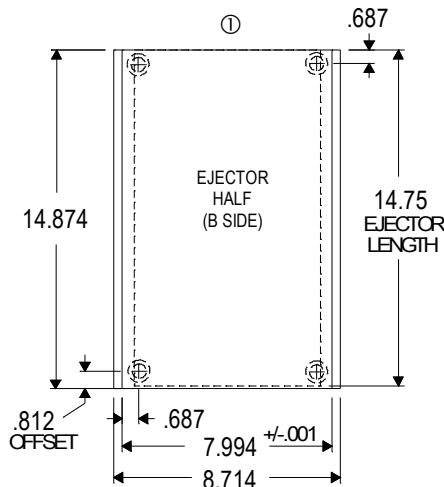
- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
- Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

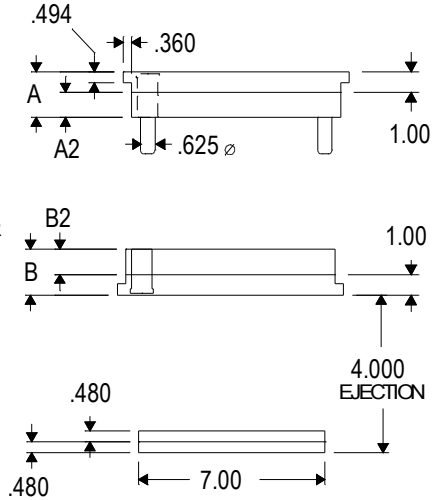
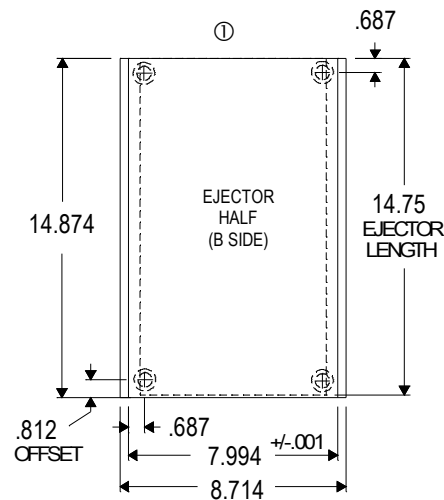
8.0 X 14.9 & 11.9 X 14.9 INSERTS

FITS 12/16 U-FRAME

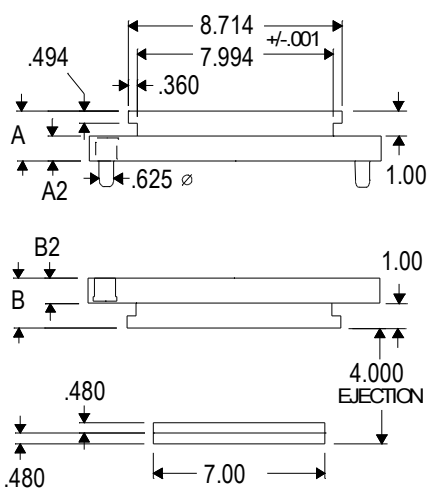
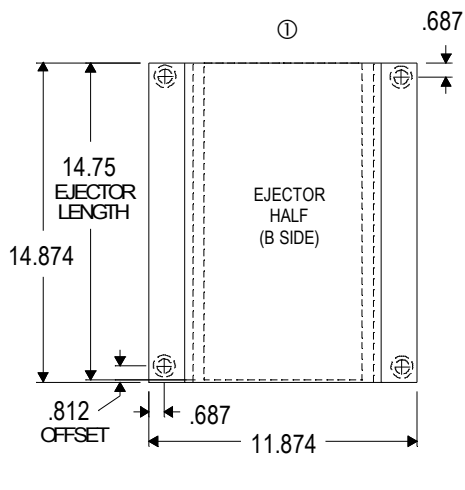
Standard Solid Insert (8.0 X 14.9)		
Catalog #	A	B
12/16 SSU 221	1.377	1.377
12/16 SSU 222	1.377	1.877
12/16 SSU 223	1.377	2.377
12/16 SSU 224	1.877	1.377
12/16 SSU 225	1.877	1.877
12/16 SSU 226	1.877	2.377
12/16 SSU 227	1.877	2.877
12/16 SSU 228	2.377	1.377
12/16 SSU 229	2.377	1.877
12/16 SSU 230	2.377	2.377
12/16 SSU 231	2.377	2.877
12/16 SSU 232	2.877	1.877
12/16 SSU 233	2.877	2.377
12/16 SSU 234	2.877	2.877



Standard Laminated Insert (8.0 X 14.9)				
Catalog #	A	A2	B2	B
12/16 SLU 281	1.877	0.877	0.877	1.877
12/16 SLU 282	1.877	0.877	1.377	2.377
12/16 SLU 283	1.877	0.877	1.877	2.877
12/16 SLU 284	2.377	1.377	0.877	1.877
12/16 SLU 285	2.377	1.377	1.377	2.377
12/16 SLU 286	2.377	1.377	1.877	2.877
12/16 SLU 287	2.377	1.377	2.377	3.377
12/16 SLU 288	2.877	1.877	0.877	1.877
12/16 SLU 289	2.877	1.877	1.377	2.377
12/16 SLU 290	2.877	1.877	1.877	2.877
12/16 SLU 291	2.877	1.877	2.377	3.377
12/16 SLU 292	3.377	2.377	1.377	2.377
12/16 SLU 293	3.377	2.377	1.877	2.877
12/16 SLU 294	3.377	2.377	2.377	3.377



T-Style Laminated Insert (11.9 X 14.9)				
Catalog #	A	A2	B2	B
12/16 TLU 201	2.377	1.377	1.377	2.377
12/16 TLU 202	2.377	1.377	1.877	2.877
12/16 TLU 203	2.377	1.377	2.377	3.377
12/16 TLU 204	2.877	1.877	1.377	2.377
12/16 TLU 205	2.877	1.877	1.877	2.877
12/16 TLU 206	2.877	1.877	2.377	3.377
12/16 TLU 207	2.877	1.877	2.877	3.877
12/16 TLU 208	3.377	2.377	1.377	2.377
12/16 TLU 209	3.377	2.377	1.877	2.877
12/16 TLU 210	3.377	2.377	2.377	3.377
12/16 TLU 211	3.377	2.377	2.877	3.877
12/16 TLU 212	3.877	2.877	1.877	2.877
12/16 TLU 213	3.877	2.877	2.377	3.377
12/16 TLU 214	3.877	2.877	2.877	3.877



T-Style Laminated Inserts are shipped with loose ear plates

"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

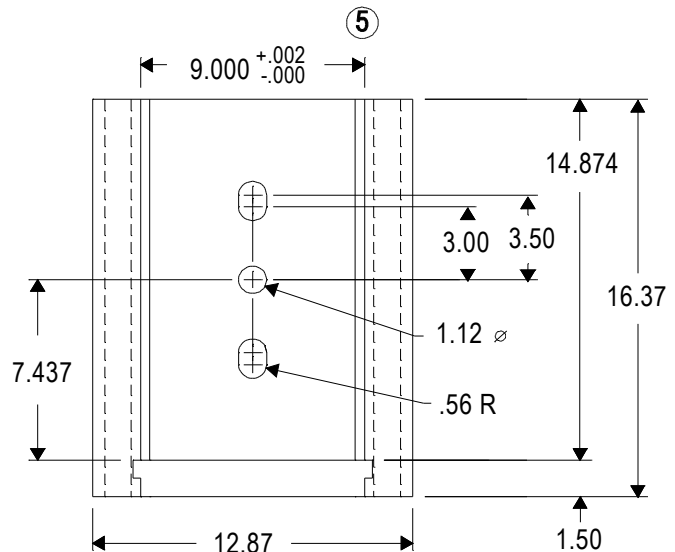
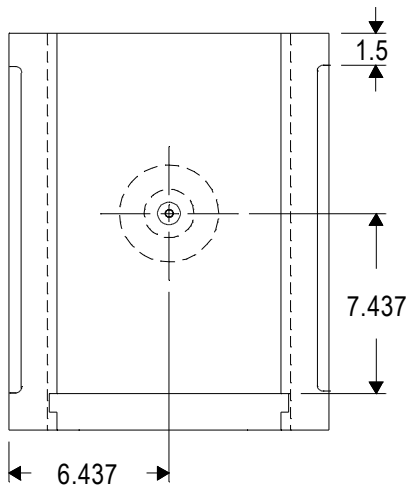
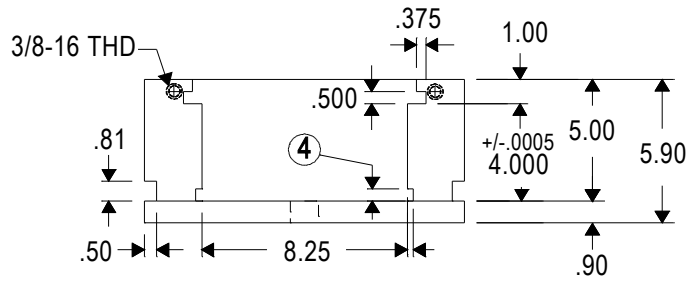
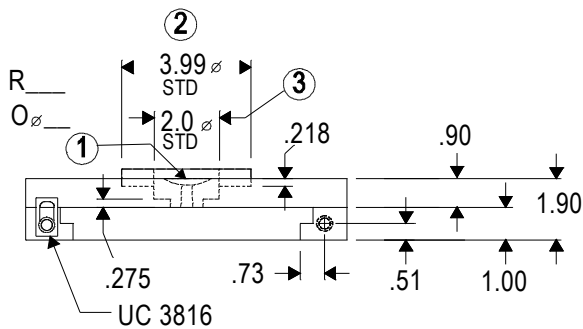
① Clamp Side

13/16 U-Frame

Note: This size includes SEPU
Slots in standard pricing

U-FRAME

Catalog #	13/16 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2½" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

<u>frames</u>
▪ Please specify Quantity & Catalog #
▪ Specify Locating Ring Diameter & Sprue Bushing R & O sizes
▪ Standard Material for Frames is 4140 Prehard

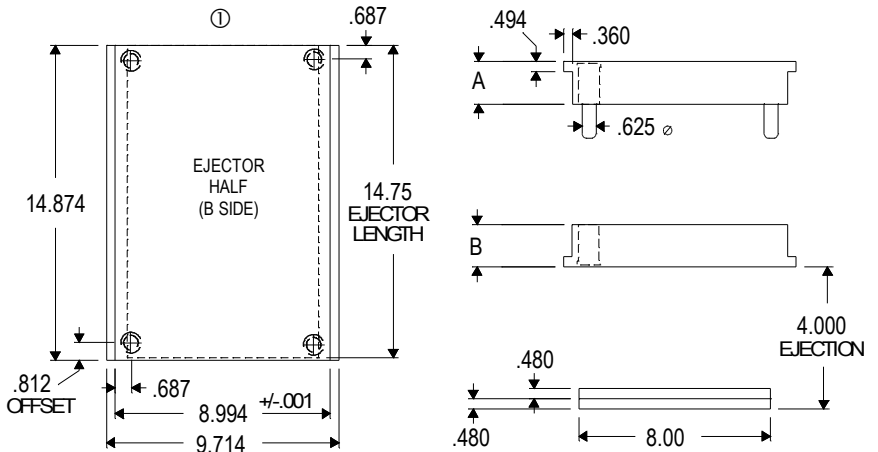
<u>Inserts</u>
▪ Please specify Quantity & Catalog #
▪ Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
▪ Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

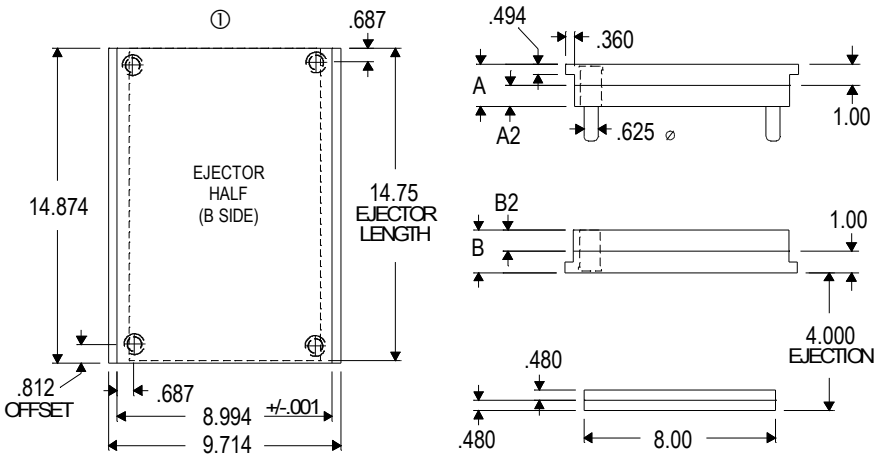
9.0 X 14.9 & 12.9 X 14.9 INSERTS

FITS 13/16 U-FRAME

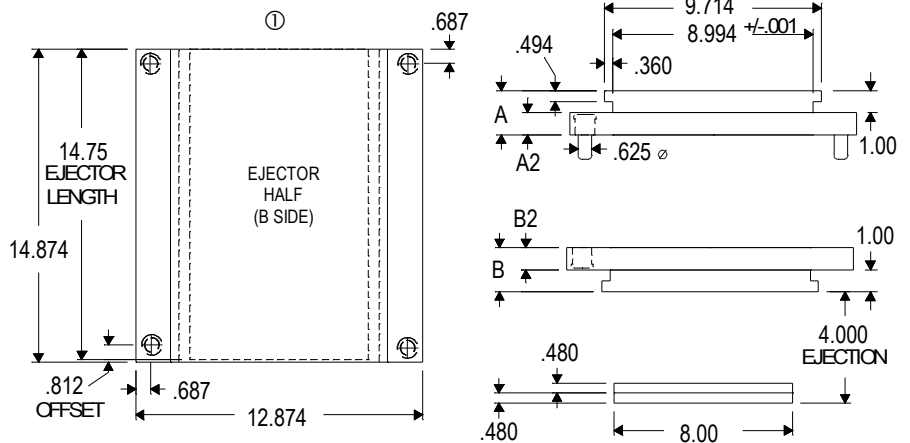
Standard Solid Insert (9.0 X 14.9)		
Catalog #	A	B
13/16 SSU 221	1.377	1.377
13/16 SSU 222	1.377	1.877
13/16 SSU 223	1.377	2.377
13/16 SSU 224	1.877	1.377
13/16 SSU 225	1.877	1.877
13/16 SSU 226	1.877	2.377
13/16 SSU 227	1.877	2.877
13/16 SSU 228	2.377	1.377
13/16 SSU 229	2.377	1.877
13/16 SSU 230	2.377	2.377
13/16 SSU 231	2.377	2.877
13/16 SSU 232	2.877	1.877
13/16 SSU 233	2.877	2.377
13/16 SSU 234	2.877	2.877



Standard Laminated Insert (9.0 X 14.9)				
Catalog #	A	A2	B2	B
13/16 SLU 281	1.877	0.877	0.877	1.877
13/16 SLU 282	1.877	0.877	1.377	2.377
13/16 SLU 283	1.877	0.877	1.877	2.877
13/16 SLU 284	2.377	1.377	0.877	1.877
13/16 SLU 285	2.377	1.377	1.377	2.377
13/16 SLU 286	2.377	1.377	1.877	2.877
13/16 SLU 287	2.377	1.377	2.377	3.377
13/16 SLU 288	2.877	1.877	0.877	1.877
13/16 SLU 289	2.877	1.877	1.377	2.377
13/16 SLU 290	2.877	1.877	1.877	2.877
13/16 SLU 291	2.877	1.877	2.377	3.377
13/16 SLU 292	3.377	2.377	1.377	2.377
13/16 SLU 293	3.377	2.377	1.877	2.877
13/16 SLU 294	3.377	2.377	2.377	3.377



T-Style Laminated Insert (12.9 X 14.9)				
Catalog #	A	A2	B2	B
13/16 TLU 201	2.377	1.377	1.377	2.377
13/16 TLU 202	2.377	1.377	1.877	2.877
13/16 TLU 203	2.377	1.377	2.377	3.377
13/16 TLU 204	2.877	1.877	1.377	2.377
13/16 TLU 205	2.877	1.877	1.877	2.877
13/16 TLU 206	2.877	1.877	2.377	3.377
13/16 TLU 207	2.877	1.877	2.877	3.877
13/16 TLU 208	3.377	2.377	1.377	2.377
13/16 TLU 209	3.377	2.377	1.877	2.877
13/16 TLU 210	3.377	2.377	2.377	3.377
13/16 TLU 211	3.377	2.377	2.877	3.877
13/16 TLU 212	3.877	2.877	1.877	2.877
13/16 TLU 213	3.877	2.877	2.377	3.377
13/16 TLU 214	3.877	2.877	2.877	3.877



T-Style Laminated Inserts are shipped with loose ear plates

"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

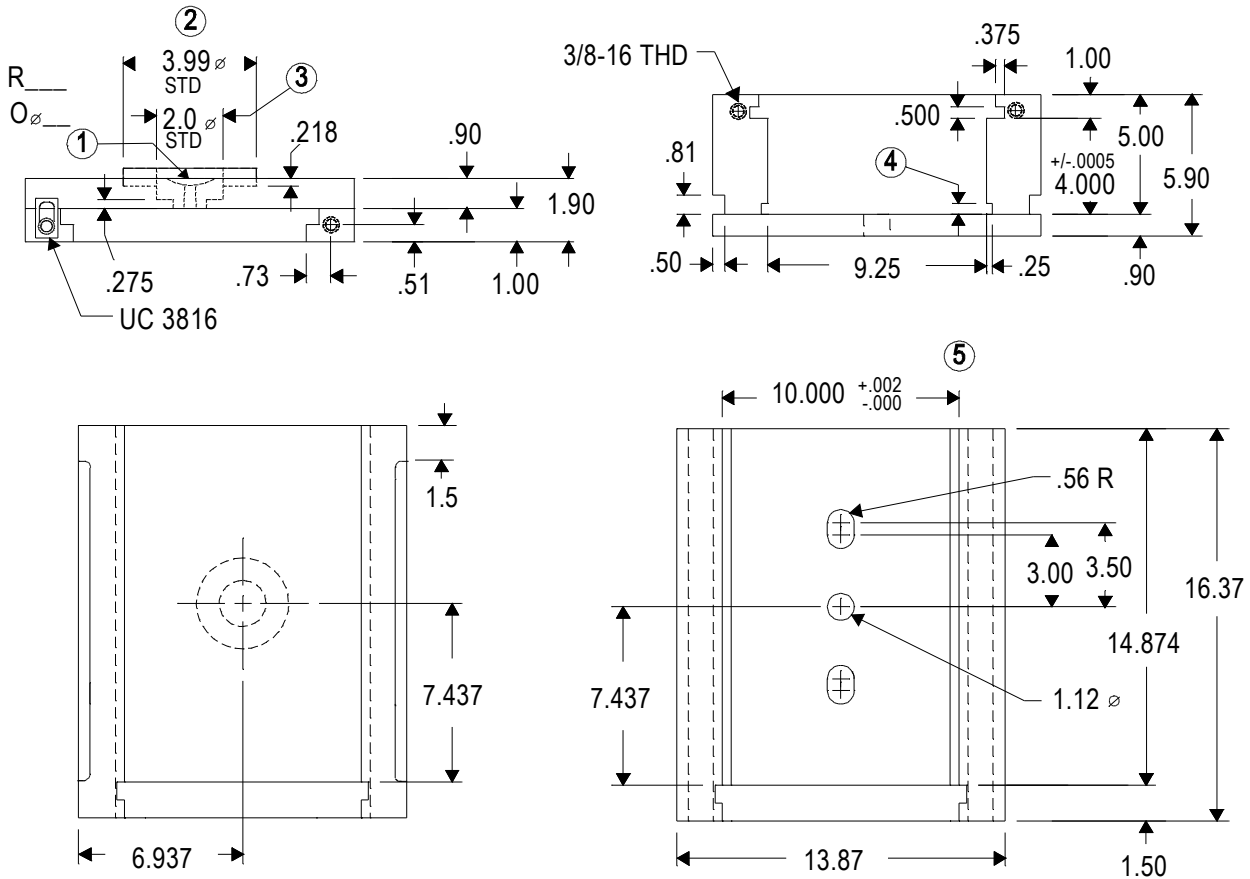
① Clamp Side

14/16 U-Frame

Note: This size includes SEPU
Slots in standard pricing

U-FRAME

Catalog #	14/16 UF 321
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- ① Sprue Bushing information:
O=Small Dia. of Sprue Bushing Orifice: 5/32", 7/32", 9/32"
R=Spherical Radius of Sprue Bushing: 1/2" or 3/4"
- ② Optional Locating Rings are available (Industry Standard)

- ③ 2" or 2½" clearance through hole is available (No Sprue Bushing)
- ④ Tapered Slot at .25 Degree to accommodate Sleeve Ejector Plate (SEPU)
- ⑤ 3/8 X 5 Degree Lead-in

ORDERING INFORMATION

<u>frames</u>
▪ Please specify Quantity & Catalog #
▪ Specify Locating Ring Diameter & Sprue Bushing R & O sizes
▪ Standard Material for Frames is 4140 Prehard

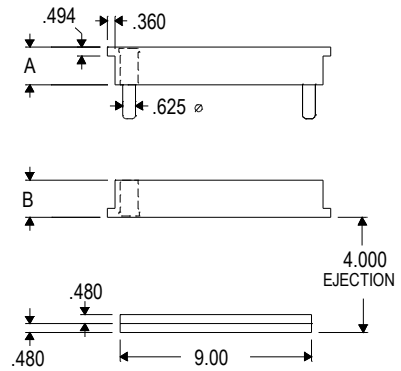
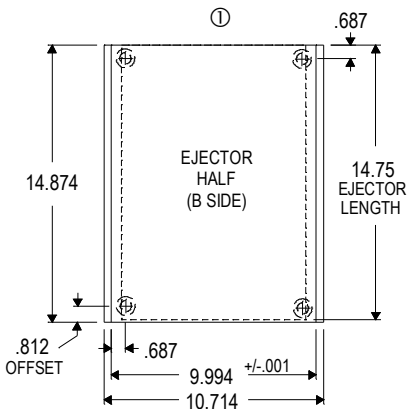
<u>Inserts</u>
▪ Please specify Quantity & Catalog #
▪ Steel grades available: P-20 Prehard or 4140 Prehard (Other grades available upon request)
▪ Optional "A", "A2", "B2", & "B" thickness'

(See compatible inserts on opposite page →)

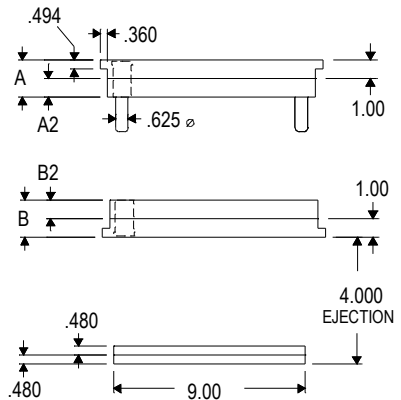
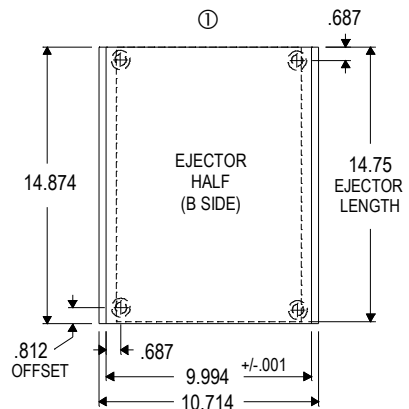
10.0 X 14.9 & 13.9 X 14.9 INSERTS

FITS 14/16 U-FRAME

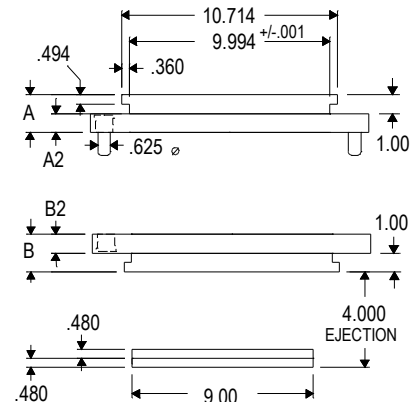
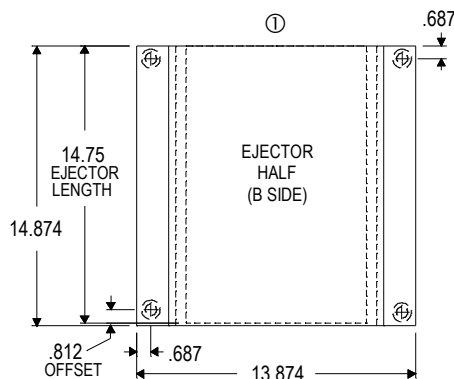
Standard Solid Insert (10.0 X 14.9)			
Catalog #	A	B	
14/16 SSU 221	1.377	1.377	
14/16 SSU 222	1.377	1.877	
14/16 SSU 223	1.377	2.377	
14/16 SSU 224	1.877	1.377	
14/16 SSU 225	1.877	1.877	
14/16 SSU 226	1.877	2.377	
14/16 SSU 227	1.877	2.877	
14/16 SSU 228	2.377	1.377	
14/16 SSU 229	2.377	1.877	
14/16 SSU 230	2.377	2.377	
14/16 SSU 231	2.377	2.877	
14/16 SSU 232	2.877	1.877	
14/16 SSU 233	2.877	2.377	
14/16 SSU 234	2.877	2.877	



Standard Laminated Insert (10.0 X 14.9)				
Catalog #	A	A2	B2	B
14/16 SLU 281	1.877	0.877	0.877	1.877
14/16 SLU 282	1.877	0.877	1.377	2.377
14/16 SLU 283	1.877	0.877	1.877	2.877
14/16 SLU 284	2.377	1.377	0.877	1.877
14/16 SLU 285	2.377	1.377	1.377	2.377
14/16 SLU 286	2.377	1.377	1.877	2.877
14/16 SLU 287	2.377	1.377	2.377	3.377
14/16 SLU 288	2.877	1.877	0.877	1.877
14/16 SLU 289	2.877	1.877	1.377	2.377
14/16 SLU 290	2.877	1.877	1.877	2.877
14/16 SLU 291	2.877	1.877	2.377	3.377
14/16 SLU 292	3.377	2.377	1.377	2.377
14/16 SLU 293	3.377	2.377	1.877	2.877
14/16 SLU 294	3.377	2.377	2.377	3.377



T-Style Laminated Insert (13.9 X 14.9)				
Catalog #	A	A2	B2	B
14/16 TLU 201	2.377	1.377	1.377	2.377
14/16 TLU 202	2.377	1.377	1.877	2.877
14/16 TLU 203	2.377	1.377	2.377	3.377
14/16 TLU 204	2.877	1.877	1.377	2.377
14/16 TLU 205	2.877	1.877	1.877	2.877
14/16 TLU 206	2.877	1.877	2.377	3.377
14/16 TLU 207	2.877	1.877	2.877	3.877
14/16 TLU 208	3.377	2.377	1.377	2.377
14/16 TLU 209	3.377	2.377	1.877	2.877
14/16 TLU 210	3.377	2.377	2.377	3.377
14/16 TLU 211	3.377	2.377	2.877	3.877
14/16 TLU 212	3.877	2.877	1.877	2.877
14/16 TLU 213	3.877	2.877	2.377	3.377
14/16 TLU 214	3.877	2.877	2.877	3.877



T-Style Laminated Inserts are shipped with loose ear plates

"A" & "B" dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.

① Clamp Side

“H” SERIES

INTERCHANGEABLE MOLDING INSERTS

(FITS H-frame and DOUBLE-H FRAMES)

NOTE: Cross Tool does not manufacture “H” or “Double H” Mold Base Frames. We do provide the Interchangeable Molding Inserts compatible with these Mold Base Frames. The “H” Series of Interchangeable Molding Inserts offered in this catalog fit into the “H” or “Double H” Series Mold Base Frame indicated on that page.

“A” & “B” dimensions are supplied .004” to .007” oversize at parting line unless otherwise specified.

Standard Solid Insert **SSH**

Standard Solid Inserts are designed to fit into “H” Series Mold Base Frames. A SSH is made up of a two plate design, which consists of a solid “A” plate and a solid “B” plate.

Standard Laminated Insert **SLH**

Standard Laminated Inserts are designed to fit into “H” Series Mold Base Frames. A SLH is made up of a four plate design. The SLH Molding Insert is made up of both “A” and “B” ear plates that clamp into the H-Frame, and “A2” and “B2” plates that can be separated allowing for Core Pin and through pocket machining.

STEEL GRADES AVAILABLE:

- Standard materials for inserts are P-20 Prehard and 4140 Prehard. Other grades available: PX5, H-13 Annealed, 420 Stainless Annealed or Prehard, S-7 Annealed, and ALUMOLD®¹ (comparable to QC-7®²)
- Other materials are available upon request.

(NOTE: Shoulder Leader Pins & Bushings are retained with Snap Rings.)

¹ALUMOLD® is a registered trademark of Alcan/Pechiney.

²QC-7® is a registered trademark of ALCOA.

INDEX

“H” SERIES

INTERCHANGEABLE MOLDING INSERTS

	PAGE
08/09 HF Interchangeable Molding Insert (5.0x3.5)	44
10/12 HF Interchangeable Molding Insert (5.0x5.0)	45
10/18 HF Interchangeable Molding Insert (5.0x8.0)	45
11/14 HF Interchangeable Molding Insert (6.0x6.0)	46
11/18 HF Interchangeable Molding Insert (6.0x8.0)	46
12/11 HF Interchangeable Molding Insert (7.0x4.5)	47
12/13 HF Interchangeable Molding Insert (7.0x5.5)	47
12/15 HF Interchangeable Molding Insert (7.0x6.5)	48
12/19 HF Interchangeable Molding Insert (7.0x8.5)	48
13/13 HF Interchangeable Molding Insert (8.0x5.5)	49
13/15 HF Interchangeable Molding Insert (8.0x6.5)	49
13/17 HF Interchangeable Molding Insert (8.0x7.5)	50
13/19 HF Interchangeable Molding Insert (8.0x8.5)	50
13/23 HF Interchangeable Molding Insert (8.0x10.5)	51

INDEX

“H” SERIES

INTERCHANGEABLE MOLDING INSERTS

	PAGE
14/15 HF Interchangeable Molding Insert (9.0x6.5)	51
14/17 HF Interchangeable Molding Insert (9.0x7.5)	52
14/19 HF Interchangeable Molding Insert (9.0x8.5)	52
14/21 HF Interchangeable Molding Insert (9.0x9.5)	53
14/25 HF Interchangeable Molding Insert (9.0x11.5)	53
15/15 HF Interchangeable Molding Insert (10.0x6.5)	54
15/17 HF Interchangeable Molding Insert (10.0x7.5)	54
15/19 HF Interchangeable Molding Insert (10.0x8.5)	55
15/21 HF Interchangeable Molding Insert (10.0x9.5)	55
15/25 HF Interchangeable Molding Insert (10.0x11.5)	56
17/19 HF Interchangeable Molding Insert (11.0x8.5)	56
17/26 HF Interchangeable Molding Insert (11.0x12.0)	57
18/22 HF Interchangeable Molding Insert (12.0x10.0)	57
18/26 HF Interchangeable Molding Insert (12.0x12.0)	58
18/30 HF Interchangeable Molding Insert (12.0x14.0)	58

INDEX

“DOUBLE H” SERIES

INTERCHANGEABLE MOLDING INSERTS

	PAGE
16/09 DHF Interchangeable Molding Insert (5.0x3.5), same as 08/09 HF	44
16/12 DHF Interchangeable Molding Insert (5.0x5.0), same as 10/12 HF	45
16/18 DHF Interchangeable Molding Insert (5.0x8.0), same as 10/18 HF	45
20/14 DHF Interchangeable Molding Insert (6.0x6.0), same as 11/14 HF	46
22/19 DHF Interchangeable Molding Insert (7.0x8.5), same as 12/19 HF	48
24/23 DHF Interchangeable Molding Insert (8.0x10.5), same as 13/23 HF	51

“H” & “Double H” Series Interchangeable Molding Inserts

ORDERING INFORMATION

- “A” & “B” dimensions are supplied .004" to .007" oversize at parting line unless otherwise specified.
- Please specify Quantity & Catalog #
- Optional “A”, “A2”, “B2”, & “B” thickness' available.
- Standard materials for inserts are P-20 Prehard and 4140 Prehard. Other grades available: PX5, H-13 Annealed, 420 Stainless Annealed or Prehard, S-7 Annealed, and ALUMOLD®¹ (comparable to QC-7®²)
- **Other materials are available upon request.**

¹ALUMOLD® is a registered trademark of Alcan/Pechiney.

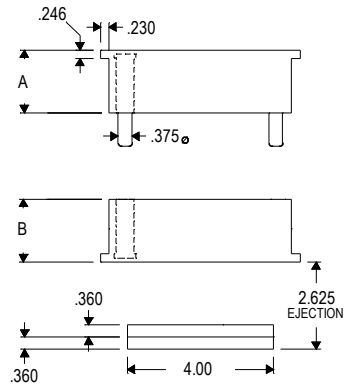
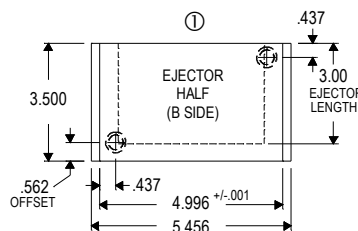
²QC-7® is a registered trademark of ALCOA.

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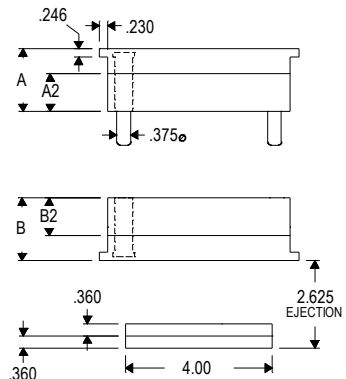
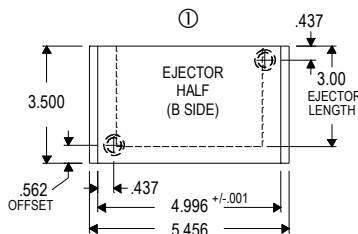
5.0 X 3.5 INSERTS

FITS 08/09 H-FRAME and 16/09 DOUBLE H-FRAME

Standard Solid Insert (5.0 X 3.5)			
Catalog #	A	B	
08/09 SSH 221	1.877	1.377	
08/09 SSH 222	1.877	1.877	
08/09 SSH 223	2.377	1.877	



Standard Laminated Insert (5.0 X 3.5)				
Catalog #	A	A2	B2	B
08/09 SLH 281	1.877	0.877	0.877	1.377
08/09 SLH 282	1.877	0.877	0.877	1.877
08/09 SLH 283	2.377	1.377	0.877	1.877



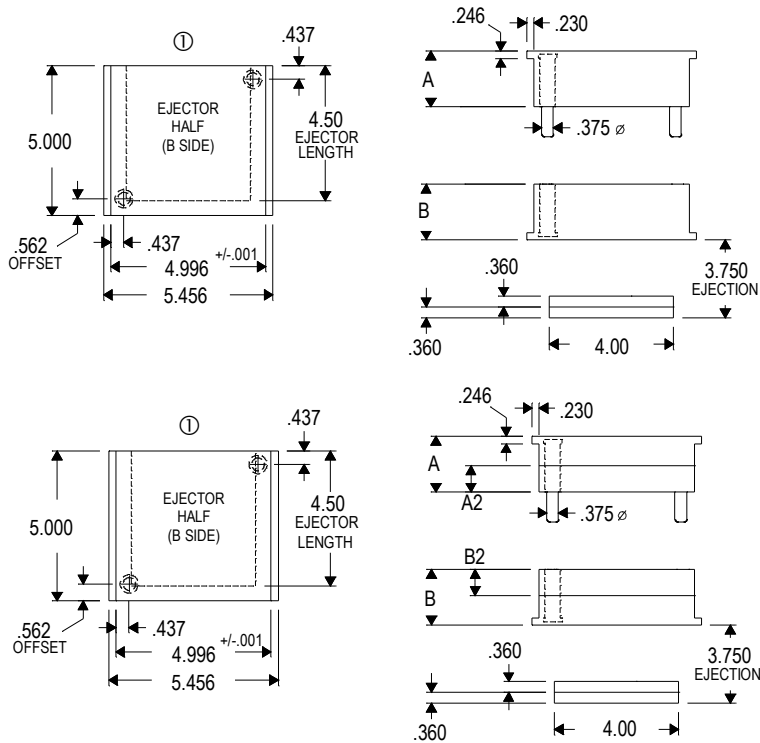
① Clamp Side

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5.0 X 5.0 INSERTS

FITS 10/12 H-FRAME and 16/12 DOUBLE H-FRAME

① Clamp Side

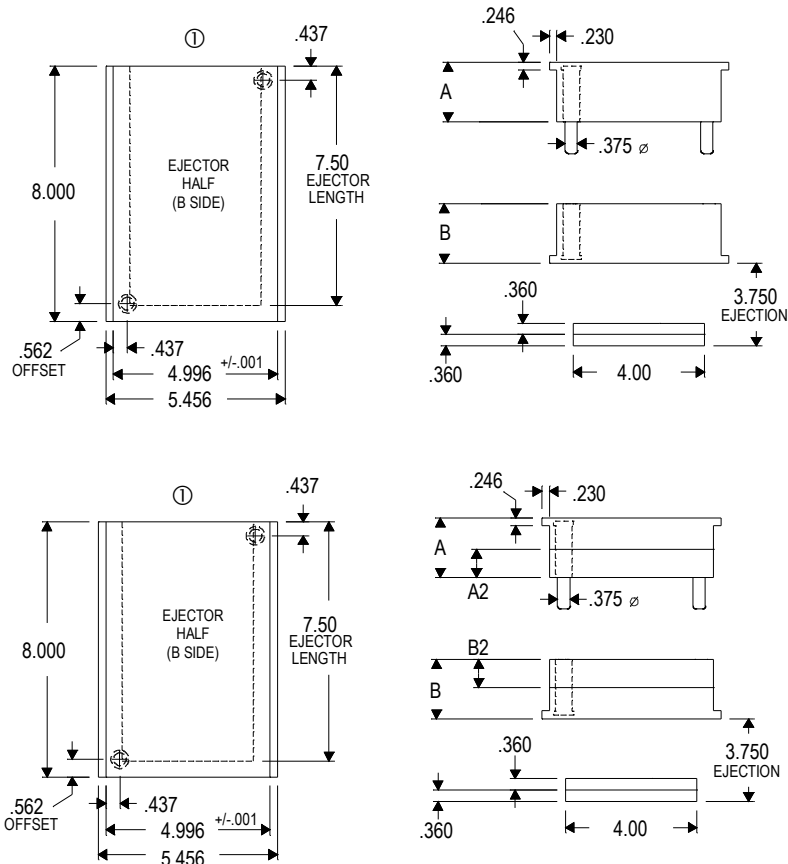


Standard Solid Insert (5.0 X 5.0)		
Catalog #	A	B
10/12 SSH 221	1.877	1.377
10/12 SSH 222	1.877	1.877
10/12 SSH 223	1.877	2.377
10/12 SSH 224	2.377	1.877
10/12 SSH 225	2.377	2.377

Standard Laminated Insert (5.0 X 5.0)				
Catalog #	A	A2	B2	B
10/12 SLH 281	1.877	0.877	0.877	1.377
10/12 SLH 282	1.877	0.877	0.877	1.877
10/12 SLH 283	1.877	0.877	1.377	2.377
10/12 SLH 284	2.377	1.377	0.877	1.877
10/12 SLH 285	2.377	1.377	1.377	2.377

5.0 X 8.0 INSERTS

FITS 10/18 H-FRAME and 16/18 DOUBLE H-FRAME



Standard Solid Insert (5.0 X 8.0)		
Catalog #	A	B
10/18 SSH 221	1.877	1.377
10/18 SSH 222	1.877	1.877
10/18 SSH 223	1.877	2.377
10/18 SSH 224	2.377	1.877
10/18 SSH 225	2.377	2.377
10/18 SSH 226	2.377	2.877
10/18 SSH 227	2.877	2.377
10/18 SSH 228	2.877	2.877

Standard Laminated Insert (5.0 X 8.0)				
Catalog #	A	A2	B2	B
10/18 SLH 281	1.877	0.877	0.877	1.377
10/18 SLH 282	1.877	0.877	0.877	1.877
10/18 SLH 283	1.877	0.877	1.377	2.377
10/18 SLH 284	2.377	1.377	0.877	1.877
10/18 SLH 285	2.377	1.377	1.377	2.377
10/18 SLH 286	2.377	1.377	1.877	2.877
10/18 SLH 287	2.877	1.877	1.377	2.377
10/18 SLH 288	2.877	1.877	1.877	2.877

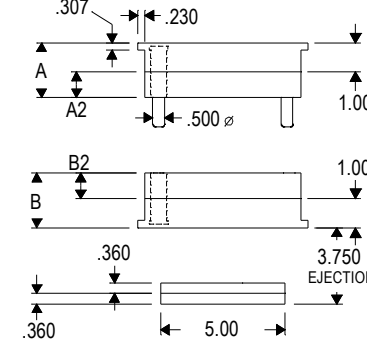
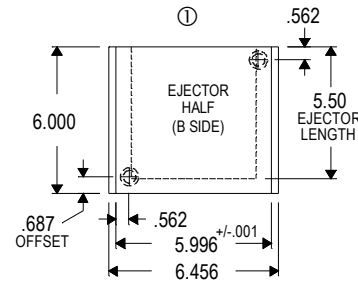
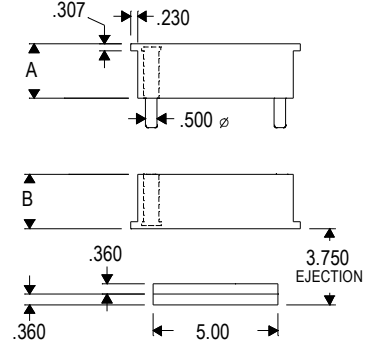
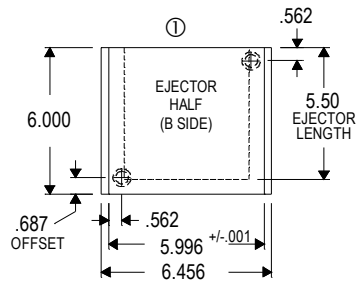
6.0 X 6.0 INSERTS

FITS 11/14 H-FRAME and 20/14 DOUBLE H-FRAME

① Clamp Side

Standard Solid Insert (6.0 X 6.0)		
Catalog #	A	B
11/14 SSH 221	1.877	1.377
11/14 SSH 222	1.877	1.877
11/14 SSH 223	2.377	1.877
11/14 SSH 224	2.377	2.377
11/14 SSH 225	2.877	2.377
11/14 SSH 226	2.877	2.877

Standard Laminated Insert (6.0 X 6.0)				
Catalog #	A	A2	B2	B
11/14 SLH 282	1.877	0.877	0.877	1.877
11/14 SLH 283	2.377	1.377	0.877	1.877
11/14 SLH 284	2.377	1.377	1.377	2.377
11/14 SLH 285	2.877	1.877	1.377	2.377
11/14 SLH 286	2.877	1.877	1.877	2.877

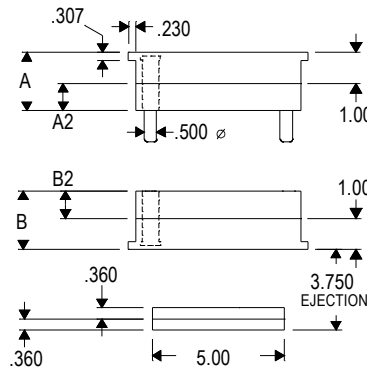
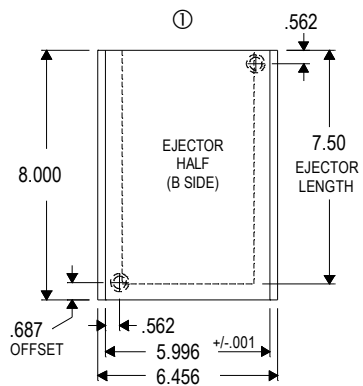
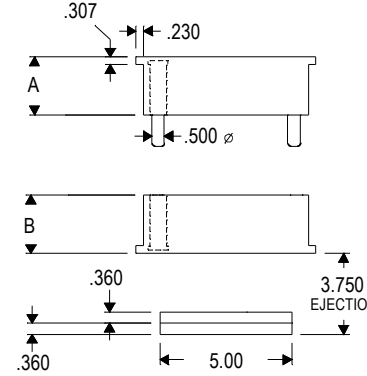
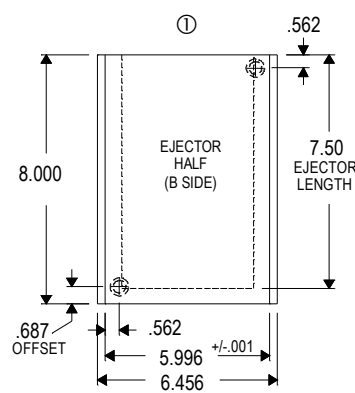


6.0 X 8.0 INSERTS

FITS 11/18 H-FRAME

Standard Solid Insert (6.0 X 8.0)		
Catalog #	A	B
11/18 SSH 221	1.877	1.877
11/18 SSH 222	2.377	1.877
11/18 SSH 223	2.377	2.377
11/18 SSH 224	2.877	2.377
11/18 SSH 225	2.877	2.877

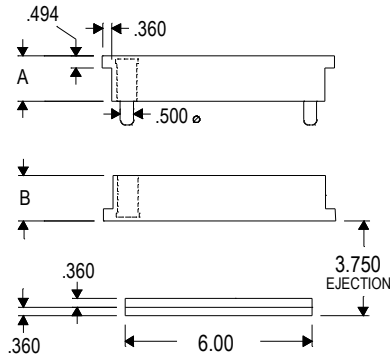
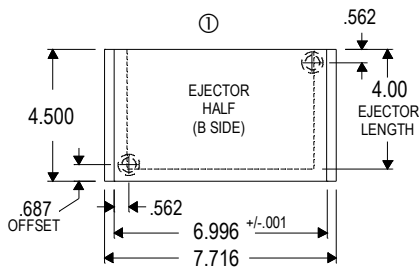
Standard Laminated Insert (6.0 X 8.0)				
Catalog #	A	A2	B2	B
11/18 SLH 281	1.877	0.877	0.877	1.877
11/18 SLH 282	2.377	1.377	0.877	1.877
11/18 SLH 283	2.377	1.377	1.377	2.377
11/18 SLH 284	2.877	1.877	1.377	2.377
11/18 SLH 285	2.877	1.877	1.877	2.877



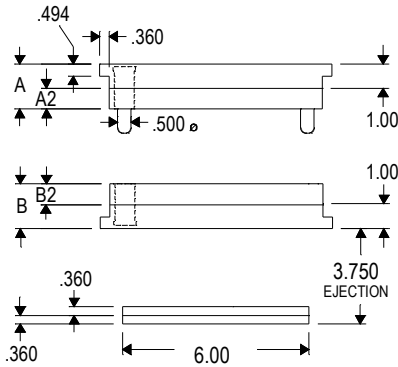
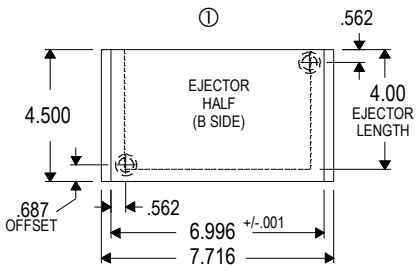
7.0 X 4.5 INSERTS

FITS 12/11 H-FRAME

① Clamp Side



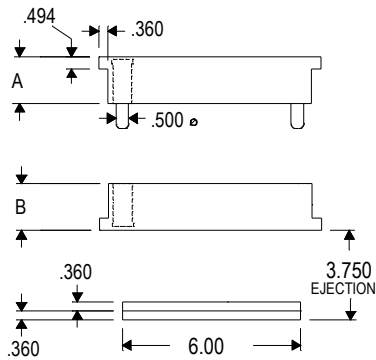
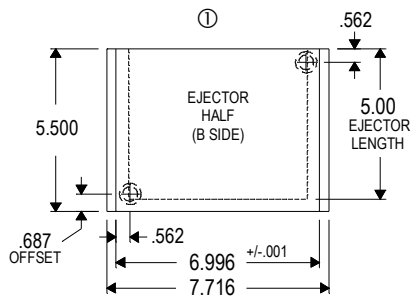
Standard Solid Insert (7.0 X 4.5)		
Catalog #	A	B
12/11 SSH 221	1.877	1.877
12/11 SSH 222	1.877	2.377
12/11 SSH 223	2.377	1.877
12/11 SSH 224	2.377	2.377



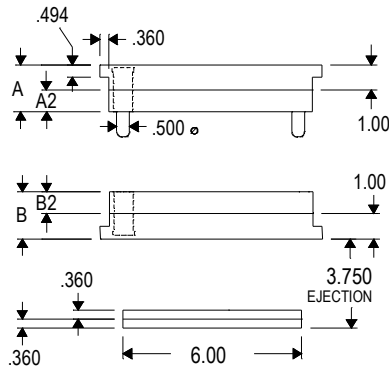
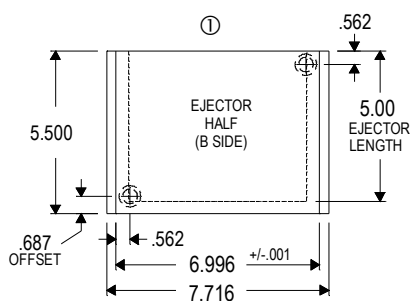
Standard Laminated Insert (7.0 X 4.5)				
Catalog #	A	A2	B2	B
12/11 SLH 281	1.877	0.877	0.877	1.877
12/11 SLH 282	1.877	0.877	1.377	2.377
12/11 SLH 283	2.377	1.377	0.877	1.877
12/11 SLH 284	2.377	1.377	1.377	2.377

7.0 X 5.5 INSERTS

FITS 12/13 H-FRAME



Standard Solid Insert (7.0 X 5.5)		
Catalog #	A	B
12/13 SSH 221	1.877	1.877
12/13 SSH 222	1.877	2.377
12/13 SSH 223	2.377	1.877
12/13 SSH 224	2.377	2.377



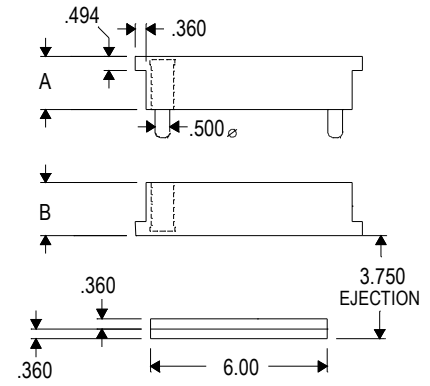
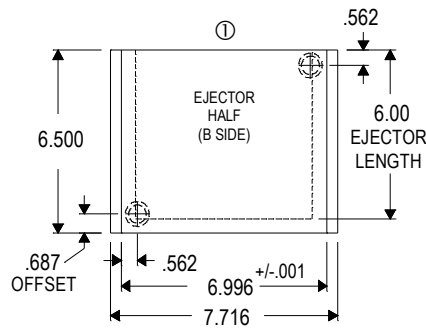
Standard Laminated Insert (7.0 X 5.5)				
Catalog #	A	A2	B2	B
12/13 SLH 281	1.877	0.877	0.877	1.877
12/13 SLH 282	1.877	0.877	1.377	2.377
12/13 SLH 283	2.377	1.377	0.877	1.877
12/13 SLH 284	2.377	1.377	1.377	2.377

7.0 X 6.5 INSERTS

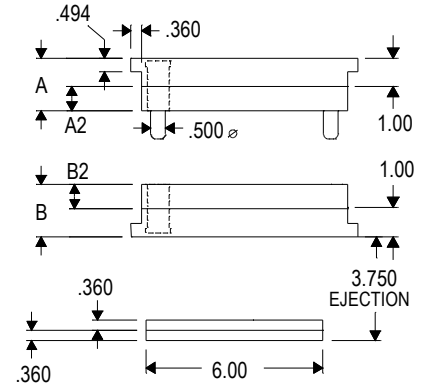
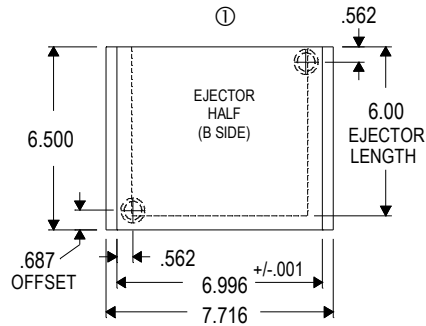
FITS 12/15 H-FRAME

① Clamp Side

Standard Solid Insert (7.0 X 6.5)		
Catalog #	A	B
12/15 SSH 221	1.877	1.877
12/15 SSH 222	1.877	2.377
12/15 SSH 223	2.377	1.877
12/15 SSH 224	2.377	2.377



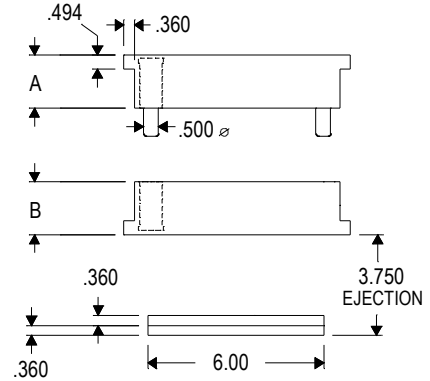
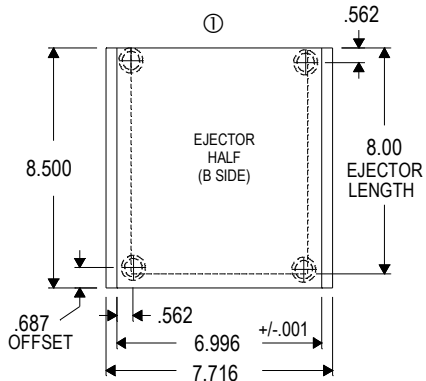
Standard Laminated Insert (7.0 X 6.5)				
Catalog #	A	A2	B2	B
12/15 SLH 281	1.877	0.877	0.877	1.877
12/15 SLH 282	1.877	0.877	1.377	2.377
12/15 SLH 283	2.377	1.377	0.877	1.877
12/15 SLH 284	2.377	1.377	1.377	2.377



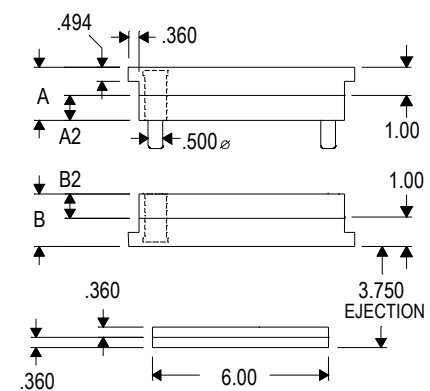
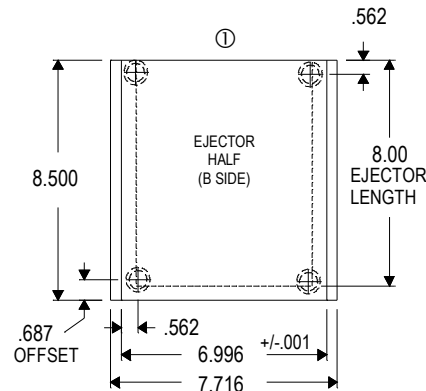
7.0 X 8.5 INSERTS

FITS 12/19 H-FRAME and 22/19 DOUBLE H-FRAME

Standard Solid Insert (7.0 X 8.5)		
Catalog #	A	B
12/19 SSH 221	1.877	1.877
12/19 SSH 222	1.877	2.377
12/19 SSH 223	2.377	1.877
12/19 SSH 224	2.377	2.377



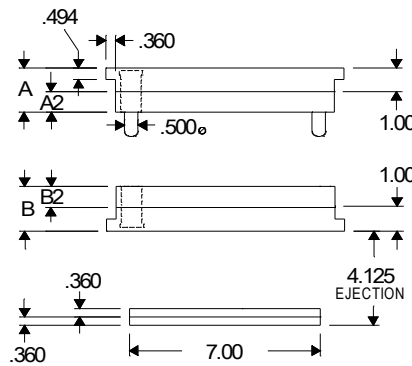
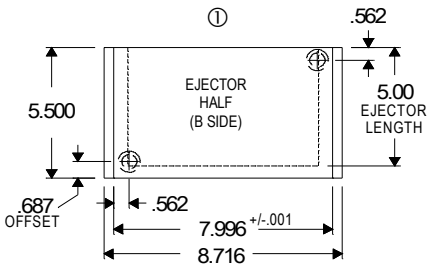
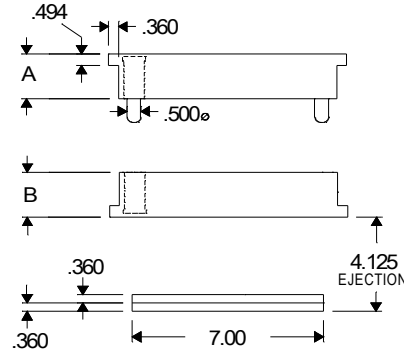
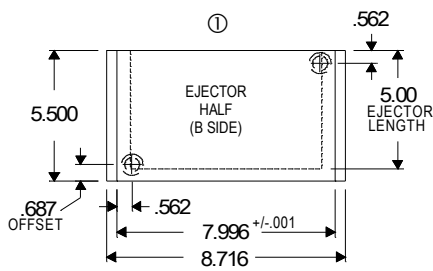
Standard Laminated Insert (7.0 X 8.5)				
Catalog #	A	A2	B2	B
12/19 SLH 281	1.877	0.877	0.877	1.877
12/19 SLH 282	1.877	0.877	1.377	2.377
12/19 SLH 283	2.377	1.377	0.877	1.877
12/19 SLH 284	2.377	1.377	1.377	2.377



8.0 X 5.5 INSERTS

FITS 13/13 H-FRAME

① Clamp Side



Standard Solid Insert (8.0 X 5.5)

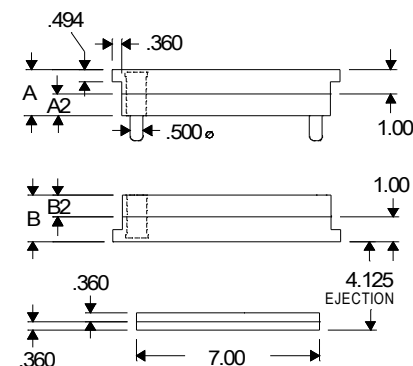
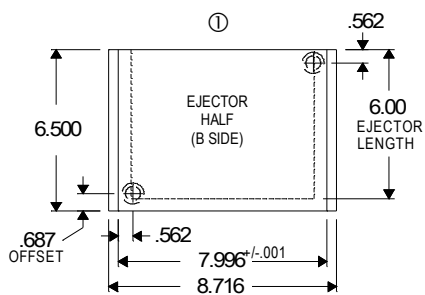
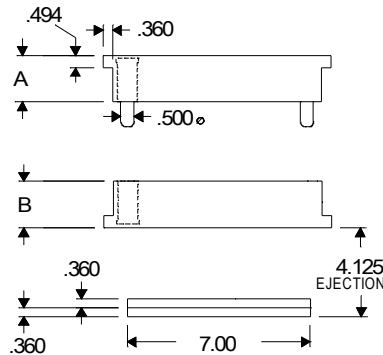
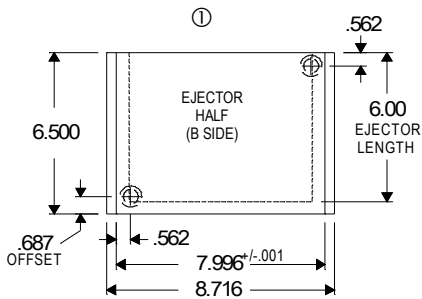
Catalog #	A	B
13/13 SSH 221	1.877	1.877
13/13 SSH 222	1.877	2.377
13/13 SSH 223	2.377	1.877
13/13 SSH 224	2.377	2.377
13/13 SSH 225	2.377	2.877
13/13 SSH 226	2.877	2.377
13/13 SSH 227	2.877	2.877

Standard Laminated Insert (8.0 X 5.5)

Catalog #	A	A2	B2	B
13/13 SLH 281	1.877	0.877	0.877	1.877
13/13 SLH 282	1.877	0.877	1.377	2.377
13/13 SLH 283	2.377	1.377	0.877	1.877
13/13 SLH 284	2.377	1.377	1.377	2.377
13/13 SLH 285	2.377	1.377	1.877	2.877
13/13 SLH 286	2.877	1.877	1.377	2.377
13/13 SLH 287	2.877	1.877	1.877	2.877

8.0 X 6.5 INSERTS

FITS 13/15 H-FRAME



Standard Solid Insert (8.0 X 6.5)

Catalog #	A	B
13/15 SSH 221	1.877	1.877
13/15 SSH 222	1.877	2.377
13/15 SSH 223	2.377	1.877
13/15 SSH 224	2.377	2.377
13/15 SSH 225	2.377	2.877
13/15 SSH 226	2.877	2.377
13/15 SSH 227	2.877	2.877

Standard Laminated Insert (8.0 X 6.5)

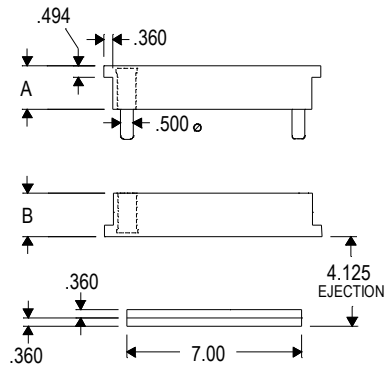
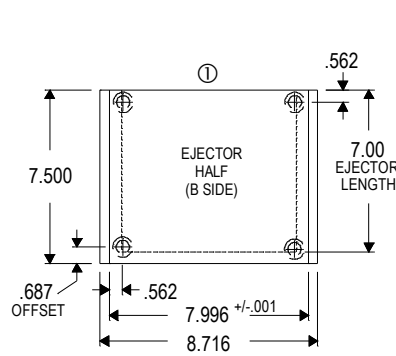
Catalog #	A	A2	B2	B
13/15 SLH 281	1.877	0.877	0.877	1.877
13/15 SLH 282	1.877	0.877	1.377	2.377
13/15 SLH 283	2.377	1.377	0.877	1.877
13/15 SLH 284	2.377	1.377	1.377	2.377
13/15 SLH 285	2.377	1.377	1.877	2.877
13/15 SLH 286	2.877	1.877	1.377	2.377
13/15 SLH 287	2.877	1.877	1.877	2.877

8.0 X 7.5 INSERTS

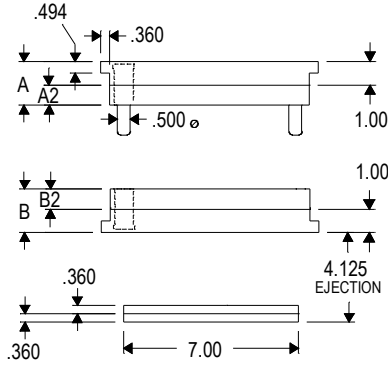
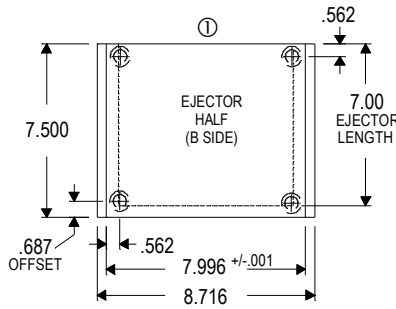
FITS 13/17 H-FRAME

① Clamp Side

Standard Solid Insert (8.0 X 7.5)		
Catalog #	A	B
13/17 SSH 221	1.877	1.877
13/17 SSH 222	1.877	2.377
13/17 SSH 223	2.377	1.877
13/17 SSH 224	2.377	2.377
13/17 SSH 225	2.377	2.877
13/17 SSH 226	2.877	2.377
13/17 SSH 227	2.877	2.877



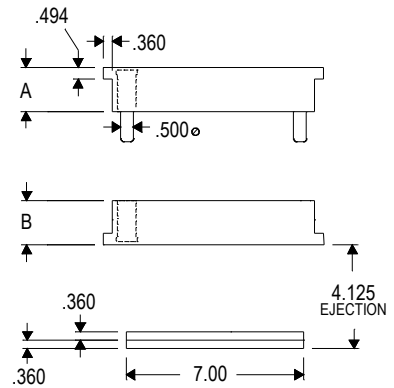
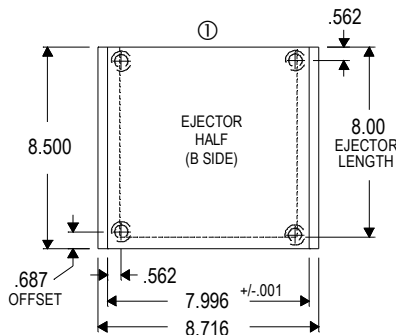
Standard Laminated Insert (8.0 X 7.5)				
Catalog #	A	A2	B2	B
13/17 SLH 281	1.877	0.877	0.877	1.877
13/17 SLH 282	1.877	0.877	1.377	2.377
13/17 SLH 283	2.377	1.377	0.877	1.877
13/17 SLH 284	2.377	1.377	1.377	2.377
13/17 SLH 285	2.377	1.377	1.877	2.877
13/17 SLH 286	2.877	1.877	1.377	2.377
13/17 SLH 287	2.877	1.877	1.877	2.877



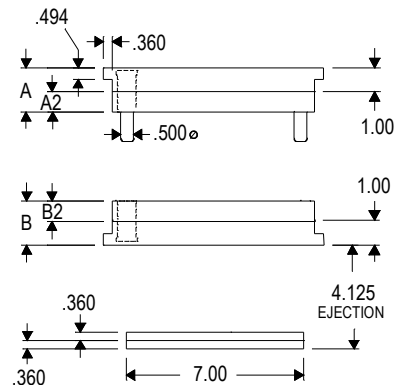
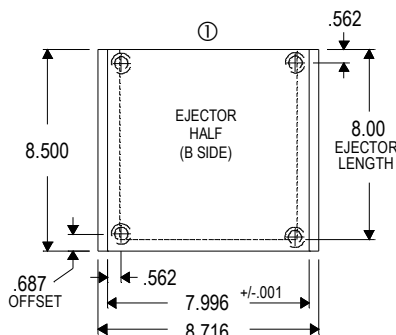
8.0 X 8.5 INSERTS

FITS 13/19 H-FRAME

Standard Solid Insert (8.0 X 8.5)		
Catalog #	A	B
13/19 SSH 221	1.877	1.877
13/19 SSH 222	1.877	2.377
13/19 SSH 223	2.377	1.877
13/19 SSH 224	2.377	2.377
13/19 SSH 225	2.377	2.877
13/19 SSH 226	2.877	2.377
13/19 SSH 227	2.877	2.877



Standard Laminated Insert (8.0 X 8.5)				
Catalog #	A	A2	B2	B
13/19 SLH 281	1.877	0.877	0.877	1.877
13/19 SLH 282	1.877	0.877	1.377	2.377
13/19 SLH 283	2.377	1.377	0.877	1.877
13/19 SLH 284	2.377	1.377	1.377	2.377
13/19 SLH 285	2.377	1.377	1.877	2.877
13/19 SLH 286	2.877	1.877	1.377	2.377
13/19 SLH 287	2.877	1.877	1.877	2.877

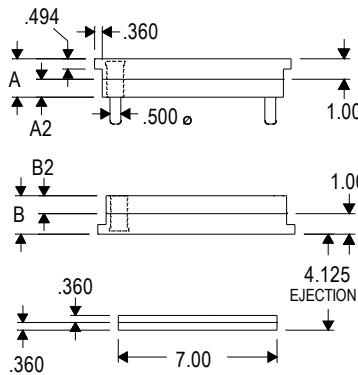
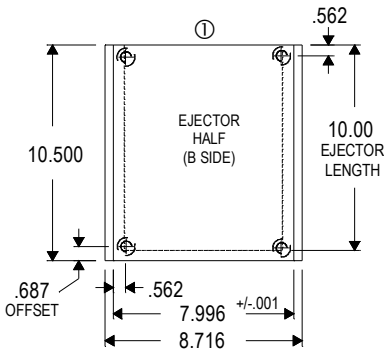
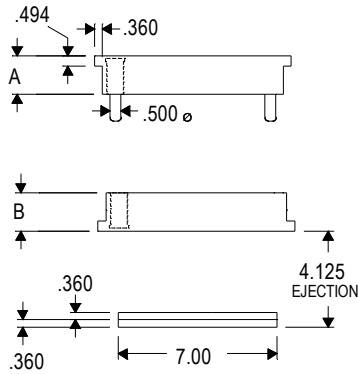
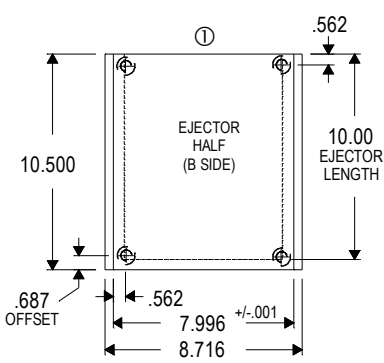


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8.0 X 10.5 INSERTS

FITS 13/23 H-FRAME and 24/23 DOUBLE H-FRAME

① Clamp Side

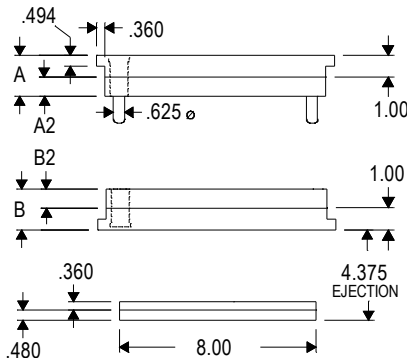
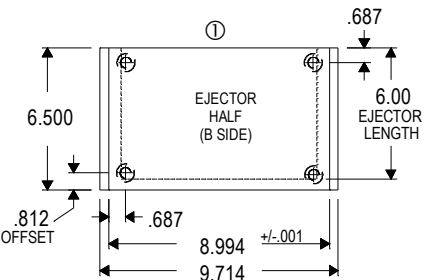
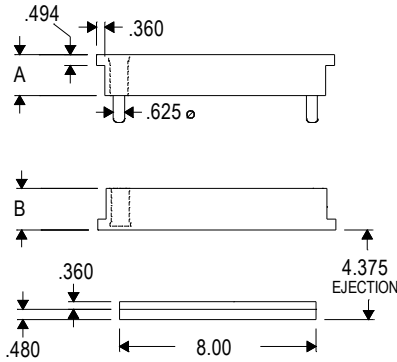
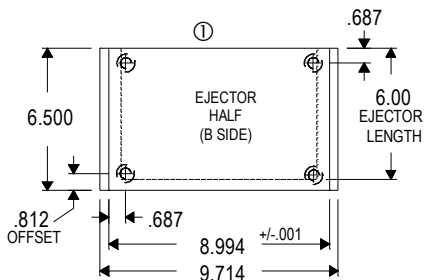


Standard Solid Insert (8.0 X 10.5)		
Catalog #	A	B
13/23 SSH 221	1.877	1.877
13/23 SSH 222	1.877	2.377
13/23 SSH 223	2.377	1.877
13/23 SSH 224	2.377	2.377
13/23 SSH 225	2.377	2.877
13/23 SSH 226	2.877	2.377
13/23 SSH 227	2.877	2.877

Standard Laminated Insert (8.0 X 10.5)				
Catalog #	A	A2	B2	B
13/23 SLH 281	1.877	0.877	0.877	1.877
13/23 SLH 282	1.877	0.877	1.377	2.377
13/23 SLH 283	2.377	1.377	0.877	1.877
13/23 SLH 284	2.377	1.377	1.377	2.377
13/23 SLH 285	2.377	1.377	1.877	2.877
13/23 SLH 286	2.877	1.877	1.377	2.377
13/23 SLH 287	2.877	1.877	1.877	2.877

9.0 X 6.5 INSERTS

FITS 14/15 H-FRAME



Standard Solid Insert (9.0 X 6.5)		
Catalog #	A	B
14/15 SSH 221	1.877	2.377
14/15 SSH 222	2.377	1.877
14/15 SSH 223	2.377	2.377
14/15 SSH 224	2.377	2.877
14/15 SSH 225	2.877	2.377
14/15 SSH 226	2.877	2.877
14/15 SSH 227	2.877	3.377
14/15 SSH 228	3.377	2.877
14/15 SSH 229	3.377	3.377

Standard Laminated Insert (9.0 X 6.5)				
Catalog #	A	A2	B2	B
14/15 SLH 281	1.877	0.877	1.377	2.377
14/15 SLH 282	2.377	1.377	0.877	1.877
14/15 SLH 283	2.377	1.377	1.377	2.377
14/15 SLH 284	2.377	1.377	1.877	2.877
14/15 SLH 285	2.877	1.877	1.377	2.377
14/15 SLH 286	2.877	1.877	1.877	2.877
14/15 SLH 287	2.877	1.877	2.377	3.377
14/15 SLH 288	3.377	2.377	1.877	2.877
14/15 SLH 289	3.377	2.377	2.377	3.377

Standard Solid Insert (9.0 X 7.5)		
Catalog #	A	B
14/17 SSH 221	1.877	2.377
14/17 SSH 222	2.377	1.877
14/17 SSH 223	2.377	2.377
14/17 SSH 224	2.377	2.877
14/17 SSH 225	2.877	2.377
14/17 SSH 226	2.877	2.877
14/17 SSH 227	2.877	3.377
14/17 SSH 228	3.377	2.877
14/17 SSH 229	3.377	3.377

Standard Laminated Insert (9.0 X 7.5)				
Catalog #	A	A2	B2	B
14/17 SLH 281	1.877	0.877	1.377	2.377
14/17 SLH 282	2.377	1.377	0.877	1.877
14/17 SLH 283	2.377	1.377	1.377	2.377
14/17 SLH 284	2.377	1.377	1.877	2.877
14/17 SLH 285	2.877	1.877	1.377	2.377
14/17 SLH 286	2.877	1.877	1.877	2.877
14/17 SLH 287	2.877	1.877	2.377	3.377
14/17 SLH 288	3.377	2.377	1.877	2.877
14/17 SLH 289	3.377	2.377	2.377	3.377

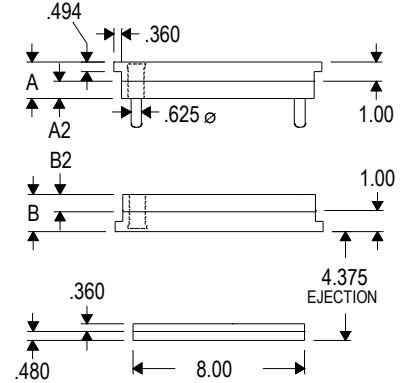
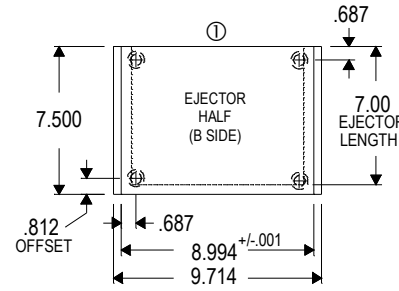
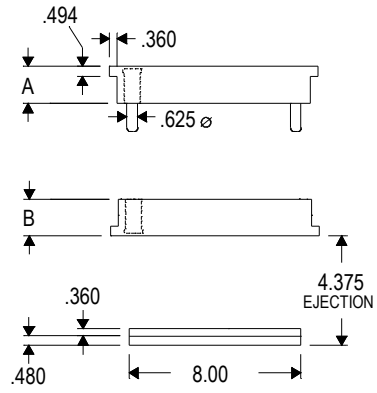
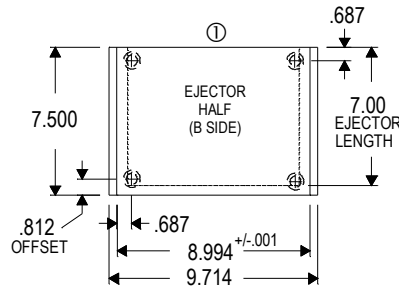
Standard Solid Insert (9.0 X 8.5)		
Catalog #	A	B
14/19 SSH 221	1.877	2.377
14/19 SSH 222	2.377	1.877
14/19 SSH 223	2.377	2.377
14/19 SSH 224	2.377	2.877
14/19 SSH 225	2.877	2.377
14/19 SSH 226	2.877	2.877
14/19 SSH 227	2.877	3.377
14/19 SSH 228	3.377	2.877
14/19 SSH 229	3.377	3.377

Standard Laminated Insert (9.0 X 8.5)				
Catalog #	A	A2	B2	B
14/19 SLH 281	1.877	0.877	1.377	2.377
14/19 SLH 282	2.377	1.377	0.877	1.877
14/19 SLH 283	2.377	1.377	1.377	2.377
14/19 SLH 284	2.377	1.377	1.877	2.877
14/19 SLH 285	2.877	1.877	1.377	2.377
14/19 SLH 286	2.877	1.877	1.877	2.877
14/19 SLH 287	2.877	1.877	2.377	3.377
14/19 SLH 288	3.377	2.377	1.877	2.877
14/19 SLH 289	3.377	2.377	2.377	3.377

9.0 X 7.5 INSERTS

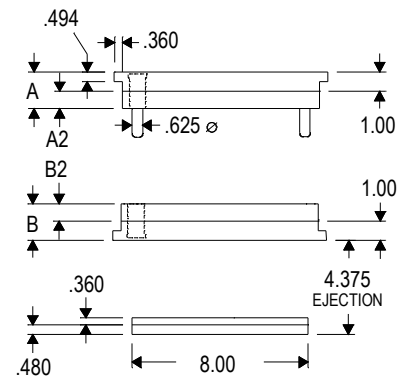
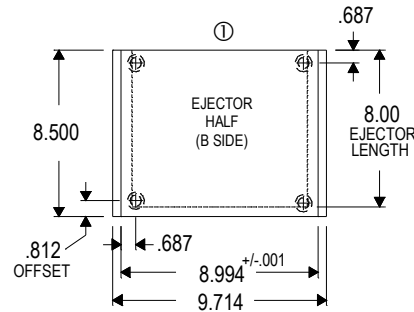
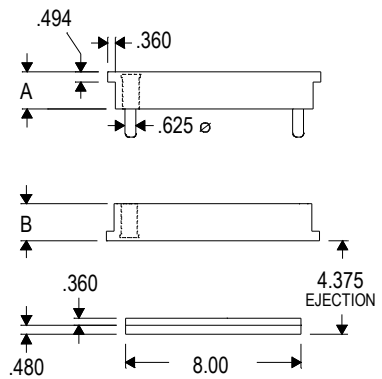
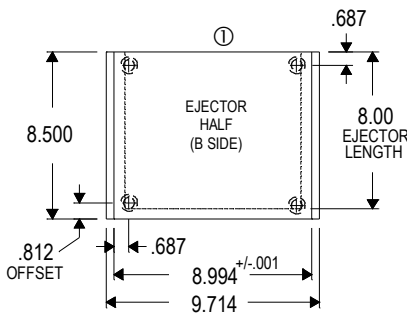
FITS 14/17 H-FRAME

① Clamp Side



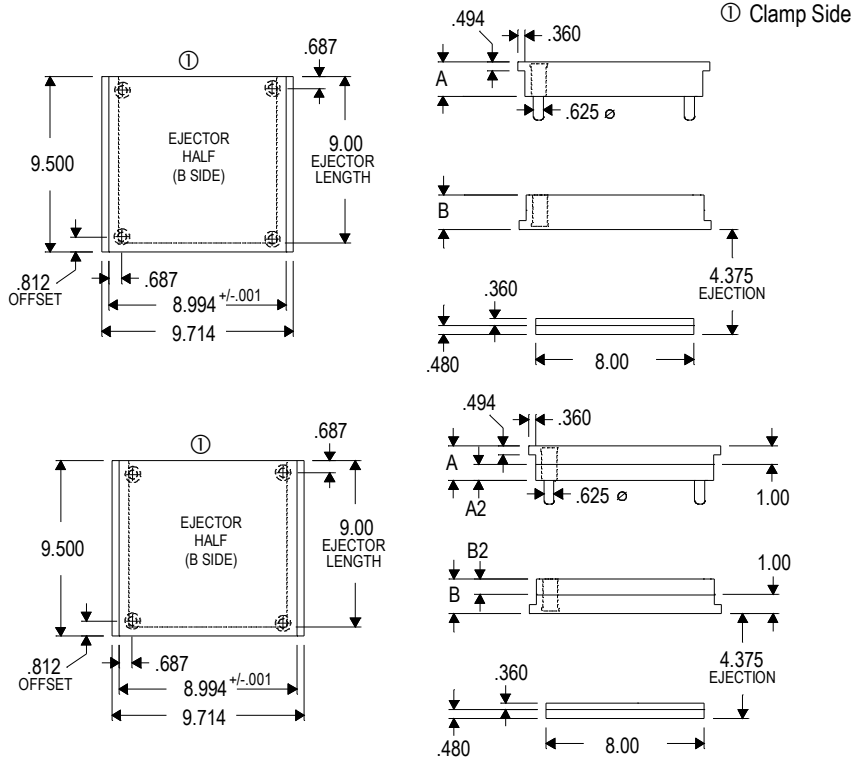
9.0 X 8.5 INSERTS

FITS 14/19 H-FRAME



9.0 X 9.5 INSERTS

FITS 14/21 H-FRAME

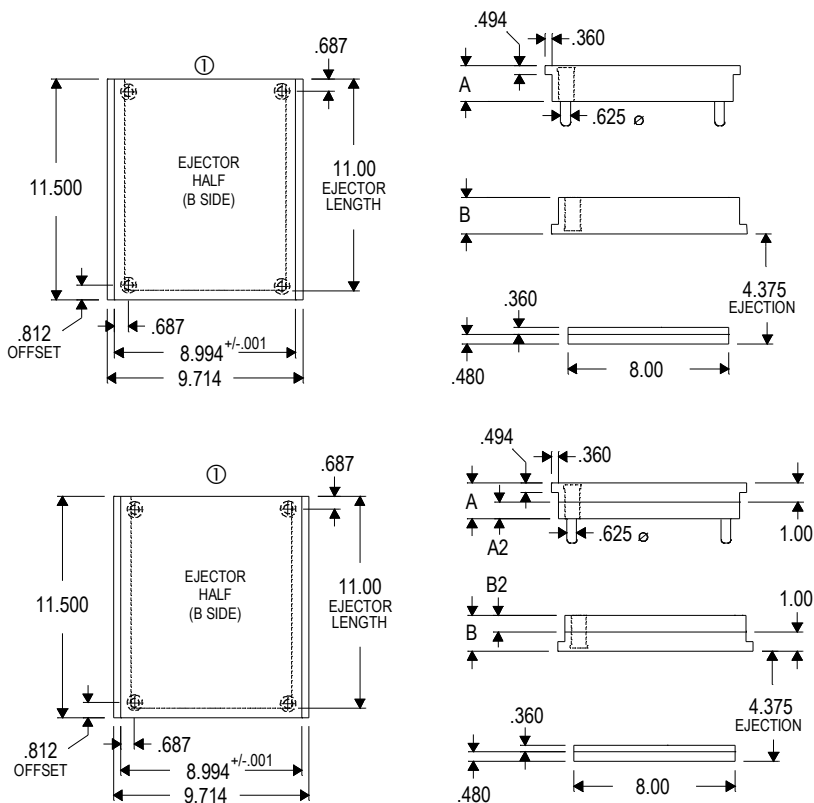


Standard Solid Insert (9.0 X 9.5)		
Catalog #	A	B
14/21 SSH 221	1.877	2.377
14/21 SSH 222	2.377	1.877
14/21 SSH 223	2.377	2.377
14/21 SSH 224	2.377	2.877
14/21 SSH 225	2.877	2.377
14/21 SSH 226	2.877	2.877
14/21 SSH 227	2.877	3.377
14/21 SSH 228	3.377	2.877
14/21 SSH 229	3.377	3.377

Standard Laminated Insert (9.0 X 9.5)				
Catalog #	A	A2	B2	B
14/21 SLH 281	1.877	0.877	1.377	2.377
14/21 SLH 282	2.377	1.377	0.877	1.877
14/21 SLH 283	2.377	1.377	1.377	2.377
14/21 SLH 284	2.377	1.377	1.877	2.877
14/21 SLH 285	2.877	1.877	1.377	2.377
14/21 SLH 286	2.877	1.877	1.877	2.877
14/21 SLH 287	2.877	1.877	2.377	3.377
14/21 SLH 288	3.377	2.377	1.877	2.877
14/21 SLH 289	3.377	2.377	2.377	3.377

9.0 X 11.5 INSERTS

FITS 14/25 H-FRAME



Standard Solid Insert (9.0 X 11.5)		
Catalog #	A	B
14/25 SSH 221	1.877	2.377
14/25 SSH 222	2.377	1.877
14/25 SSH 223	2.377	2.377
14/25 SSH 224	2.377	2.877
14/25 SSH 225	2.877	2.377
14/25 SSH 226	2.877	2.877
14/25 SSH 227	2.877	3.377
14/25 SSH 228	3.377	2.877
14/25 SSH 229	3.377	3.377

Standard Laminated Insert (9.0 X 11.5)				
Catalog #	A	A2	B2	B
14/25 SLH 281	1.877	0.877	1.377	2.377
14/25 SLH 282	2.377	1.377	0.877	1.877
14/25 SLH 283	2.377	1.377	1.377	2.377
14/25 SLH 284	2.377	1.377	1.877	2.877
14/25 SLH 285	2.877	1.877	1.377	2.377
14/25 SLH 286	2.877	1.877	1.877	2.877
14/25 SLH 287	2.877	1.877	2.377	3.377
14/25 SLH 288	3.377	2.377	1.877	2.877
14/25 SLH 289	3.377	2.377	2.377	3.377

Standard Solid Insert (10.0 X 6.5)			
Catalog #	A	B	
15/15 SSH 221	1.877	2.377	
15/15 SSH 222	2.377	1.877	
15/15 SSH 223	2.377	2.377	
15/15 SSH 224	2.377	2.877	
15/15 SSH 225	2.877	2.377	
15/15 SSH 226	2.877	2.877	
15/15 SSH 227	2.877	3.377	
15/15 SSH 228	2.877	3.877	
15/15 SSH 229	3.877	3.377	
15/15 SSH 230	3.877	3.877	

Standard Laminated Insert (10.0 X 6.5)				
Catalog #	A	A2	B2	B
15/15 SLH 281	1.877	0.877	1.377	2.377
15/15 SLH 282	2.377	1.377	0.877	1.877
15/15 SLH 283	2.377	1.377	1.377	2.377
15/15 SLH 284	2.377	1.377	1.877	2.877
15/15 SLH 285	2.877	1.877	1.377	2.377
15/15 SLH 286	2.877	1.877	1.877	2.877
15/15 SLH 287	2.877	1.877	2.377	3.377
15/15 SLH 288	2.877	1.877	2.877	3.877
15/15 SLH 289	3.877	2.877	2.377	3.377
15/15 SLH 290	3.877	2.877	2.877	3.877

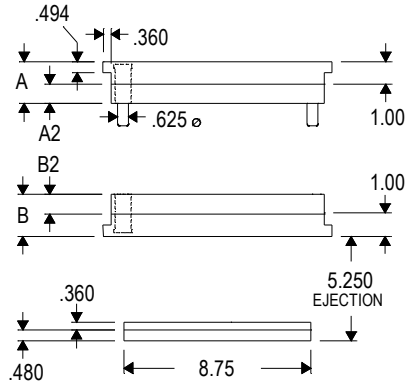
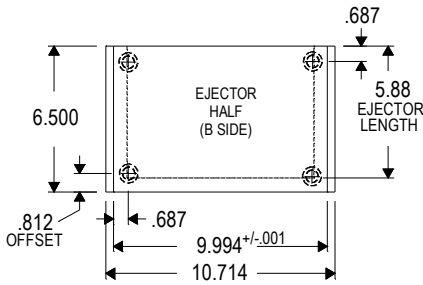
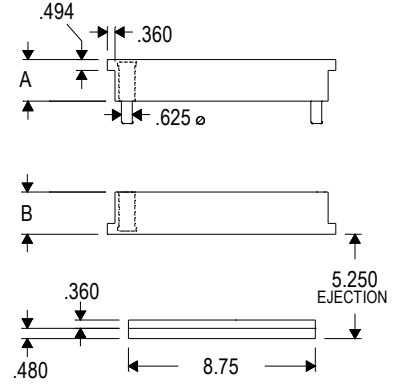
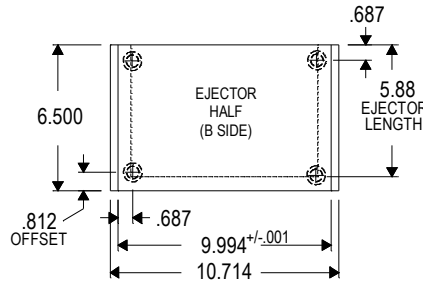
Standard Solid Insert (10.0 X 7.5)		
Catalog #	A	B
15/17 SSH 221	1.877	2.377
15/17 SSH 222	2.377	1.877
15/17 SSH 223	2.377	2.377
15/17 SSH 224	2.377	2.877
15/17 SSH 225	2.877	2.377
15/17 SSH 226	2.877	2.877
15/17 SSH 227	2.877	3.377
15/17 SSH 228	2.877	3.877
15/17 SSH 229	3.877	3.377
15/17 SSH 230	3.877	3.877

Standard Laminated Insert (10.0 X 7.5)				
Catalog #	A	A2	B2	B
15/17 SLH 281	1.877	0.877	1.377	2.377
15/17 SLH 282	2.377	1.377	0.877	1.877
15/17 SLH 283	2.377	1.377	1.377	2.377
15/17 SLH 284	2.377	1.377	1.877	2.877
15/17 SLH 285	2.877	1.877	1.377	2.377
15/17 SLH 286	2.877	1.877	1.877	2.877
15/17 SLH 287	2.877	1.877	2.377	3.377
15/17 SLH 288	2.877	1.877	2.877	3.877
15/17 SLH 289	3.877	2.877	2.377	3.377
15/17 SLH 290	3.877	2.877	2.877	3.877

10.0 X 6.5 INSERTS

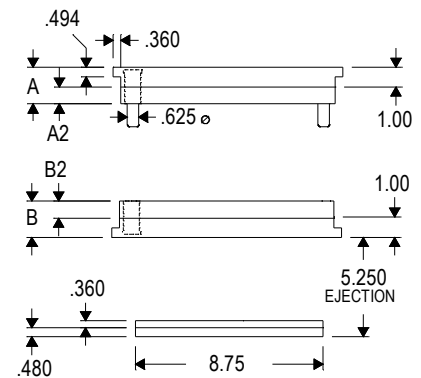
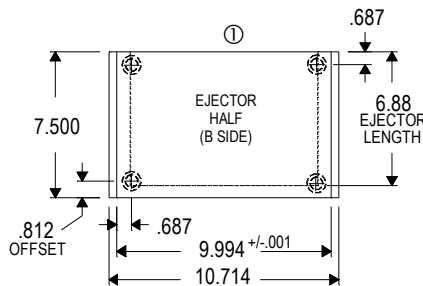
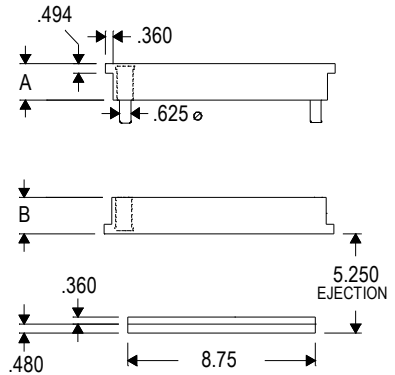
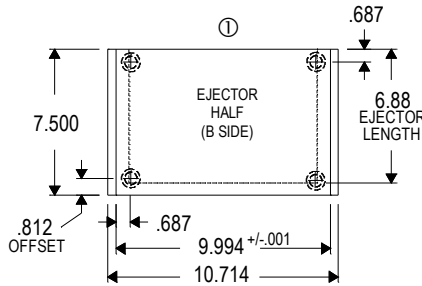
FITS 15/15 H-FRAME

① Clamp Side



10.0 X 7.5 INSERTS

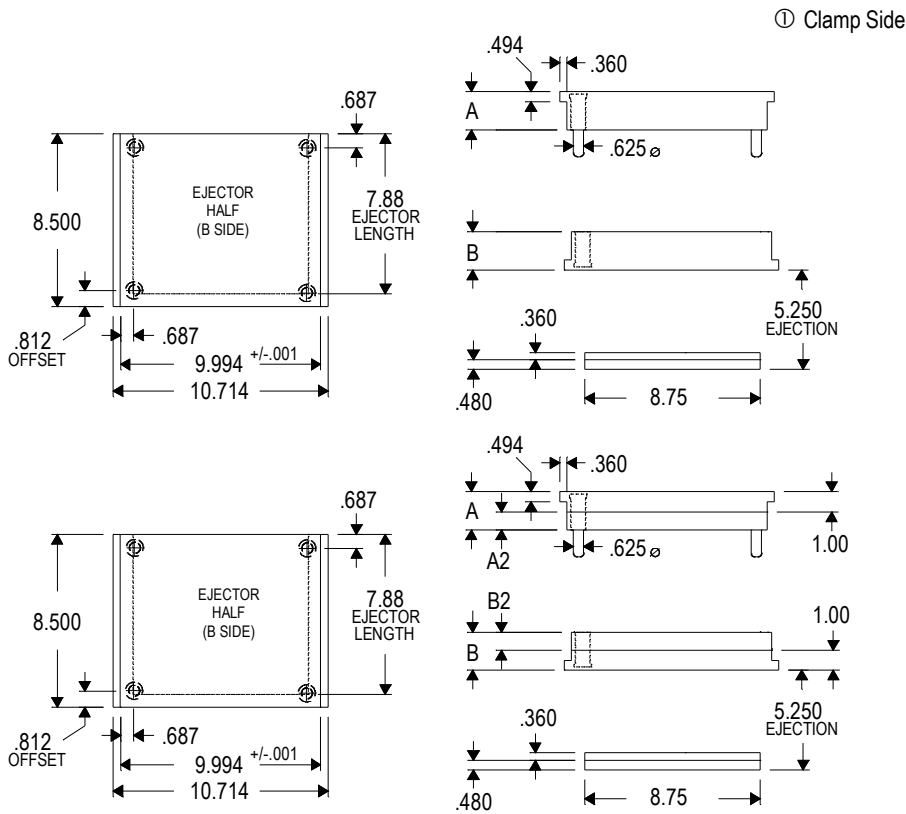
FITS 15/17 H-FRAME



Cross Tool & Manufacturing, Inc.
1-800-832-3993
crosstool.com

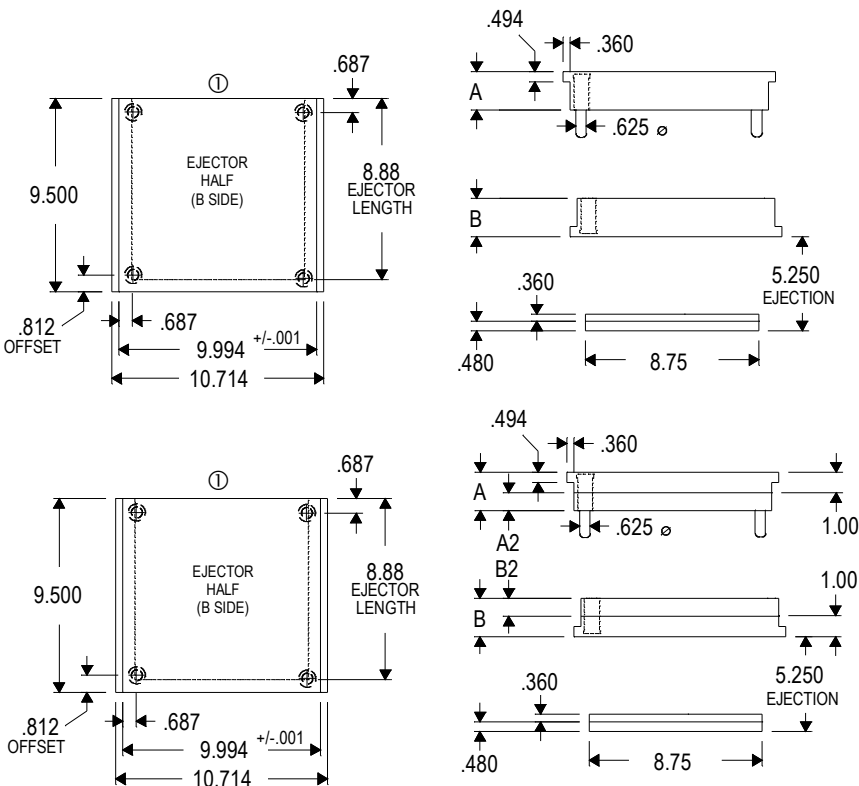
10.0 X 8.5 INSERTS

FITS 15/19 H-FRAME



10.0 X 9.5 INSERTS

FITS 15/21 H-FRAME



Cross Tool & Manufacturing, Inc.
1-800-832-3993
crosstool.com

Standard Solid Insert (10.0 X 8.5)

Catalog #	A	B
15/19 SSH 221	1.877	2.377
15/19 SSH 222	2.377	1.877
15/19 SSH 223	2.377	2.377
15/19 SSH 224	2.377	2.877
15/19 SSH 225	2.877	2.377
15/19 SSH 226	2.877	2.877
15/19 SSH 227	2.877	3.377
15/19 SSH 228	2.877	3.877
15/19 SSH 229	3.877	3.377
15/19 SSH 230	3.877	3.877

Standard Laminated Insert (10.0 X 8.5)

Catalog #	A	A2	B2	B
15/19 SLH 281	1.877	0.877	1.377	2.377
15/19 SLH 282	2.377	1.377	0.877	1.877
15/19 SLH 283	2.377	1.377	1.377	2.377
15/19 SLH 284	2.377	1.377	1.877	2.877
15/19 SLH 285	2.877	1.877	1.377	2.377
15/19 SLH 286	2.877	1.877	1.877	2.877
15/19 SLH 287	2.877	1.877	2.377	3.377
15/19 SLH 288	2.877	1.877	2.877	3.877
15/19 SLH 289	3.877	2.877	2.377	3.377
15/19 SLH 290	3.877	2.877	2.877	3.877

Standard Solid Insert (10.0 X 9.5)

Catalog #	A	B
15/21 SSH 221	1.877	2.377
15/21 SSH 222	2.377	1.877
15/21 SSH 223	2.377	2.377
15/21 SSH 224	2.377	2.877
15/21 SSH 225	2.877	2.377
15/21 SSH 226	2.877	2.877
15/21 SSH 227	2.877	3.377
15/21 SSH 228	2.877	3.877
15/21 SSH 229	3.877	3.377
15/21 SSH 230	3.877	3.877

Standard Laminated Insert (10.0 X 9.5)

Catalog #	A	A2	B2	B
15/21 SLH 281	1.877	0.877	1.377	2.377
15/21 SLH 282	2.377	1.377	0.877	1.877
15/21 SLH 283	2.377	1.377	1.377	2.377
15/21 SLH 284	2.377	1.377	1.877	2.877
15/21 SLH 285	2.877	1.877	1.377	2.377
15/21 SLH 286	2.877	1.877	1.877	2.877
15/21 SLH 287	2.877	1.877	2.377	3.377
15/21 SLH 288	2.877	1.877	2.877	3.877
15/21 SLH 289	3.877	2.877	2.377	3.377
15/21 SLH 290	3.877	2.877	2.877	3.877

Standard Solid Insert (10.0 X 11.5)		
Catalog #	A	B
15/25 SSH 221	1.877	2.377
15/25 SSH 222	2.377	1.877
15/25 SSH 223	2.377	2.377
15/25 SSH 224	2.377	2.877
15/25 SSH 225	2.877	2.377
15/25 SSH 226	2.877	2.877
15/25 SSH 227	2.877	3.377
15/25 SSH 228	2.877	3.877
15/25 SSH 229	3.877	3.377
15/25 SSH 230	3.877	3.877

Standard Laminated Insert (10.0 X 11.5)				
Catalog #	A	A2	B2	B
15/25 SLH 281	1.877	0.877	1.377	2.377
15/25 SLH 282	2.377	1.377	0.877	1.877
15/25 SLH 283	2.377	1.377	1.377	2.377
15/25 SLH 284	2.377	1.377	1.877	2.877
15/25 SLH 285	2.877	1.877	1.377	2.377
15/25 SLH 286	2.877	1.877	1.877	2.877
15/25 SLH 287	2.877	1.877	2.377	3.377
15/25 SLH 288	2.877	1.877	2.877	3.877
15/25 SLH 289	3.877	2.877	2.377	3.377
15/25 SLH 290	3.877	2.877	2.877	3.877

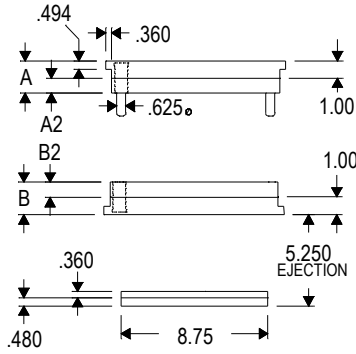
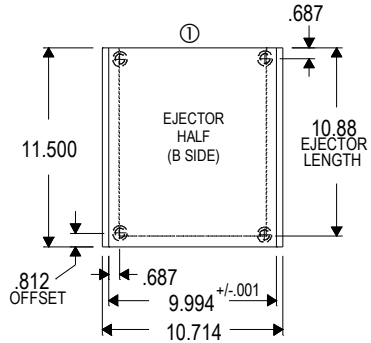
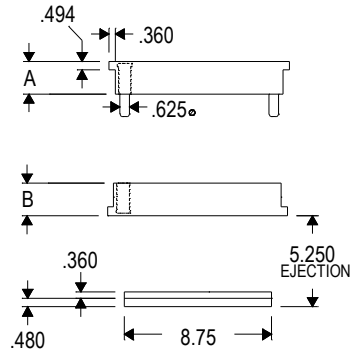
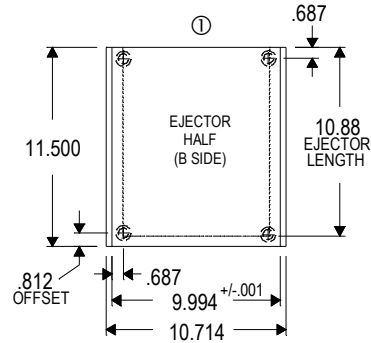
Standard Solid Insert (11.0 X 8.5)		
Catalog #	A	B
17/19 SSH 221	1.877	2.377
17/19 SSH 222	2.377	1.877
17/19 SSH 223	2.377	2.377
17/19 SSH 224	2.377	2.877
17/19 SSH 225	2.877	2.377
17/19 SSH 226	2.877	2.877
17/19 SSH 227	2.877	3.377
17/19 SSH 228	2.877	3.877
17/19 SSH 229	3.877	3.377
17/19 SSH 230	3.877	3.877

Standard Laminated Insert (11.0 X 8.5)				
Catalog #	A	A2	B2	B
17/19 SLH 283	2.377	0.877	0.877	2.377
17/19 SLH 284	2.377	0.877	1.377	2.877
17/19 SLH 285	2.877	1.377	0.877	2.377
17/19 SLH 286	2.877	1.377	1.377	2.877
17/19 SLH 287	2.877	1.377	1.877	3.377
17/19 SLH 288	2.877	1.377	2.377	3.877
17/19 SLH 289	3.877	2.377	1.877	3.377
17/19 SLH 290	3.877	2.377	2.377	3.877

10.0 X 11.5 INSERTS

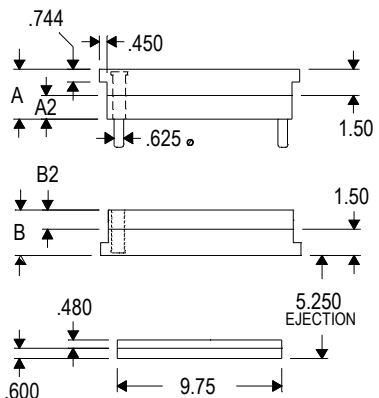
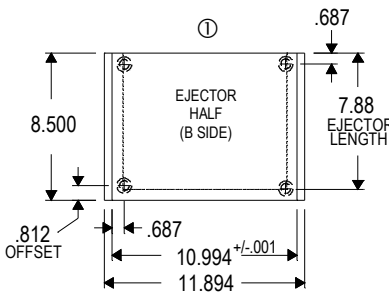
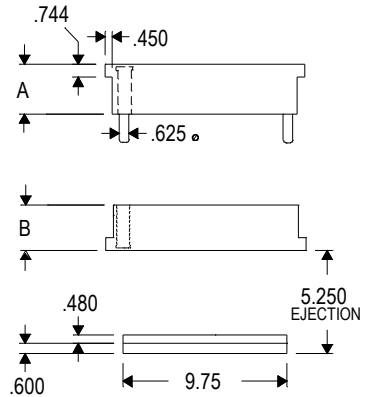
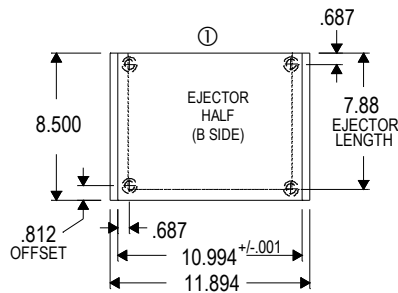
FITS 15/25 H-FRAME

① Clamp Side



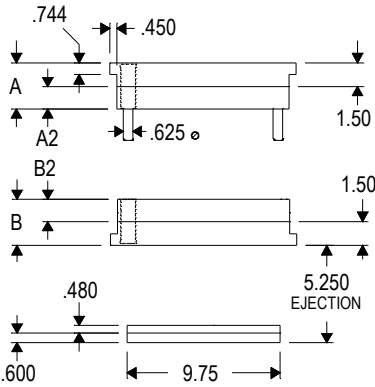
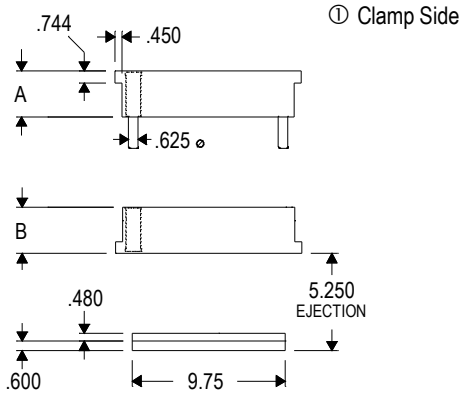
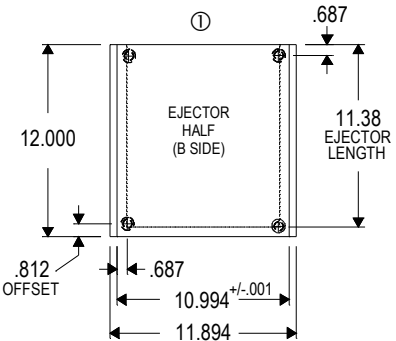
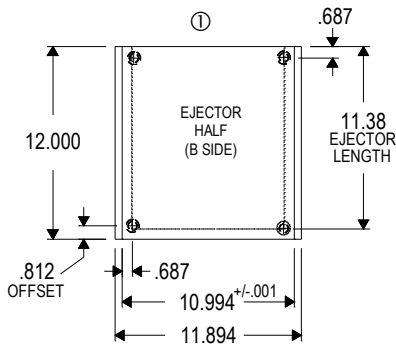
11.0 X 8.5 INSERTS

FITS 17/19 H-FRAME



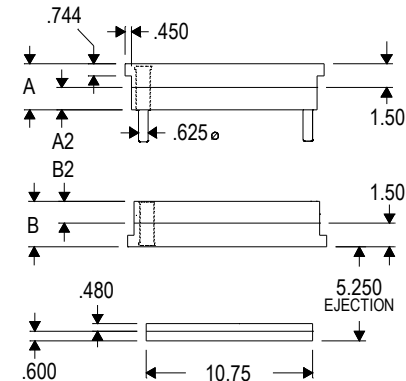
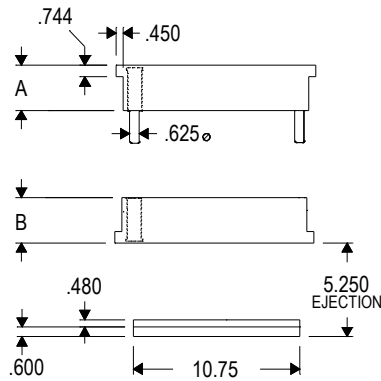
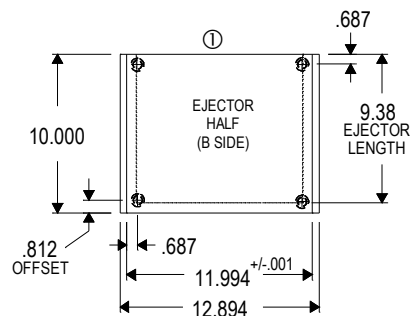
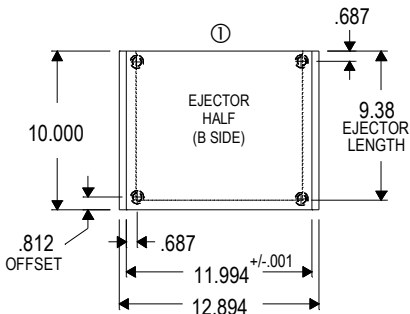
11.0 X 12.0 INSERTS

FITS 17/26 H-FRAME



12.0 X 10.0 INSERTS

FITS 18/22 H-FRAME



Standard Solid Insert (11.0 X 12.0)

Catalog #	A	B
17/26 SSH 221	1.877	2.377
17/26 SSH 222	2.377	1.877
17/26 SSH 223	2.377	2.377
17/26 SSH 224	2.377	2.877
17/26 SSH 225	2.877	2.377
17/26 SSH 226	2.877	2.877
17/26 SSH 227	2.877	3.377
17/26 SSH 228	2.877	3.877
17/26 SSH 229	3.877	3.377
17/26 SSH 230	3.877	3.877

Standard Laminated Insert (11.0 X 12.0)

Catalog #	A	A2	B2	B
17/26 SLH 283	2.377	0.877	0.877	2.377
17/26 SLH 284	2.377	0.877	1.377	2.877
17/26 SLH 285	2.877	1.377	0.877	2.377
17/26 SLH 286	2.877	1.377	1.377	2.877
17/26 SLH 287	2.877	1.377	1.877	3.377
17/26 SLH 288	2.877	1.377	2.377	3.877
17/26 SLH 289	3.877	2.377	1.877	3.377
17/26 SLH 290	3.877	2.377	2.377	3.877

Standard Solid Insert (12.0 X 10.0)

Catalog #	A	B
18/22 SSH 221	1.877	2.377
18/22 SSH 222	2.377	1.877
18/22 SSH 223	2.377	2.377
18/22 SSH 224	2.377	2.877
18/22 SSH 225	2.877	2.377
18/22 SSH 226	2.877	2.877
18/22 SSH 227	2.877	3.377
18/22 SSH 228	2.877	3.877
18/22 SSH 229	3.877	3.377
18/22 SSH 230	3.877	3.877

Standard Laminated Insert (12.0 X 10.0)

Catalog #	A	A2	B2	B
18/22 SLH 283	2.377	0.877	0.877	2.377
18/22 SLH 284	2.377	0.877	1.377	2.877
18/22 SLH 285	2.877	1.377	0.877	2.377
18/22 SLH 286	2.877	1.377	1.377	2.877
18/22 SLH 287	2.877	1.377	1.877	3.377
18/22 SLH 288	2.877	1.377	2.377	3.877
18/22 SLH 289	3.877	2.377	1.877	3.377
18/22 SLH 290	3.877	2.377	2.377	3.877

Standard Solid Insert (12.0 X 12.0)			
Catalog #	A	B	
18/26 SSH 221	1.877	2.377	
18/26 SSH 222	2.377	1.877	
18/26 SSH 223	2.377	2.377	
18/26 SSH 224	2.377	2.877	
18/26 SSH 225	2.877	2.377	
18/26 SSH 226	2.877	2.877	
18/26 SSH 227	2.877	3.377	
18/26 SSH 228	2.877	3.877	
18/26 SSH 229	3.877	3.377	
18/26 SSH 230	3.877	3.877	

Standard Laminated Insert (12.0 X 12.0)				
Catalog #	A	A2	B2	B
18/26 SLH 283	2.377	0.877	0.877	2.377
18/26 SLH 284	2.377	0.877	1.377	2.877
18/26 SLH 285	2.877	1.377	0.877	2.377
18/26 SLH 286	2.877	1.377	1.377	2.877
18/26 SLH 287	2.877	1.377	1.877	3.377
18/26 SLH 288	2.877	1.377	2.377	3.877
18/26 SLH 289	3.877	2.377	1.877	3.377
18/26 SLH 290	3.877	2.377	2.377	3.877

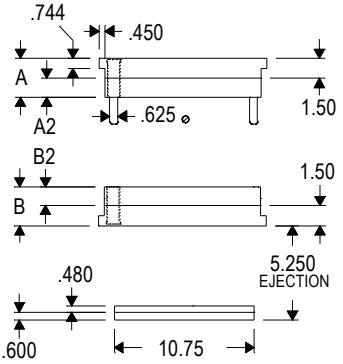
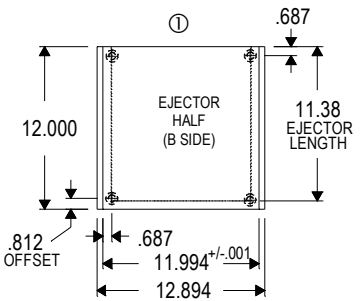
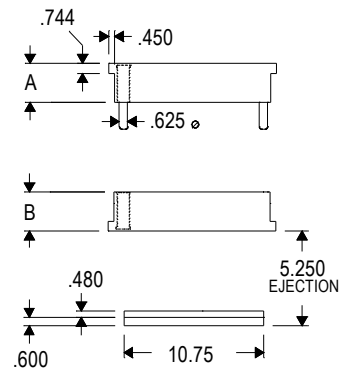
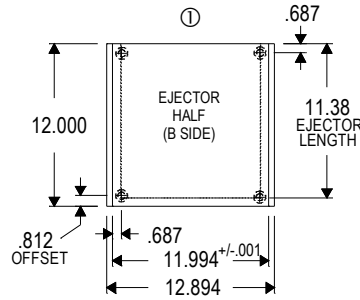
Standard Solid Insert (12.0 X 14.0)		
Catalog #	A	B
18/30 SSH 221	1.877	2.377
18/30 SSH 222	2.377	1.877
18/30 SSH 223	2.377	2.377
18/30 SSH 224	2.377	2.877
18/30 SSH 225	2.877	2.377
18/30 SSH 226	2.877	2.877
18/30 SSH 227	2.877	3.377
18/30 SSH 228	2.877	3.877
18/30 SSH 229	3.877	3.377
18/30 SSH 230	3.877	3.877

Standard Laminated Insert (12.0 X 14.0)				
Catalog #	A	A2	B2	B
18/30 SLH 283	2.377	0.877	0.877	2.377
18/30 SLH 284	2.377	0.877	1.377	2.877
18/30 SLH 285	2.877	1.377	0.877	2.377
18/30 SLH 286	2.877	1.377	1.377	2.877
18/30 SLH 287	2.877	1.377	1.877	3.377
18/30 SLH 288	2.877	1.377	2.377	3.877
18/30 SLH 289	3.877	2.377	1.877	3.377
18/30 SLH 290	3.877	2.377	2.377	3.877

12.0 X 12.0 INSERTS

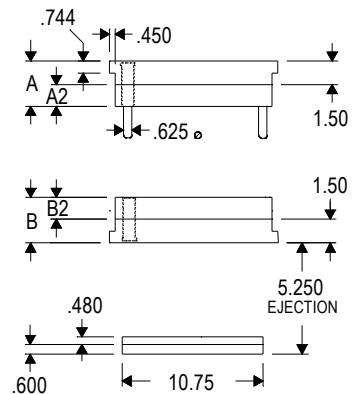
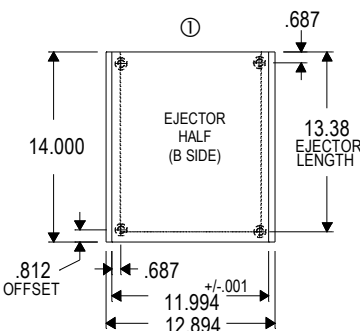
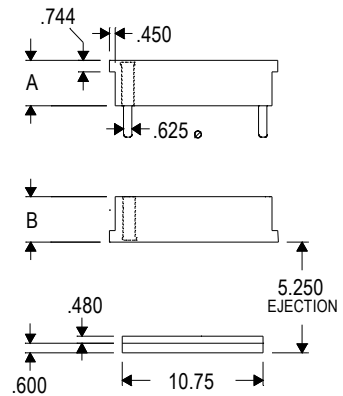
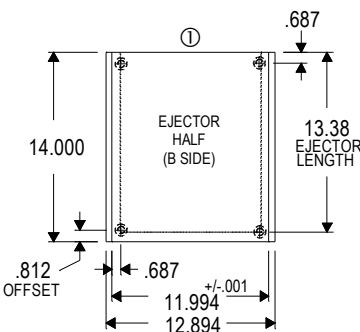
FITS 18/26 H-FRAME

① Clamp Side



12.0 X 14.0 INSERTS

FITS 18/30 H-FRAME



INDEX

COMPONENTS

page

INTERCHANGEABLE MOLDING INSERT ACCESSORIES

Aluminum Bronze Guide Bushings	64
Dowel Leader Pins.....	62
Ear Plates.....	69
Ejector Plates-Interlocking.....	67
Ejector Plates-Sleeve	69
Ejector Plates-Standard	68
Guided Support Pillar	64
Pillar Posts	63
Shoulder Bushings (For reference only, not available for individual sale)	61
Shoulder Leader Pins (For reference only, not available for individual sale).....	60
Snap Rings.....	62
Straight Bushings.....	63
Straight Leader Pins	62

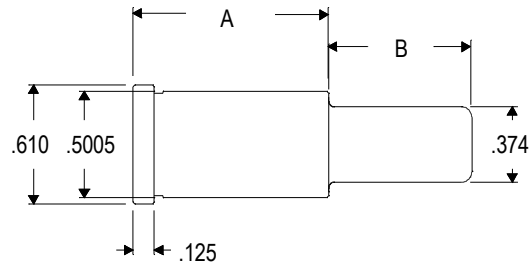
MOLD BASE FRAME ACCESSORIES

Holding Clamps.....	65
Locating Ring-Standard.....	65
Sprue Bushings.....	66

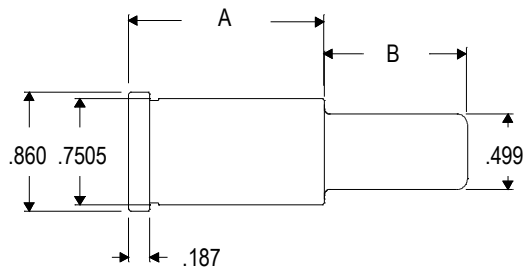
Shoulder Leader Pins

(Note: For reference only, Shoulder Leader Pins are not available for individual sale)

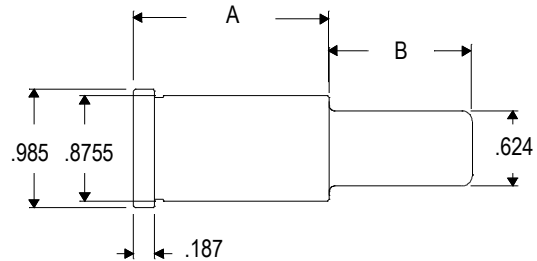
Catalog #	A	B
P3-585-8	.585	.750
P3-835-8	.835	.812
P3-1210-10	1.210	1.00
P3-1210-17	1.210	1.750
P3-1710-10	1.710	1.00
P3-1710-17	1.710	1.750
P3-2210-12	2.210	1.250
P3-2710-12	2.710	1.250



Catalog #	A	B
P5-585-6	.585	.625
P5-585-8	.585	.812
P5-835-6	.835	.625
P5-835-8	.835	.812
P5-835-12	.835	1.250
P5-1210-7	1.210	.750
P5-1210-12	1.210	1.250
P5-1210-17	1.210	1.750
P5-1710-12	1.710	1.250
P5-1710-17	1.710	1.750
P5-2210-17	2.210	1.750
P5-2710-17	2.710	1.750



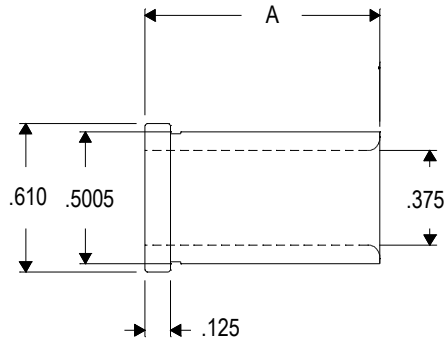
Catalog #	A	B
P6-710-7	.710	.750
P6-835-7	.835	.750
P6-1210-12	1.210	1.250
P6-1710-12	1.710	1.250
P6-1710-17	1.710	1.750
P6-2210-12	2.210	1.250
P6-2210-17	2.210	1.750
P6-2710-12	2.710	1.250
P6-2710-17	2.710	1.750



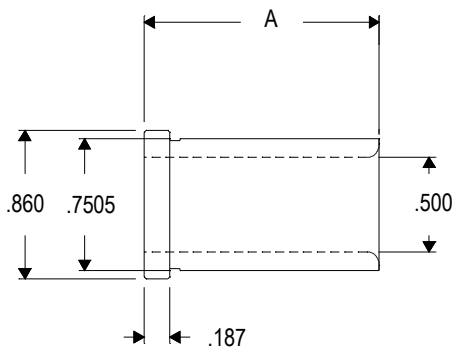
(NOTE: Shoulder Leader Pins are retained with Snap Rings.)

Shoulder Bushings

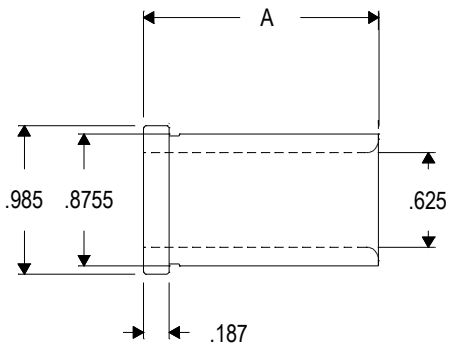
(Note: For reference only, Shoulder Leader Pins are not available for individual sale)



Catalog #	A
B3-585	0.585
B3-835	0.835
B3-1210	1.210
B3-1710	1.710
B3-2210	2.210
B3-2710	2.710



Catalog #	A
B5-585	0.585
B5-835	0.835
B5-1210	1.210
B5-1710	1.710
B5-2210	2.210
B5-2710	2.710



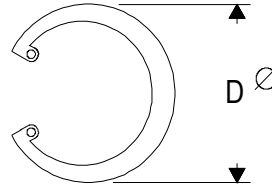
Catalog #	A
B6-710	0.710
B6-835	0.835
B6-1210	1.210
B6-1710	1.710
B6-2210	2.210
B6-2710	2.710

(NOTE: Shoulder Bushings are retained with Snap Rings.)

Snap Rings

Catalog #	Pin	D
SR-62	0.375 \emptyset	0.62
SR-88	0.500 \emptyset	0.88
SR-100	0.625 \emptyset	1.00

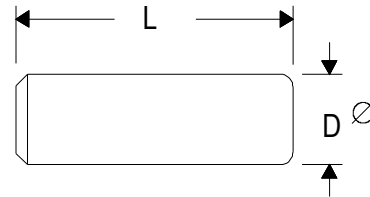
Snap Ring



Dowel Leader Pins

Catalog #	D	L
DP-25	0.250	1.25
DP-37	0.375	1.50
DP-50	0.500	1.50
DP-62	0.625	2.00

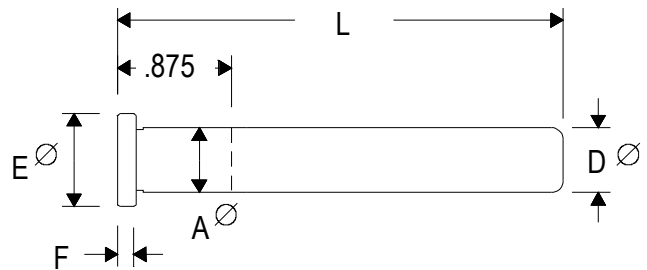
Dowel Leader Pin



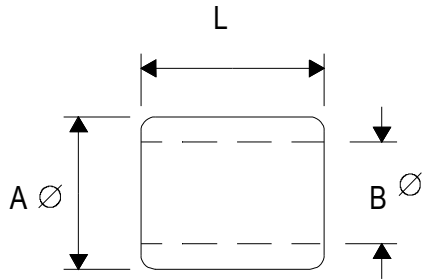
Straight Leader Pins

Catalog #	A	D	L	E	F
SP 3-4.0	0.3755	0.374	4.0	0.610	0.125
SP 3-6.0	0.3755	0.374	6.0	0.610	0.125
SP 5-4.0	0.5005	0.499	4.0	0.610	0.125
SP 5-4.5	0.5005	0.499	4.5	0.610	0.125
SP 5-5.0	0.5005	0.499	5.0	0.610	0.125
SP 5-5.5	0.5005	0.499	5.5	0.610	0.125
SP 5-6.0	0.5005	0.499	6.0	0.610	0.125
SP 6-4.0	0.6255	0.624	4.0	0.853	0.187
SP 6-4.5	0.6255	0.624	4.5	0.853	0.187
SP 6-5.0	0.6255	0.624	5.0	0.853	0.187
SP 6-5.5	0.6255	0.624	5.5	0.853	0.187
SP 6-6.0	0.6255	0.624	6.0	0.853	0.187

Straight Leader Pin



Straight Bushing

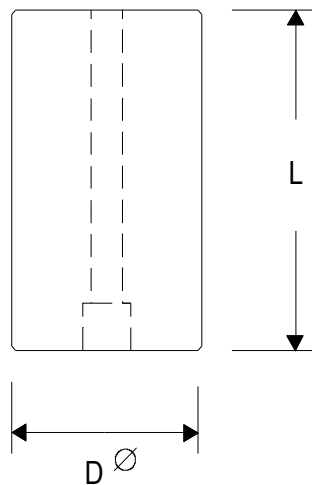
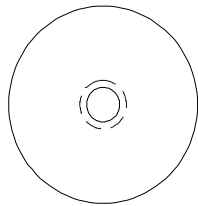


Straight Bushings

Catalog #	A	B	L
CR-25-37	0.376	0.252	0.50
CR-37-50	0.501	0.377	0.50
CR-50-75	0.751	0.502	0.75
CR-62-87	0.876	0.627	1.00

Pillar Post

* Capscrews included



Insert Mold Pillar Posts*

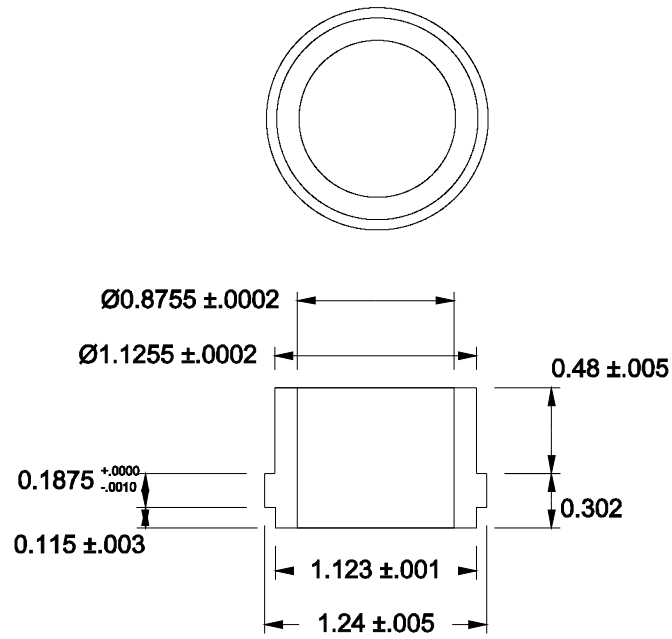
Catalog #	D	L	Bolt Size
PP-1025	1.00	2.500	5/16
PP-1026	1.00	2.625	5/16
PP-1035	1.00	3.500	5/16
PP-1037	1.00	3.750	3/8
PP-1040	1.00	4.000	3/8
PP-1041	1.00	4.125	3/8

PP-1225	1.25	2.500	5/16
PP-1226	1.25	2.625	5/16
PP-1235	1.25	3.500	5/16
PP-1237	1.25	3.750	3/8
PP-1240	1.25	4.000	3/8
PP-1241	1.25	4.125	3/8

PP-1525	1.50	2.500	5/16
PP-1526	1.50	2.625	5/16
PP-1535	1.50	3.500	5/16
PP-1537	1.50	3.750	3/8
PP-1540	1.50	4.000	3/8
PP-1541	1.50	4.125	3/8

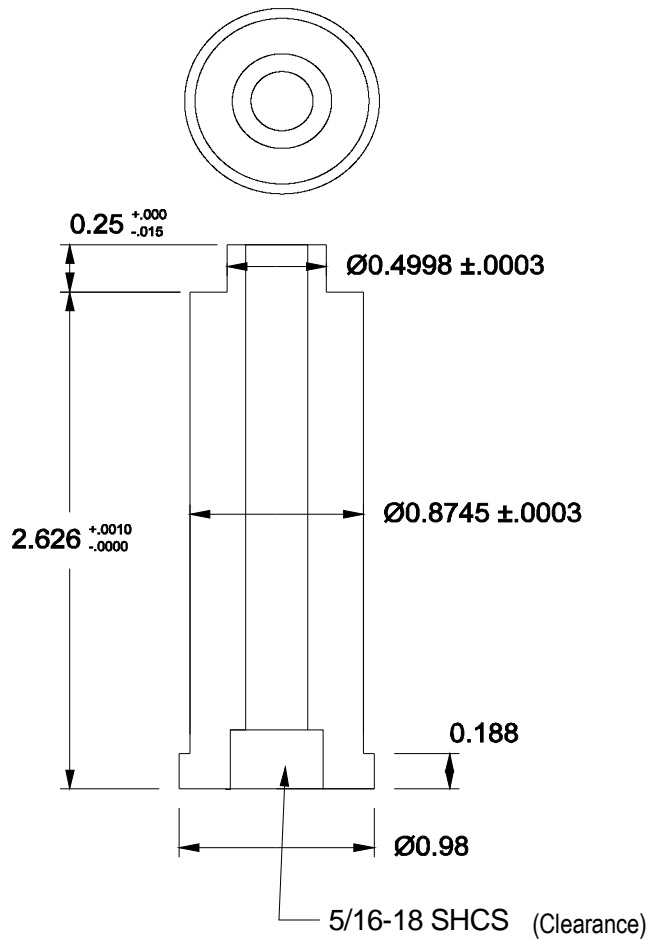
Aluminum Bronze Guide Bushings

Catalog #
AGB-875



Guided Support Pillar

Catalog #
GP-826

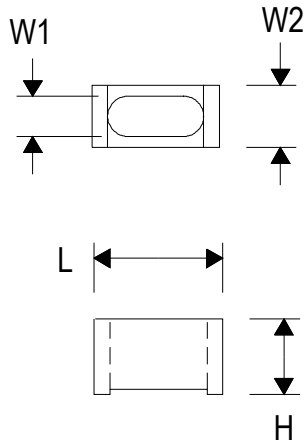


Cross Tool & Manufacturing, Inc.
1-800-832-3993
crosstool.com

Holding Clamps

Catalog #	H	L	W2	W1
UC-2520	0.50	1.00	0.50	0.27
UC-3816	0.75	1.25	0.62	0.40

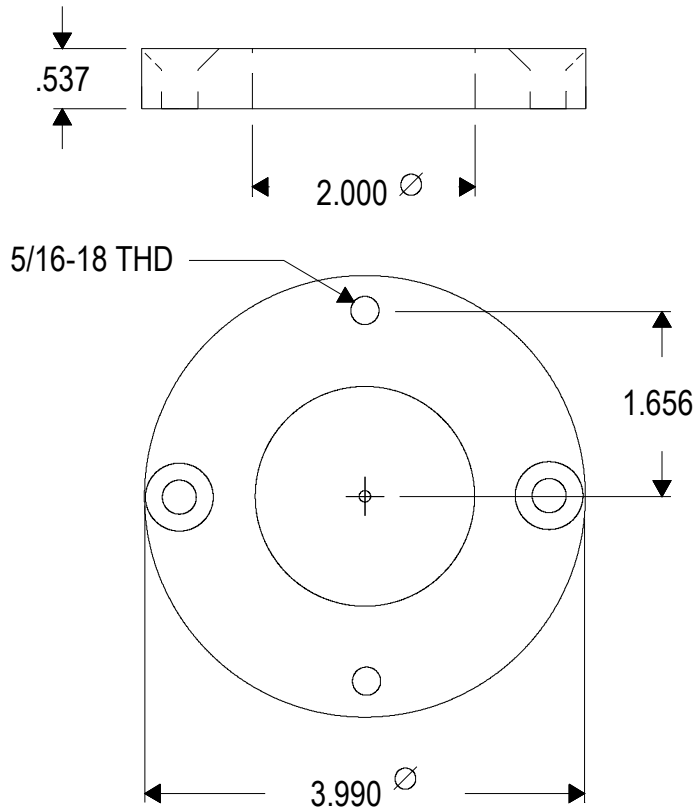
Holding Clamp



Locating Ring

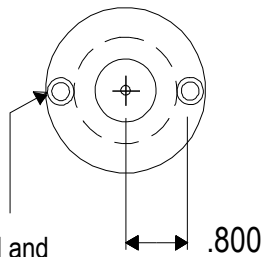
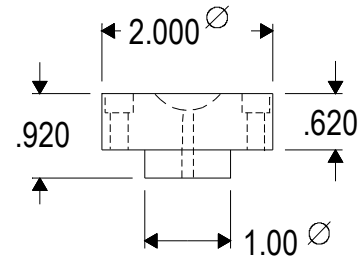
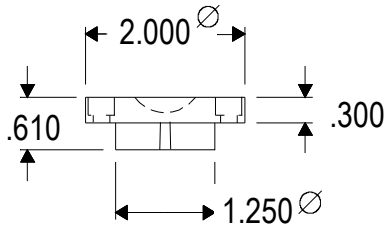
Catalog #
LR-3990

Standard Locating Ring

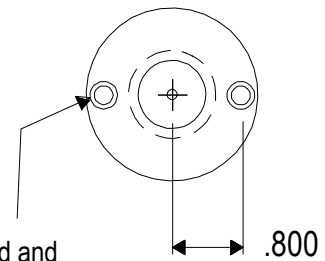


*Other diameter Locating Rings available upon request.

Sprue Bushings



Note: Drilled and Counterbored for 10/32 Capscrews.



Note: Drilled and Counterbored for 10/32 Capscrews.

Catalog #
SB-101

Note: The SB-101 is designed for the following frames: 07/07 UF 321, 08/09 UF 321, 84/90 UF 321 & 08/10 UF 321

Catalog #
SB-102

Note: The SB-102 is designed for the 10/12 UF 321 and larger U-Frames

ORDERING INFORMATION

Sprue bushings

Please specify R & O Sizes:

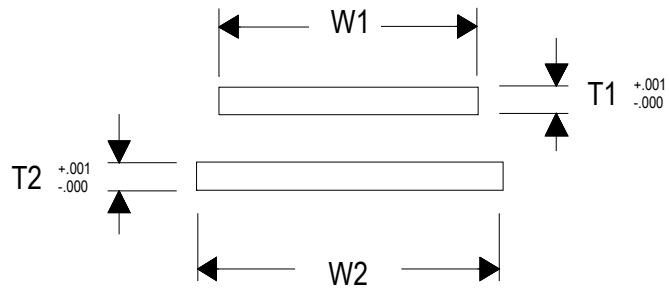
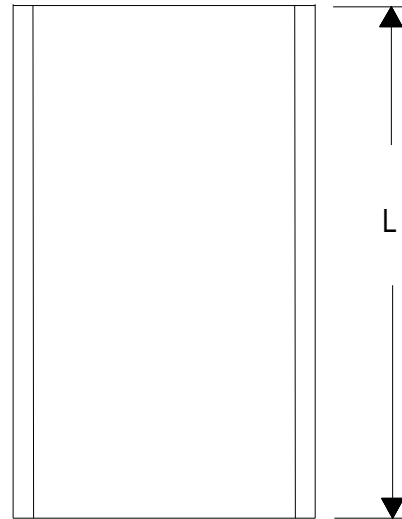
R = Spherical Radius of Sprue Bushing: 1/2" or 3/4"

O = Small Diameter of Sprue Bushing Orifice: 5/32", 7/32", 9/32"

Interlocking Ejector Plates
For H-Frame Series

Catalog #	W1	W2	L	T1	T2
08/09 IEJH	4.00	4.50	3.00	.360	.360
10/12 IEJH	4.00	4.50	4.50	.360	.360
10/18 IEJH	4.00	4.50	7.50	.360	.360
11/14 IEJH	5.00	5.50	5.50	.360	.360
11/18 IEJH	5.00	5.50	7.50	.360	.360
12/11 IEJH	6.00	6.50	4.00	.360	.360
12/13 IEJH	6.00	6.50	5.00	.360	.360
12/15 IEJH	6.00	6.50	6.00	.360	.360
12/19 IEJH	6.00	6.50	8.00	.360	.360
13/13 IEJH	7.00	7.50	5.00	.360	.360
13/15 IEJH	7.00	7.50	6.00	.360	.360
13/17 IEJH	7.00	7.50	7.00	.360	.360
13/19 IEJH	7.00	7.50	8.00	.360	.360
13/23 IEJH	7.00	7.50	10.00	.360	.360
14/15 IEJH	8.00	8.50	6.00	.360	.480
14/17 IEJH	8.00	8.50	7.00	.360	.480
14/19 IEJH	8.00	8.50	8.00	.360	.480
14/21 IEJH	8.00	8.50	9.00	.360	.480
14/25 IEJH	8.00	8.50	11.00	.360	.480
15/15 IEJH	8.75	9.25	5.88	.360	.480
15/17 IEJH	8.75	9.25	6.88	.360	.480
15/19 IEJH	8.75	9.25	7.88	.360	.480
15/21 IEJH	8.75	9.25	8.88	.360	.480
15/25 IEJH	8.75	9.25	10.88	.360	.480
17/19 IEJH	9.75	10.25	7.88	.480	.600
17/26 IEJH	9.75	10.25	11.38	.480	.600
18/22 IEJH	10.75	11.25	9.38	.480	.600
18/26 IEJH	10.75	11.25	11.38	.480	.600
18/30 IEJH	10.75	11.25	13.38	.480	.600

Interlocking Ejector Plates



Interlocking Ejector Plates
For Double H-Frame Series

Catalog #	W1	W2	L	T1	T2
16/09 IEJD	4.00	4.50	3.00	.360	.360
16/12 IEJD	4.00	4.50	4.50	.360	.360
16/18 IEJD	4.00	4.50	7.50	.360	.360
20/14 IEJD	5.00	5.50	5.50	.360	.360
22/19 IEJD	6.00	6.50	8.00	.360	.360
24/23 IEJD	7.00	7.50	10.00	.360	.360

ORDERING INFORMATION

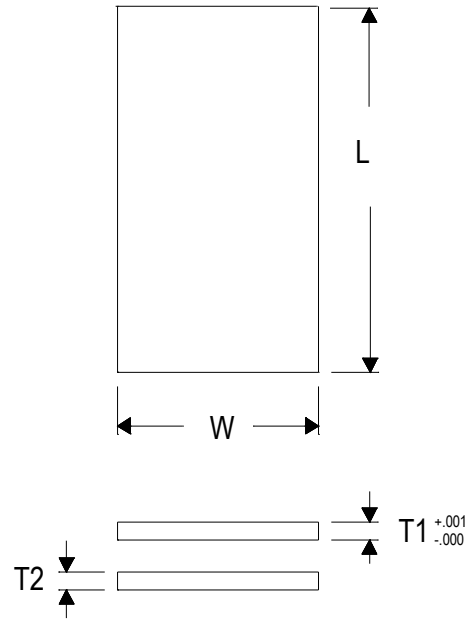
Interlocking Ejector Plates

- Please specify Quantity & Catalog # (Catalog # is for a set of (2) plates)
- Material grade is A36 Mild Steel
- First four digits of catalog # must match those of Molding Insert

Standard Ejector Plate Sets for H-Frame

Catalog #	L	W	T1	T2
08/09 EJJ	3.00	4.00	0.360	0.360
10/12 EJJ	4.50	4.00	0.360	0.360
10/18 EJJ	7.50	4.00	0.360	0.360
11/14 EJJ	5.50	5.00	0.360	0.360
11/18 EJJ	7.50	5.00	0.360	0.360
12/11 EJJ	4.00	6.00	0.360	0.360
12/13 EJJ	5.00	6.00	0.360	0.360
12/15 EJJ	6.00	6.00	0.360	0.360
12/19 EJJ	8.00	6.00	0.360	0.360
13/13 EJJ	5.00	7.00	0.360	0.360
13/15 EJJ	6.00	7.00	0.360	0.360
13/17 EJJ	7.00	7.00	0.360	0.360
13/19 EJJ	8.00	7.00	0.360	0.360
13/23 EJJ	10.00	7.00	0.360	0.360
14/15 EJJ	6.00	8.00	0.360	0.480
14/17 EJJ	7.00	8.00	0.360	0.480
14/19 EJJ	8.00	8.00	0.360	0.480
14/21 EJJ	9.00	8.00	0.360	0.480
14/25 EJJ	11.00	8.00	0.360	0.480
15/15 EJJ	5.88	8.75	0.360	0.480
15/17 EJJ	6.88	8.75	0.360	0.480
15/19 EJJ	7.88	8.75	0.360	0.480
15/21 EJJ	8.88	8.75	0.360	0.480
15/25 EJJ	10.88	8.75	0.360	0.480
17/19 EJJ	7.88	9.75	0.480	0.600
17/26 EJJ	11.38	9.75	0.480	0.600
18/22 EJJ	9.38	10.75	0.480	0.600
18/26 EJJ	11.38	10.75	0.480	0.600
18/30 EJJ	13.38	10.75	0.480	0.600

Standard Ejector Plates



Standard Ejector Plate Sets for U-Frame

Catalog #	L	W	T1	T2
07/07 EJU	6.00	3.87	0.360	0.360
08/09 EJU	7.88	4.00	0.360	0.360
08/10 EJU	8.88	4.00	0.360	0.360
84/90 EJU	7.87	5.50	0.360	0.360
09/07 EJE	5.88	5.00	0.360	0.360
10/12 EJU	10.75	6.00	0.480	0.480
10/14 EJU	12.75	6.00	0.480	0.480
10/16 EJU	14.75	6.00	0.480	0.480
11/11 EJU	9.88	7.00	0.480	0.480
12/14 EJU	12.75	7.00	0.480	0.480
12/16 EJU	14.75	7.00	0.480	0.480
13/16 EJU	14.75	8.00	0.480	0.480
14/16 EJU	14.75	9.00	0.480	0.480

ORDERING INFORMATION

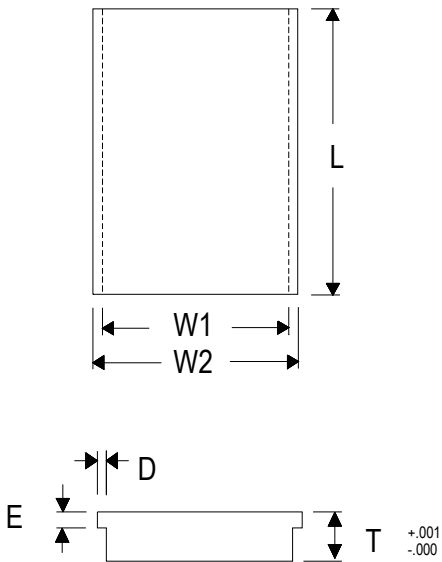
Ejector Plates: Standard or Sleeve

- Please specify Quantity & Catalog # (Catalog # is for a set of (2) plates)
- Material grade is A36 Mild Steel
- First four digits of catalog # must match those of Molding Insert

EAR Plates

- Please specify Quantity & Catalog # (Catalog # is for a set of (2) plates)
- Material grade is 4140 Prehard Steel
- First four digits of catalog # must match those of Molding Insert

Ear Plates

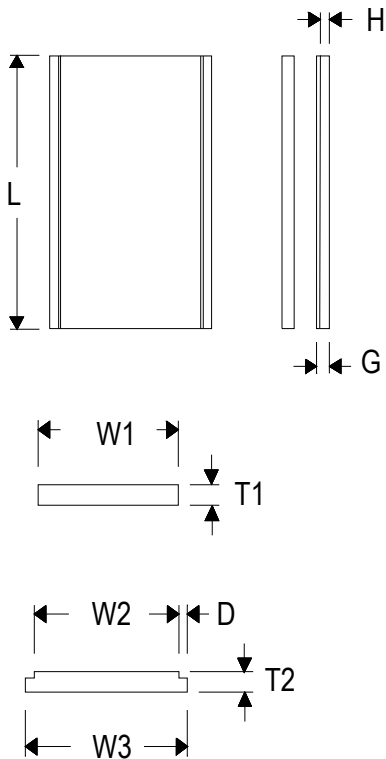


Note: Ear Plates are sold in a set of (2) plates. Steel grade is 4140 Prehard.

Ear Plates for T-Style Molding Inserts

Catalog #	L	W1	W2	D	E	T
07/07 EPU	6.250	4.496	4.956	0.248	0.230	0.625
08/09 EPU	8.000	4.996	5.456	0.246	0.230	0.750
08/10 EPU	9.000	4.996	5.456	0.246	0.230	0.750
84/90 EPU	8.000	6.496	6.956	0.246	0.230	0.750
09/07 EPU	6.000	5.996	6.456	0.246	0.230	0.750
09/07 EPE	6.000	5.996	6.456	0.246	0.230	0.750
10/12 EPU	10.874	6.996	7.716	0.494	0.360	1.000
10/14 EPU	12.874	6.996	7.716	0.494	0.360	1.000
10/16 EPU	14.874	6.996	7.716	0.494	0.360	1.000
11/11 EPU	10.000	7.996	8.716	0.494	0.360	1.000
12/14 EPU	12.874	7.994	8.714	0.494	0.360	1.000
12/16 EPU	14.874	7.994	8.714	0.494	0.360	1.000
13/16 EPU	14.874	8.994	9.714	0.494	0.360	1.000
14/16 EPU	14.874	9.994	10.714	0.494	0.360	1.000

Sleeve Ejector Plates



Sleeve Ejector Plate Assemblies

Catalog #	L	H	G	W1	W2	W3	D	T1	T2
07/07 SEPU	6.00	0.159	0.185	3.88	4.00	4.36	.18	0.360	0.360
08/09 SEPU	7.88	0.247	0.283	4.00	4.00	4.50	.25	0.360	0.360
08/10 SEPU	8.87	0.248	0.287	4.00	4.12	4.62	.25	0.360	0.360
84/90 SEPU	7.88	0.247	0.283	5.50	5.62	6.12	.25	0.360	0.360
10/12 SEPU	10.75	0.429	0.477	6.00	6.12	6.62	.25	0.480	0.480
10/14 SEPU	12.75	0.420	0.477	6.00	6.12	6.62	.25	0.480	0.480
10/16 SEPU	14.75	0.412	0.477	6.00	6.12	6.62	.25	0.480	0.480
11/11 SEPU	9.88	0.287	0.331	7.00	7.12	7.62	.25	0.360	0.360
12/14 SEPU	12.75	0.420	0.477	7.00	7.12	7.62	.25	0.480	0.480
12/16 SEPU	14.75	0.412	0.477	7.00	7.12	7.62	.25	0.480	0.480
13/16 SEPU	14.75	0.412	0.477	8.00	8.12	8.62	.25	0.480	0.480
14/16 SEPU	14.75	0.412	0.477	9.00	9.12	9.62	.25	0.480	0.480

INDEX FORMS

Please make copies! Leave original forms in catalog.

	page
Credit Application.....	71
Resale Exemption Certificate	72

1000 E. Butler Ave., Suite 102
 Flagstaff, AZ 86001
Toll Free: 1-800-832-3993
 Phone: (928) 779-4218
 Fax: (928) 556-3048



CREDIT APPLICATION

CROSS TOOL & MFG., INC.

Date:

(Note: Failure to complete forms **IN FULL AND LEGIBLY** WILL RESULT IN A DELAY IN PROCESSING)

BUSINESS INFORMATION

Business Name:		Phone:	
D.B.A.:		Fax:	
Address:		Shipping Address:	
City:		City:	
State:	Zip:	State:	Zip:

Initial Amount of Credit Requested \$500 \$1000 \$2000 Other _____

Fed. Tax I.D. #: _____ Resale Tax #: _____

(Please include a completed Resale Exemption Certificate with Credit Application if applicable.)

Date Established: _____ Number of Employees: _____

Type of Business: _____

Principal (Printed Name, Title): _____

Please check one:

Principal (Signature, Date): _____

Sole Owner Corporation

Accounts Payable Contact: _____

Partnership LLC

BANK REFERENCES

Account #:	Type of Account:		
Bank:	<input type="checkbox"/> Checking	<input type="checkbox"/> Loan	
Street:	<input type="checkbox"/> Other _____		
City/State/Zip:	Phone:	Fax:	

TRADE REFERENCES

Company Name:	Address :	City, State, Zip:	Phone and Fax #'s:
Contact:			Phone:
			Fax:
Contact:			Phone:
			Fax:
Contact:			Phone:
			Fax:

Terms: 2%10/Net 30. Applicant agrees to adhere to the "Terms and Conditions of Sale" and to pay any collection costs incurred to collect the amount balance, including reasonable attorney's fees.

The undersigned warrants that the information submitted is true and correct. Cross Tool & Manufacturing, Inc. is authorized to review the credit references listed.



 Authorized Signature, Title, Date

Cross Tool & Manufacturing, Inc.
 1-800-832-3993
 crosstool.com

Cross Tool and Manufacturing, Inc.

1000 E. Butler Ave., Suite 102

Flagstaff, AZ 86001

Phone: (928)779-4218 Fax: (928) 556-3048

Toll Free: 1-800-832-3993

RE: Sales and Use Taxes

If your purchases from us are not taxable, state regulations require that we have on file a signed Certificate of Resale showing your active Sales and Use Tax Account Number.

Please complete, sign, and return this form or one similar to it to us at your earliest convenience.

We appreciate your business.

Cross Tool & Mfg., Inc. (Vendor)

Resale Exemption Certificate

Our Sales and Use Tax Account Number is: _____

Single Purchase Certificate

Blanket Certificate

If you don't have a #; State reason: _____

Example: Not in retail business.

If Blanket Certificate is checked, this certificate continues in force until cancelled by the purchaser. The undersigned hereby certifies that the merchandise purchased on each order we shall give, and until this notice is revoked, is:

- Purchased for Resale as tangible personal property and not subject to sales tax.
- Purchased for use in agricultural or industrial production, or consumed in such production, or tangible personal property intended to be sold ultimately at retail, and not subject to sales tax.
- Other (Please state): _____

Description of property to be purchased: _____

Company: _____

Address: _____

Signature: _____

Title: _____ Date: _____

Cross Tool & Manufacturing, Inc.

1-800-832-3993

crosstool.com