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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:

USPS is used whenever possible. Inserts are split when needed and shipped best way (USPS, FedEx, UPS, Freight). Ground, 3rd Day, 2nd Day, and Next Day shipping options are available. 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.

Made in the USA

Cross Tool and Manufacturing has been building Plastic Injection Molding Inserts and Frames since the mid-1980's. Over the last several years we have been continually improving our processes, quality, and capacity. This makes possible the addition of the (C-SERIES INSERTS) to our product line. We still make all of our products in the USA with local labor and suppliers.

C-SERIES:

Cross Tool: We are known for our high quality and great prices.

Comparable: Compares with other companies offering complete assemblies. No need to change your lay-out. We are now offering our 08/09 with 1/2" leader pins (see pages 6-7) The Pin locations have moved on the 08/09, but stayed the same on our 84/90 and 10/12. We have added the slotted full width sides to the 08/09, 84/90, and 10/12 Standard solid (C-XSU Series) inserts.

Choices: Off the shelf availability of 5 standard options for return pins and guided ejection. Now offering standardized three plate, and stripper plate inserts.

Competitive: Better pricing and more options.

Cost effective: Let us save you time and money by combining pockets, waterlines, bolted ear-plates, guided ejector plates, and return pins as options during the manufacturing of your inserts.

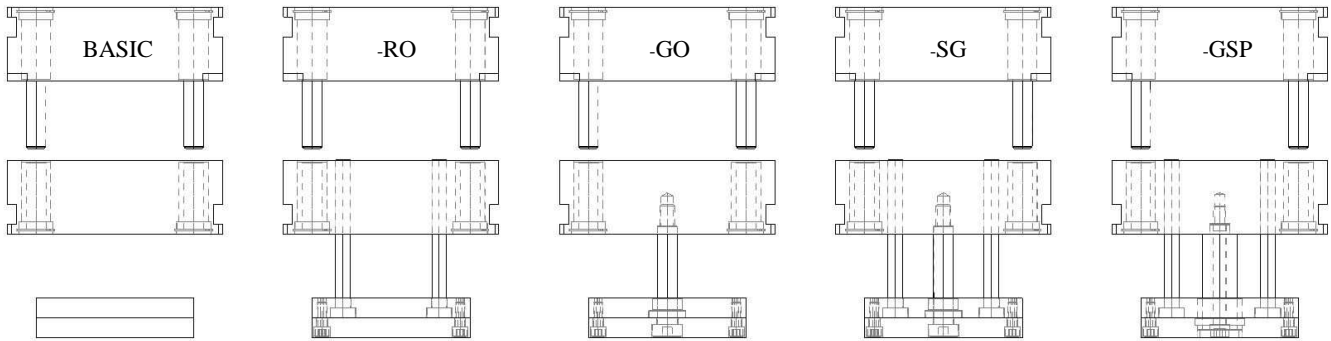
Yes, We still build all of our standard Products. U-Frames and inserts through 14/16 size, and H-Frame inserts. We do not build H-Frames.

C-SERIES INTERCHANGEABLE MOLDING INSERTS

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08/09 C-XSU SOLID INSERT

DRAWINGS AVAILABLE ONLINE IN .STEP OR .SAT FORMATS AT CROSSTOOL.COM

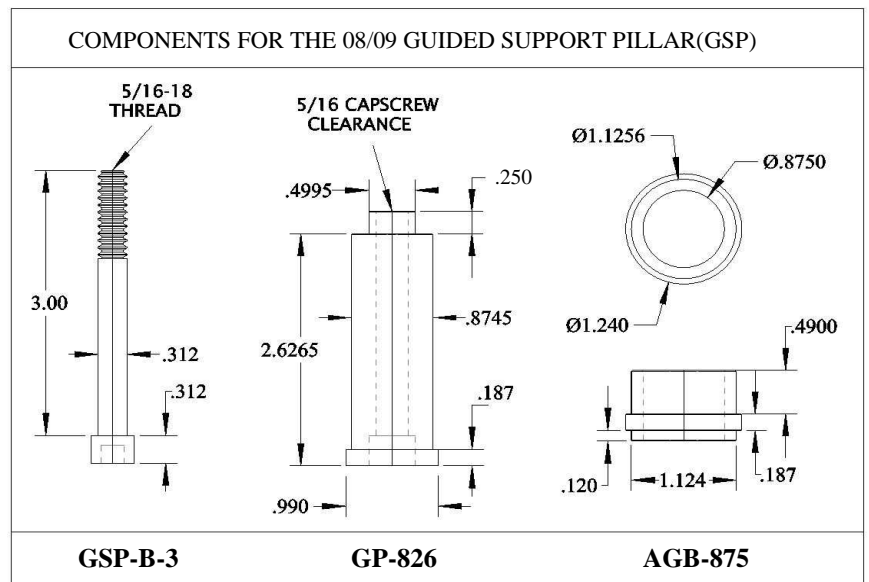


ORDERING EXAMPLES:

08/09 C-XSU-224-RO
 08/09 C-XSU-227-GSP
 08/09 C-XSU-230-SG

THE (GUIDED SUPPORT PILLAR) OPTION USES THE SAME LOCATIONS AS THE (SIMPLE GUIDED), AS DRAWN ON THE OPPOSITE PAGE →

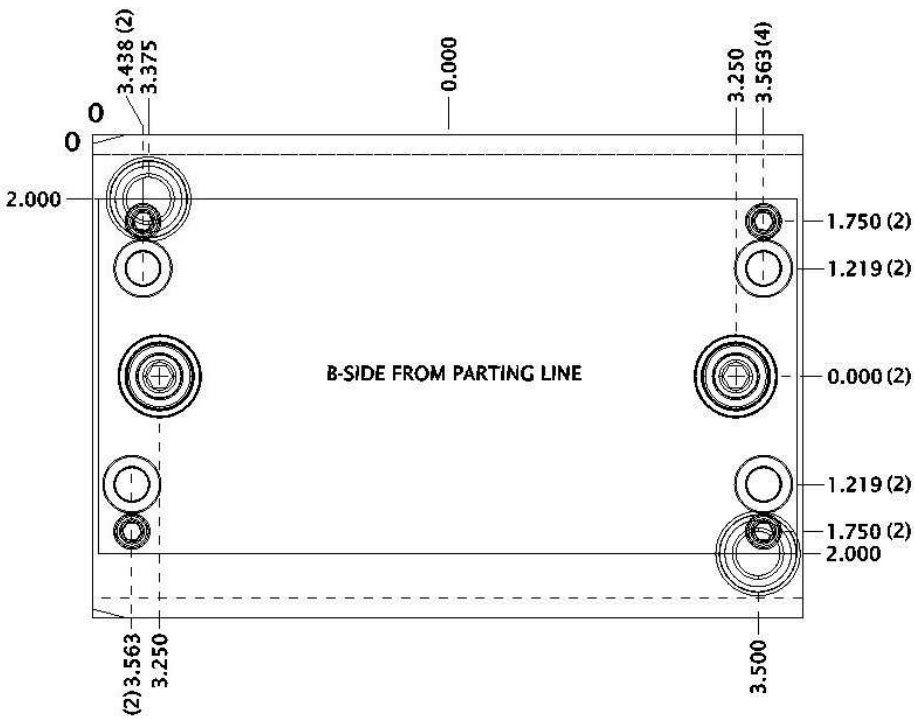
CATALOG NUMBER	A	B
BASIC		
08/09 C-XSU-224	1.877	1.877
08/09 C-XSU-225	1.877	2.377
08/09 C-XSU-226	2.377	1.877
08/09 C-XSU-227	2.377	2.377
08/09 C-XSU-228	2.377	2.877
08/09 C-XSU-229	2.877	2.377
08/09 C-XSU-230	2.877	2.877



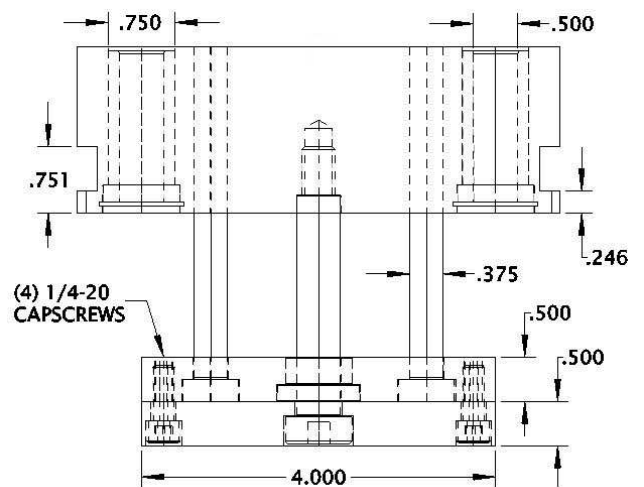
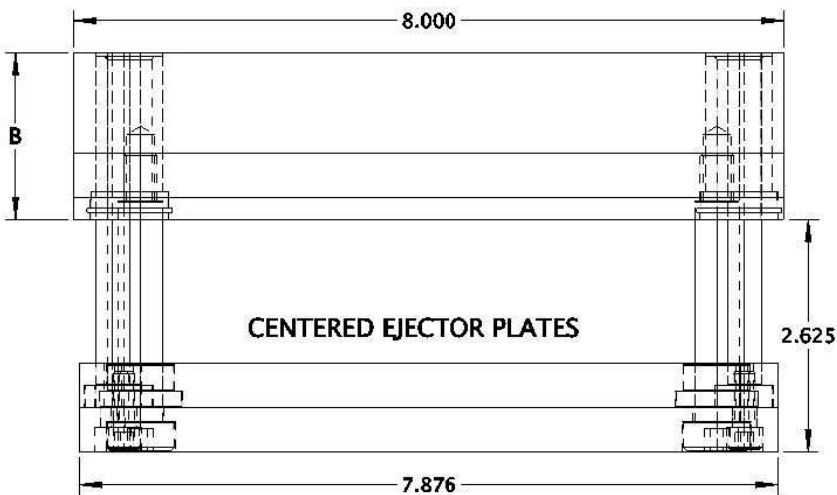
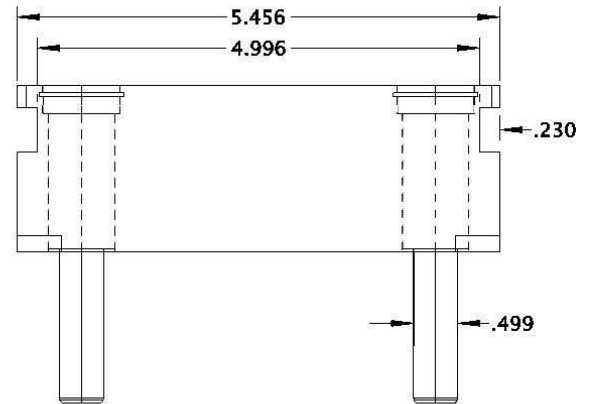
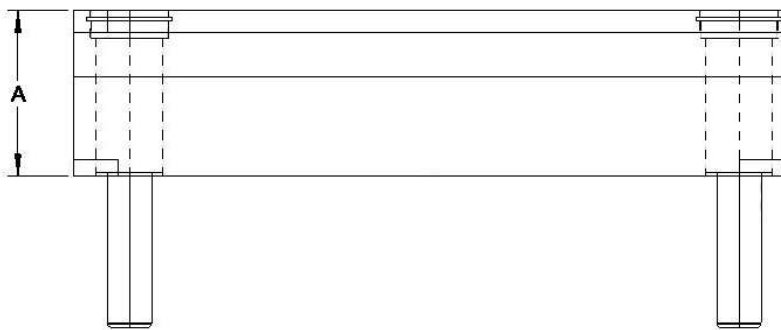
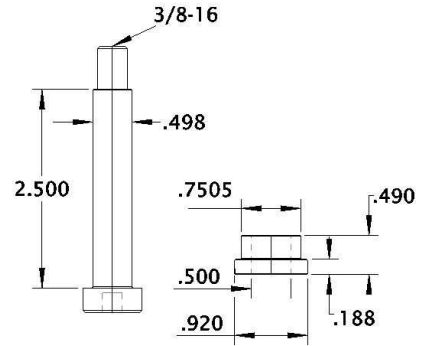
ADDITIONAL OPTIONS:

- RO (RETURN ONLY) INCLUDES ALL RETURN PIN MACHINING, WITH CUT TO SIZE RETURN PINS AND BOLTED EJECTOR PLATES.
- GO (GUIDED ONLY) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES BOLTED EJECTOR PLATES, BUT NO RETURN PINS.
- SG (SIMPLE GUIDED) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM, THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN PIN ONLY.
- GSP (GUIDED SUPPORT PILLAR) USES HIGH PRECISION SUPPORT PILLARS AND ALUMINUM BRONZE BUSHINGS TO PROVIDE A SUPERIOR QUALITY GUIDED EJECTOR SYSTEM. INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN ONLY.

08/09 C-XSU 5.0 X 8.0 FITS 08/09 U-FRAME

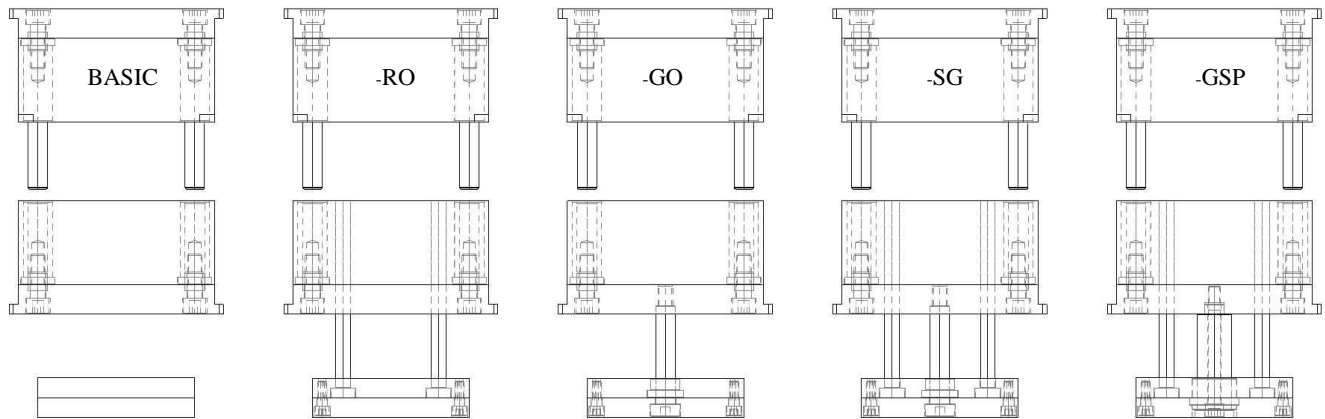


SIMPLE GUIDED



08/09 C-SLU LAMINATED INSERT

DRAWINGS AVAILABLE ONLINE IN .STEP OR .SAT FORMATS AT CROSTOOL.COM

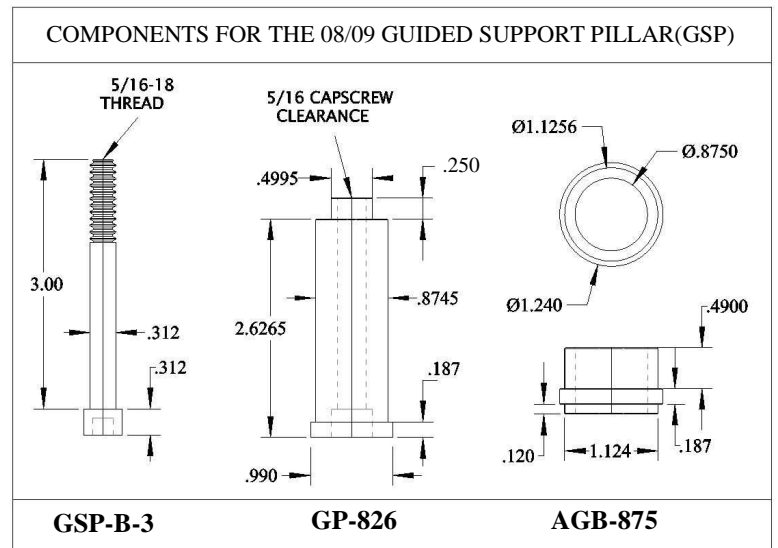


ORDERING EXAMPLES:

08/09 C-SLU-284-RO 08/09 C-SLU-287-GSP

CATALOG NUMBER	A	A2	B2	B
BASIC				
08/09 C-SLU-284	1.877	1.127	1.127	1.877
08/09 C-SLU-285	1.877	1.127	1.627	2.377
08/09 C-SLU-286	2.377	1.627	1.127	1.877
08/09 C-SLU-287	2.377	1.627	1.627	2.377
08/09 C-SLU-288	2.377	1.627	2.127	2.877
08/09 C-SLU-289	2.877	2.127	1.627	2.377
08/09 C-SLU-290	2.877	2.127	2.127	2.877

THE (GUIDED SUPPORT PILLAR) OPTION USES THE SAME LOCATIONS AS THE (SIMPLE GUIDED), AS DRAWN ON THE OPPOSITE PAGE →

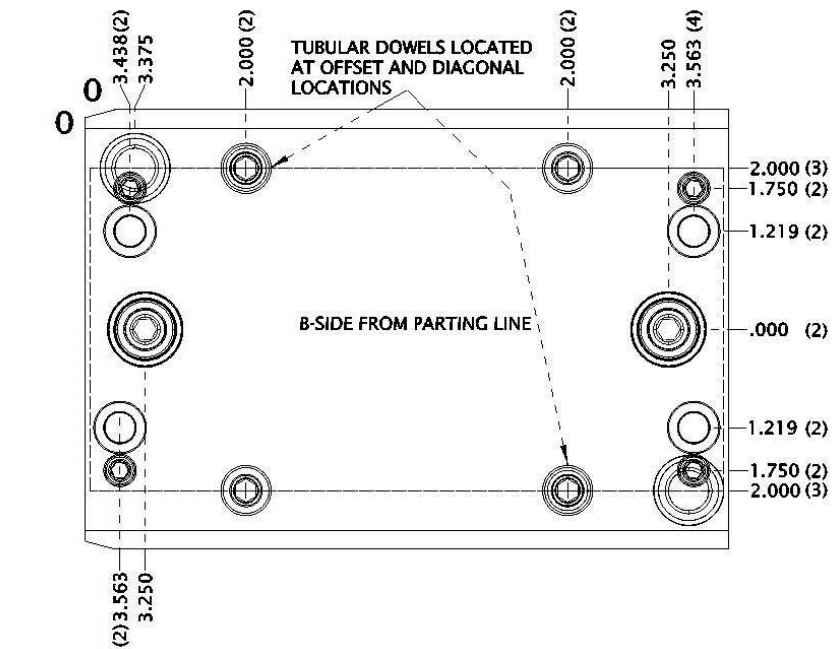


NOTE: THE C-SLU SERIES INCLUDES BOLTED EAR PLATES WITH TUBULAR ALIGNMENT DOWELS.

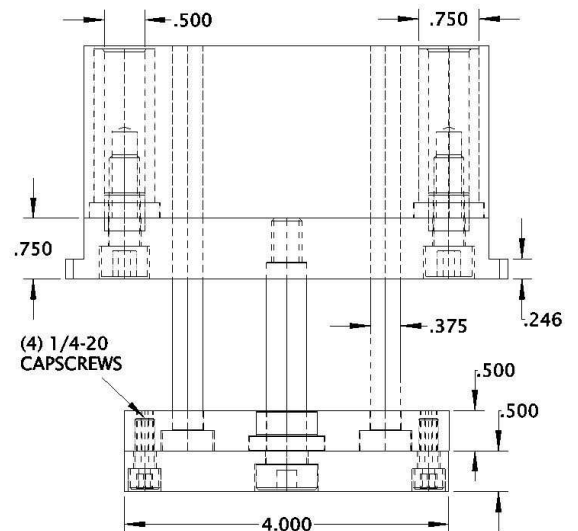
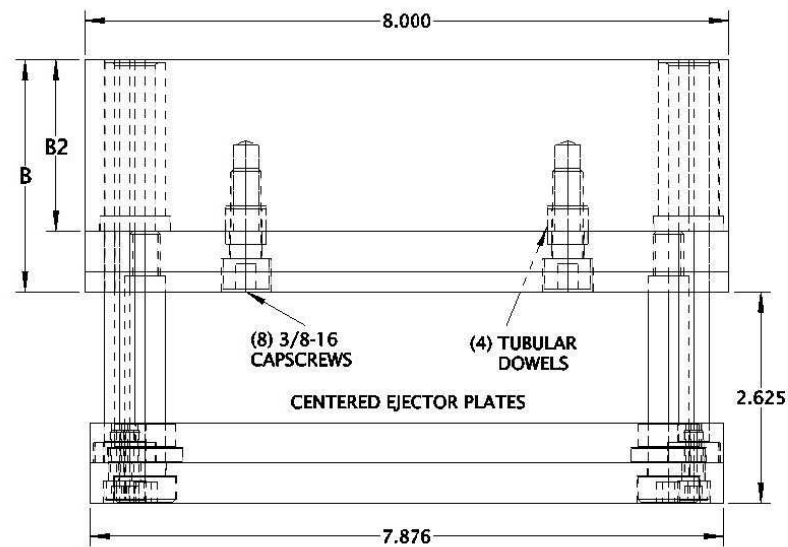
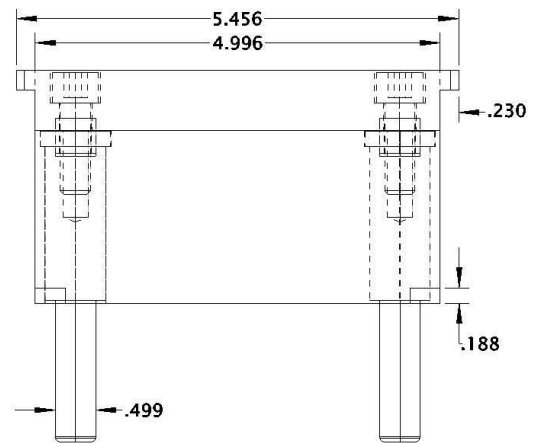
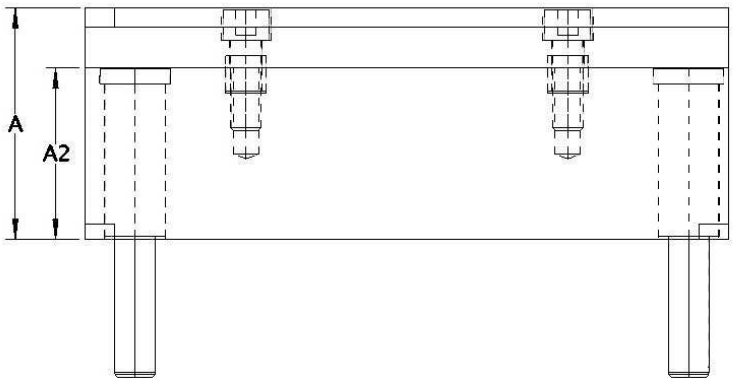
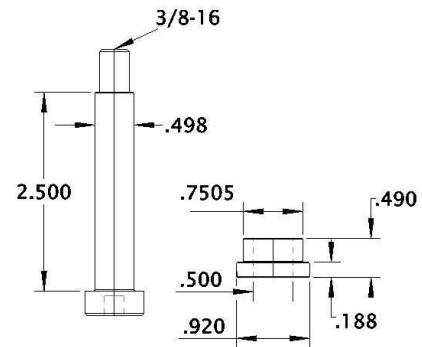
ADDITIONAL OPTIONS:

- RO (RETURN ONLY) INCLUDES ALL RETURN PIN MACHINING, WITH CUT TO SIZE RETURN PINS AND BOLTED EJECTOR PLATES.
- GO (GUIDED ONLY) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES BOLTED EJECTOR PLATES, BUT NO RETURN PINS.
- SG (SIMPLE GUIDED) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM, THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN PIN ONLY.
- GSP (GUIDED SUPPORT PILLAR) USES HIGH PRECISION SUPPORT PILLARS AND ALUMINUM BRONZE BUSHINGS TO PROVIDE A SUPERIOR QUALITY GUIDED EJECTOR SYSTEM. INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN ONLY.

08/09 C-SLU 5.0 X 8.0 FITS 08/09 U-FRAME

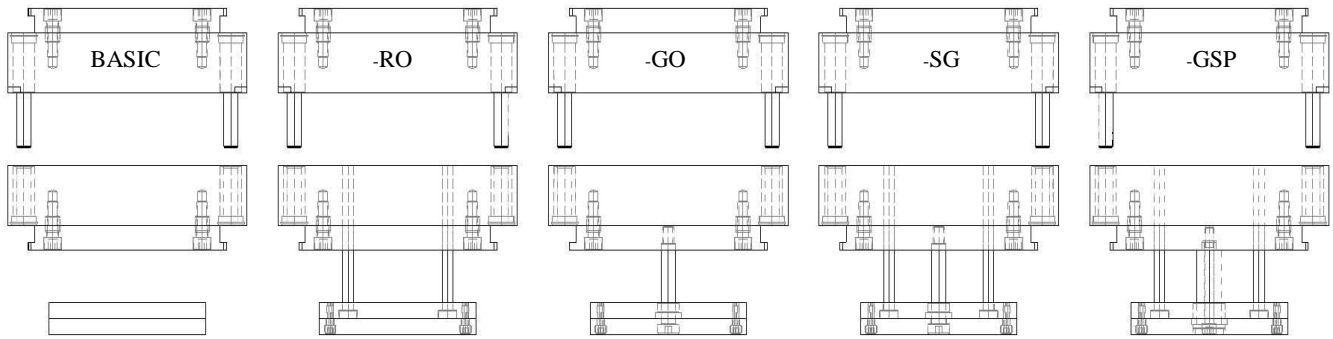


SIMPLE GUIDED



08/09 C-TLU LAMINATED T-STYLE

DRAWINGS AVAILABLE ONLINE IN .STEP OR .SAT FORMATS AT CROSTOOL.COM



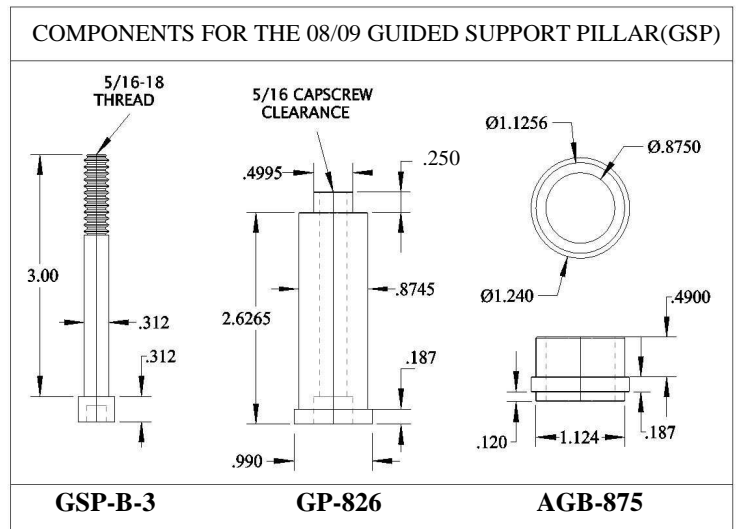
ORDERING EXAMPLES:

08/09 C-TLU-002-RO 08/09 C-TLU-004-GSP
 08/09 C-TLU-006-SG 08/09 C-TLU-001-GO

THE (GUIDED SUPPORT PILLAR) OPTION USES THE SAME LOCATIONS AS THE (SIMPLE GUIDED), AS DRAWN ON THE OPPOSITE PAGE →

CATALOG NUMBER BASIC	A	A2	B2	B
08/09 C-TLU-001	2.127	1.377	1.377	2.127
08/09 C-TLU-002	2.127	1.377	1.877	2.627
08/09 C-TLU-003	2.627	1.877	1.377	2.127
08/09 C-TLU-004 (TLU 206)	2.627	1.877	1.877	2.627
08/09 C-TLU-005	2.627	1.877	2.377	3.127
08/09 C-TLU-006	3.127	2.377	2.377	3.127

NOTE: NEW SIZES



NOTE: THE C-TLU SERIES INCLUDES BOLTED EAR PLATES WITH TUBULAR ALIGNMENT DOWELS.

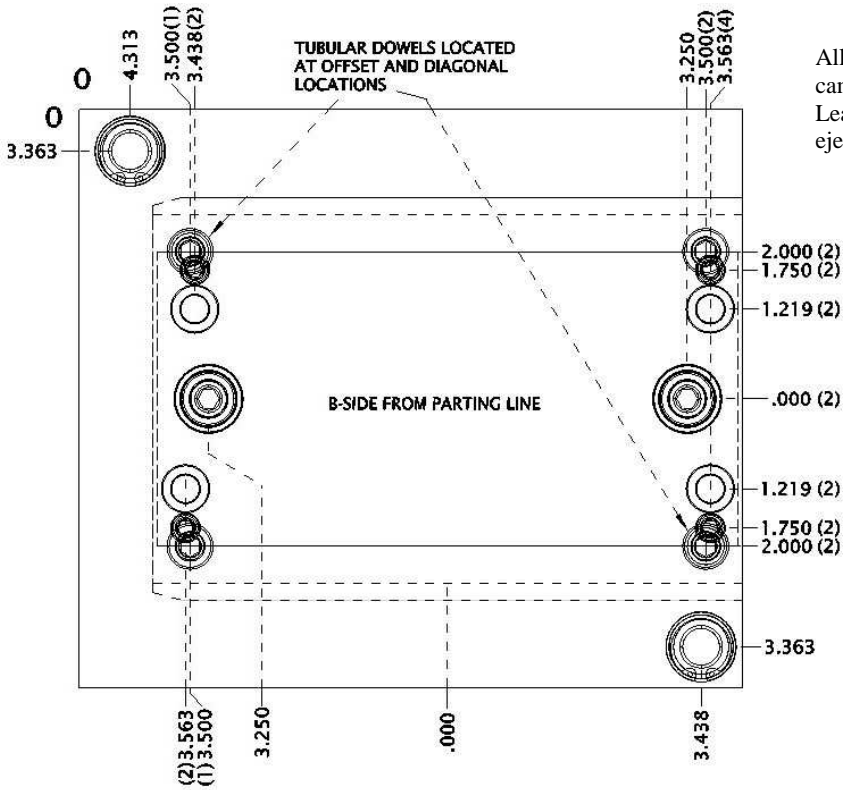
ADDITIONAL OPTIONS:

- RO (RETURN ONLY) INCLUDES ALL RETURN PIN MACHINING, WITH CUT TO SIZE RETURN PINS AND BOLTED EJECTOR PLATES.
- GO (GUIDED ONLY) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES BOLTED EJECTOR PLATES, BUT NO RETURN PINS.
- SG (SIMPLE GUIDED) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM, THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN PIN ONLY.
- GSP (GUIDED SUPPORT PILLAR) USES HIGH PRECISION SUPPORT PILLARS AND ALUMINUM BRONZE BUSHINGS TO PROVIDE A SUPERIOR QUALITY GUIDED EJECTOR SYSTEM. INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN ONLY.

08/09 C-TLU

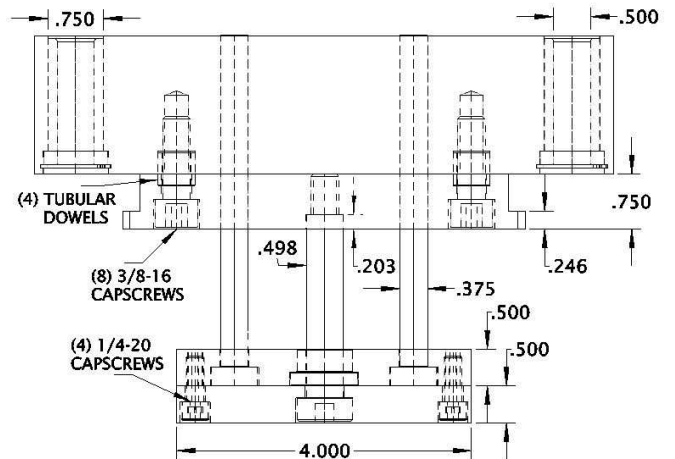
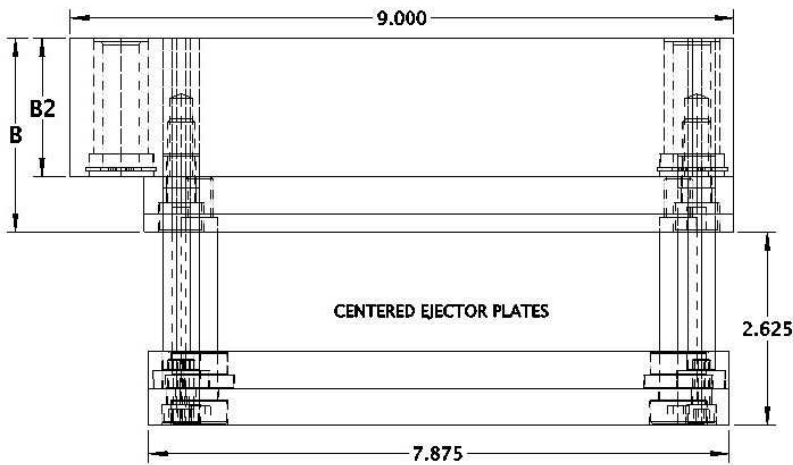
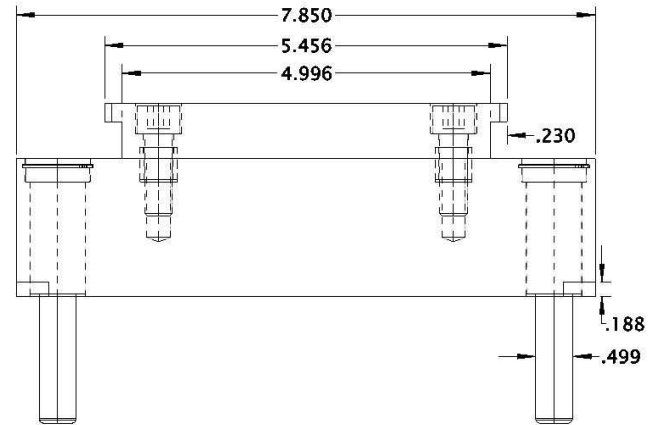
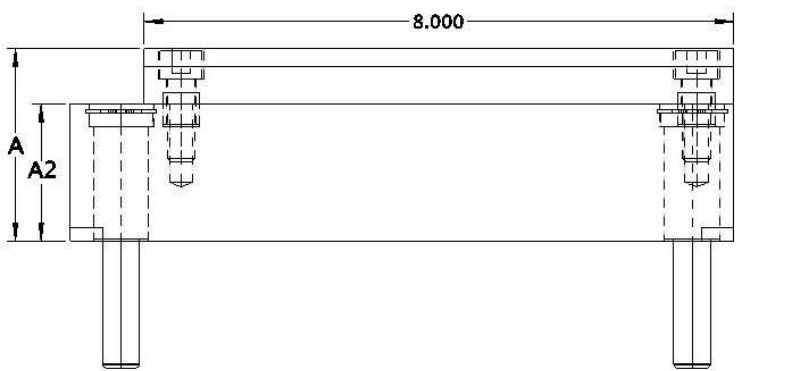
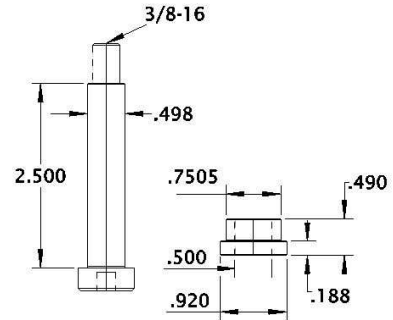
5.0 X 8.0 EAR PLATE
7.85 X 9.0 T-PLATE

FITS 08/09 U-FRAME

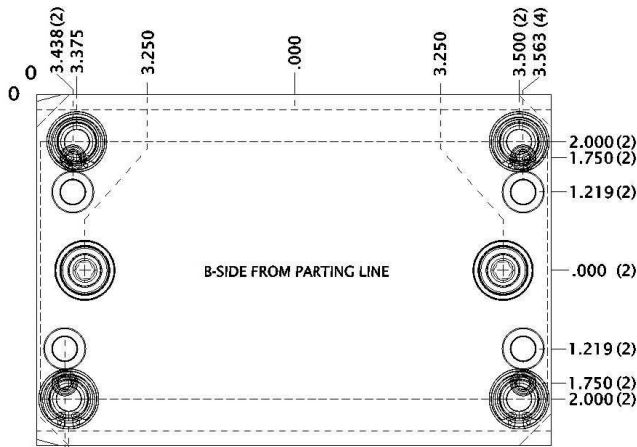


All C-TLU'S can be modified in length and width to accommodate cams or waterlines. Leader Pin locations can be moved, or 2 more Leader Pins can be added for an additional cost. All ear-plate and ejector locations will stay in the same position.

SIMPLE GUIDED



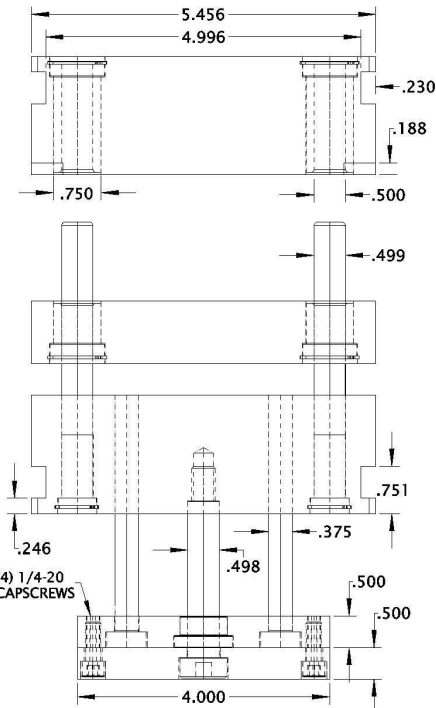
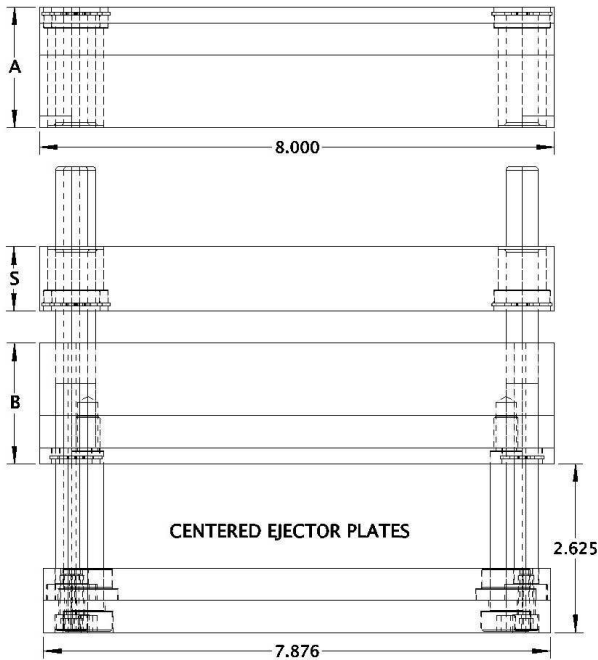
08/09 C-XSU-S STRIPPER PLATE INSERT 5.0 X 8.0 FITS 08/09 U-FRAME



SHOWN AS SIMPLE GUIDED WITH 4 STRAIGHT LEADER PINS.

YOUR CHOICES INCLUDE:

- * 2 STANDARD LOCATED LEADER PINS (OPTIONAL)
- * ALL THE OPTIONS FOR RETURN PINS, GUIDED EJECTORS OR BLANK EJECTOR PLATES (SEE C-XSU PAGE 6)
- * ALSO AVAILABLE WITH A LAMINATED A-SIDE OR B-SIDE



ORDERING EXAMPLES:

08/09 C-XSU-S-005-1
08/09 C-XSU-S-001-1
08/09 C-XSU-S-003-1

CUSTOM ORDER EXAMPLES:

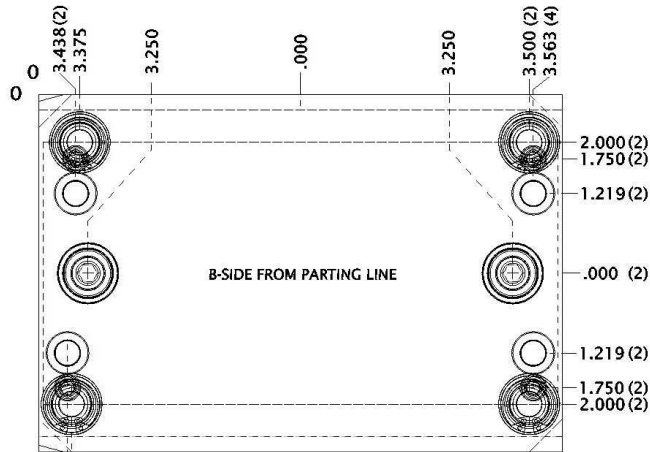
08/09 C-SLU-S 08/09 C-XSU-S-2HOLE
A 1.877 A 1.877
A2 1.125 S 0.750
S 1.000 B 2.377
B2 1.627
B 2.377

A-PLATES AND B-PLATES CAN BE ORDERED IN ANY COMBINATION OF 1.377, 1.877, 2.377, OR 2.877.

OTHER STRIPPER THICKNESSES ARE ALSO AVAILABLE

CATALOG NUMBER	A	B	S
08/09 C-XSU-S-001	1.877	1.377	1.000
08/09 C-XSU-S-002	1.877	1.877	1.000
08/09 C-XSU-S-003	1.877	2.377	1.000
08/09 C-XSU-S-004	2.377	1.877	1.000
08/09 C-XSU-S-005	2.377	2.377	1.000
08/09 C-XSU-S-006	2.877	2.377	1.000

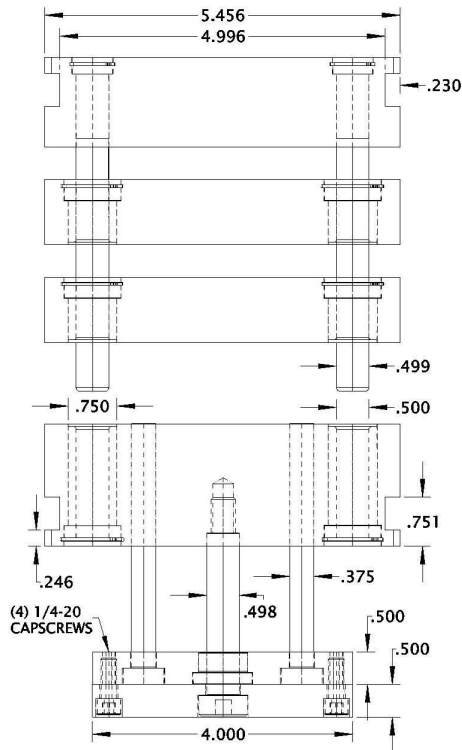
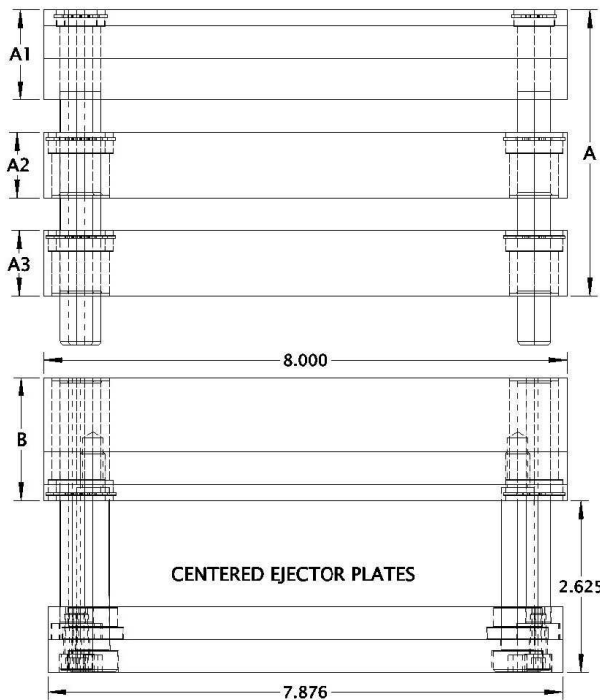
08/09 C-XSU-3P 3 PLATE INSERT 5.0 X 8.0 FITS 08/09 U-FRAME



SHOWN AS SIMPLE GUIDED WITH 4 STRAIGHT LEADER PINS.

YOUR CHOICES INCLUDE:

- * 2 STANDARD LOCATED LEADER PINS (OPTIONAL)
- * ALL THE OPTIONS FOR RETURN PINS, GUIDED EJECTORS OR BLANK EJECTOR PLATES (SEE C-XSU PAGE 6)
- * ALSO AVAILABLE WITH A LAMINATED B-SIDE



CATALOG NUMBER EXAMPLES ONLY	A1	A2	A3	B
08/09 C-XSU-3P-001	1.000	1.000	1.000	1.877
08/09 C-XSU-3P-002	1.000	1.000	1.000	2.377
08/09 C-XSU-3P-003	1.000	1.000	1.000	2.877
08/09 C-XSU-3P-004	1.377	1.000	1.000	1.877
08/09 C-XSU-3P-005	1.377	1.000	1.000	2.377
08/09 C-XSU-3P-006	1.377	1.000	1.000	2.877

ORDERING EXAMPLES:

08/09 C-XSU-3P-005
08/09 C-XSU-3P-001
08/09 C-XSU-3P-003

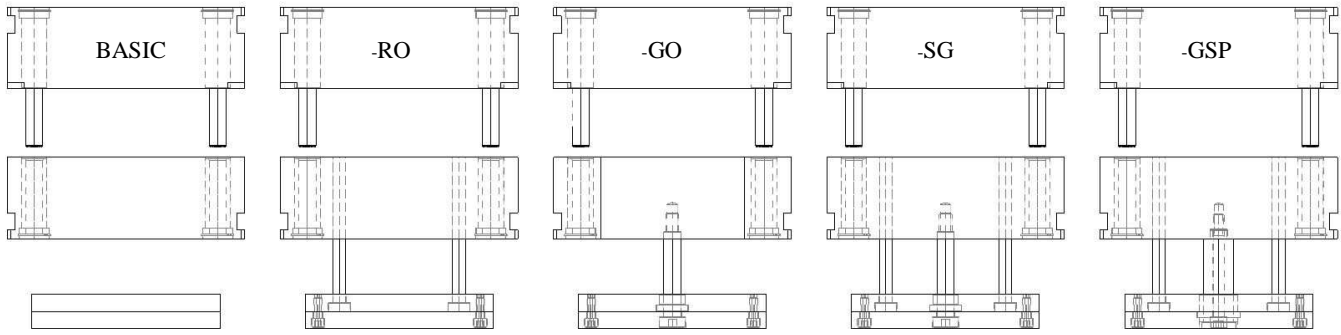
CUSTOM ORDER EXAMPLES:

08/09 C-XSU-3P	08/09 C-XSU-3P
A1 1.877	A1 1.377
A2 1.250	A2 1.877
A3 1.377	A3 1.000
B2 1.627	B 2.377
B 2.377	

CAN BE ORDERED IN ANY COMBINATION OF 1.00, 1.377, 1.877, 2.377, OR 2.877.

84/90 C-XSU SOLID INSERT

DRAWINGS AVAILABLE ONLINE IN .STEP OR .SAT FORMATS AT CROSTOOL.COM

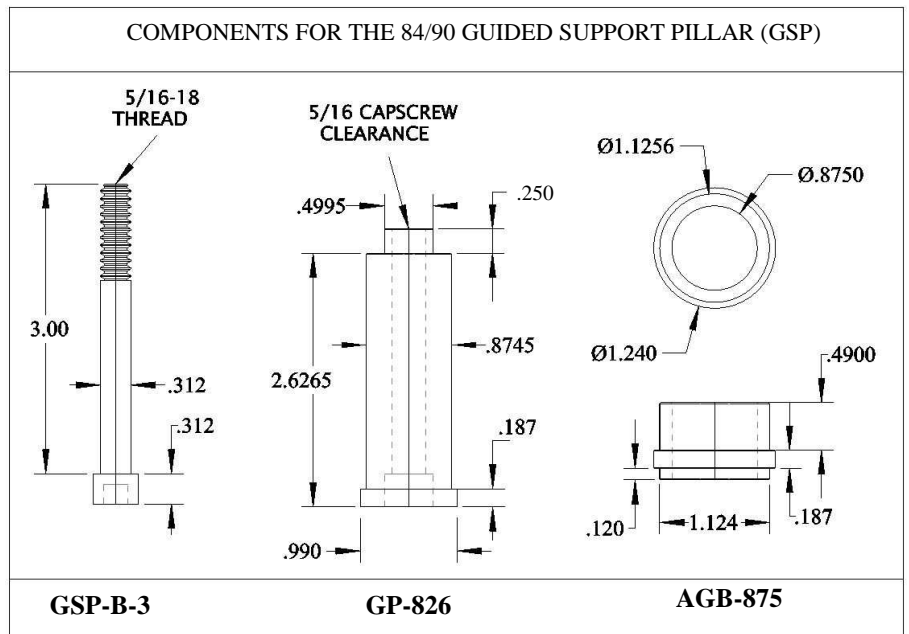


ORDERING EXAMPLES:

- 84/90 C-XSU 224-RO
- 84/90 C-XSU-227-GSP
- 84/90 C-XSU-230-SG

THE (GUIDED SUPPORT PILLAR) OPTION USES THE SAME LOCATIONS AS THE (SIMPLE GUIDED), AS DRAWN ON THE OPPOSITE PAGE →

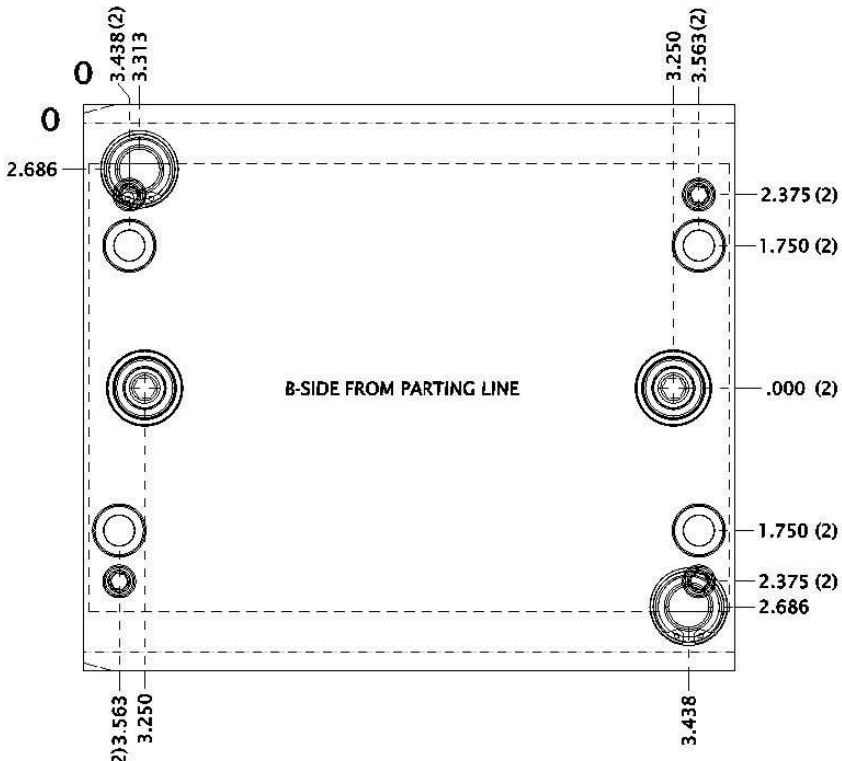
CATALOG NUMBER	A	B
BASIC		
84/90 C-XSU-224	1.877	1.877
84/90 C-XSU-225	1.877	2.377
84/90 C-XSU-226	2.377	1.877
84/90 C-XSU-227	2.377	2.377
84/90 C-XSU-228	2.377	2.877
84/90 C-XSU-229	2.877	2.377
84/90 C-XSU-230	2.877	2.877



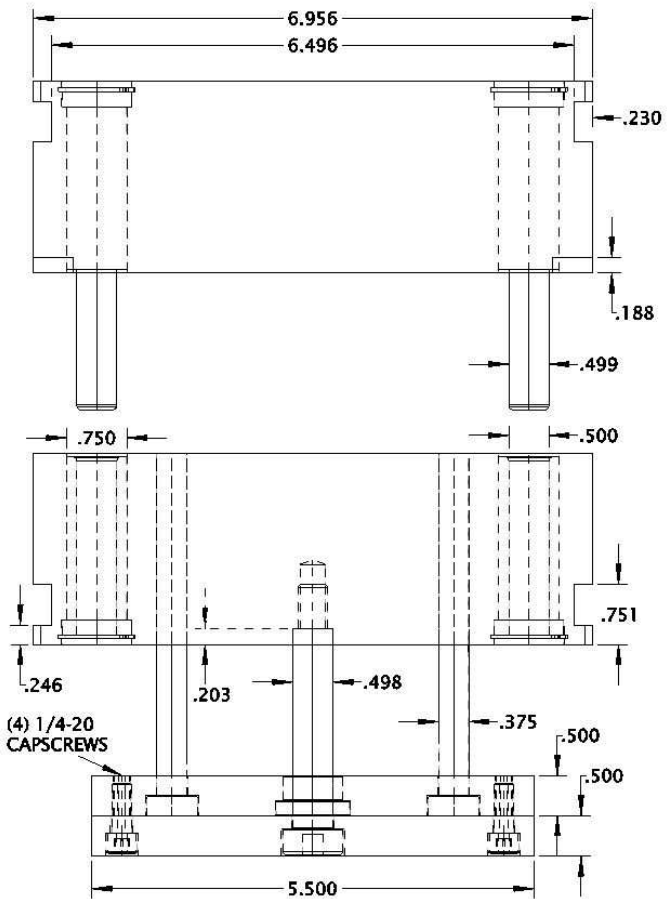
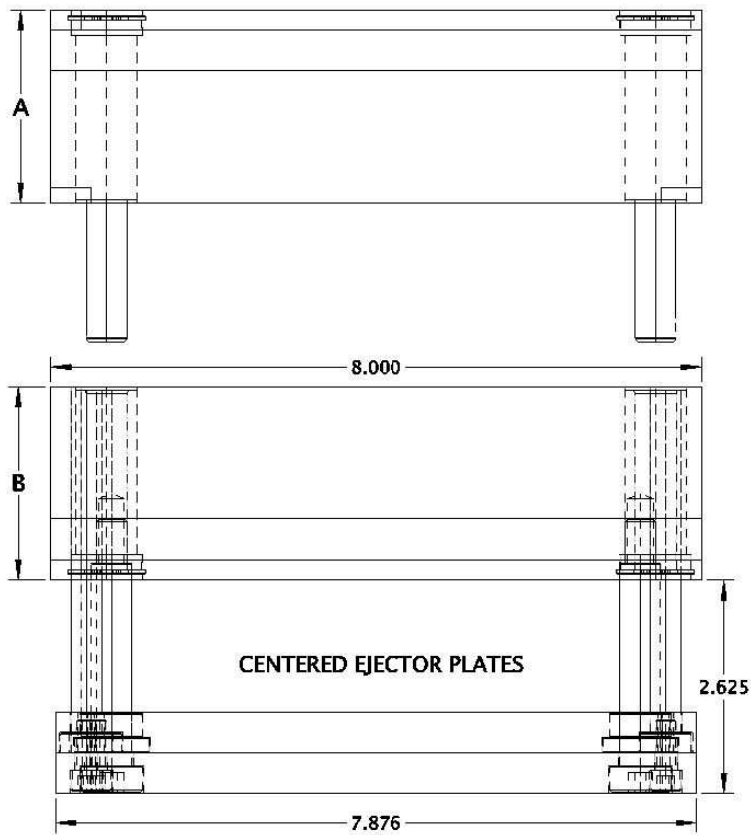
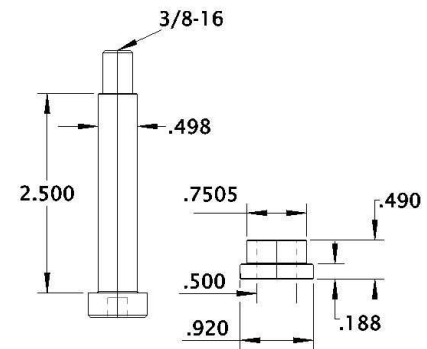
ADDITIONAL OPTIONS:

- RO (RETURN ONLY) INCLUDES ALL RETURN PIN MACHINING, WITH CUT TO SIZE RETURN PINS AND BOLTED EJECTOR PLATES.
- GO (GUIDED ONLY) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES BOLTED EJECTOR PLATES, BUT NO RETURN PINS.
- SG (SIMPLE GUIDED) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM, THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN PIN ONLY.
- GSP (GUIDED SUPPORT PILLAR) USES HIGH PRECISION SUPPORT PILLARS AND ALUMINUM BRONZE BUSHINGS TO PROVIDE A SUPERIOR QUALITY GUIDED EJECTOR SYSTEM. INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN ONLY.

84/90 C-XSU 6.5 X 8.0 FITS 84/90 U-FRAME

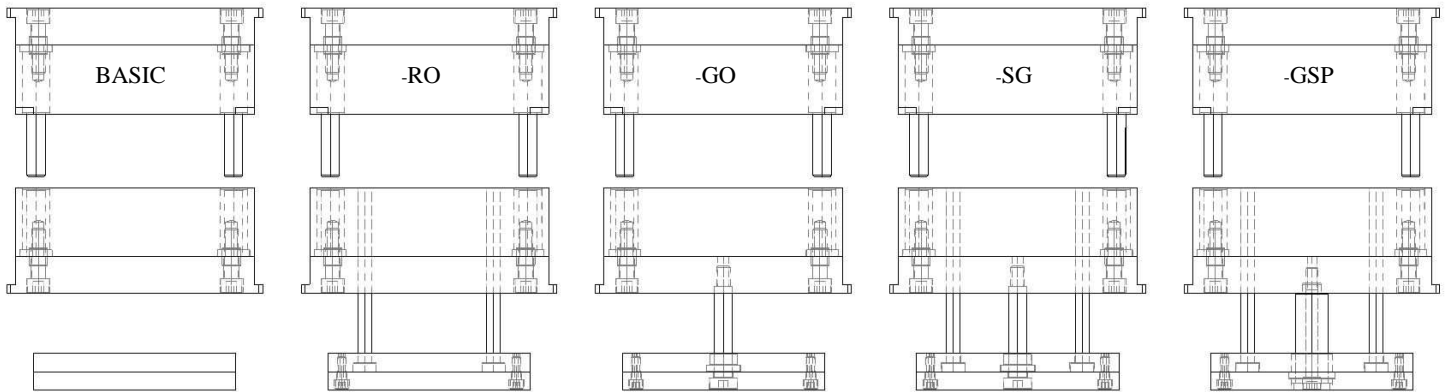


SIMPLE GUIDED



84/90 C-SLU LAMINATED INSERT

DRAWINGS AVAILABLE ONLINE IN .STEP OR .SAT FORMATS AT CROSSTOOL.COM



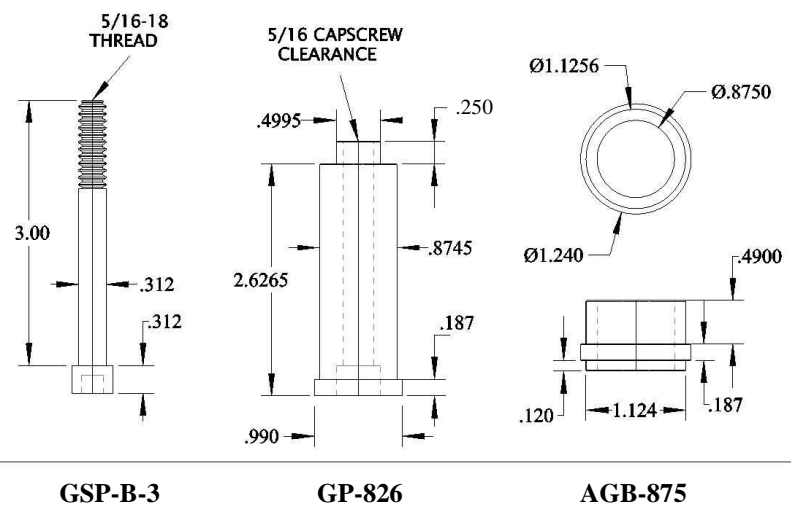
ORDERING EXAMPLES:

84/90 C-SLU-284-RO 84/90 C-SLU-287-GSP
 84/90 C-SLU-290 84/90 C-SLU-287-SG

THE (GUIDED SUPPORT PILLAR) OPTION USES THE SAME LOCATIONS AS THE (SIMPLE GUIDED), AS DRAWN ON THE OPPOSITE PAGE →

CATALOG NUMBER	A	A2	B2	B
BASIC				
84/90 C-SLU-284	2.377	1.377	1.377	2.377
84/90 C-SLU-285	2.377	1.377	1.877	2.877
84/90 C-SLU-286	2.877	1.877	1.377	2.377
84/90 C-SLU-287	2.877	1.877	1.877	2.877
84/90 C-SLU-288	2.877	1.877	2.377	3.377
84/90 C-SLU-289	3.377	2.377	1.877	2.877
84/90 C-SLU-290	3.377	2.377	2.377	3.377

COMPONENTS FOR THE 84/90 GUIDED SUPPORT PILLAR(GSP)

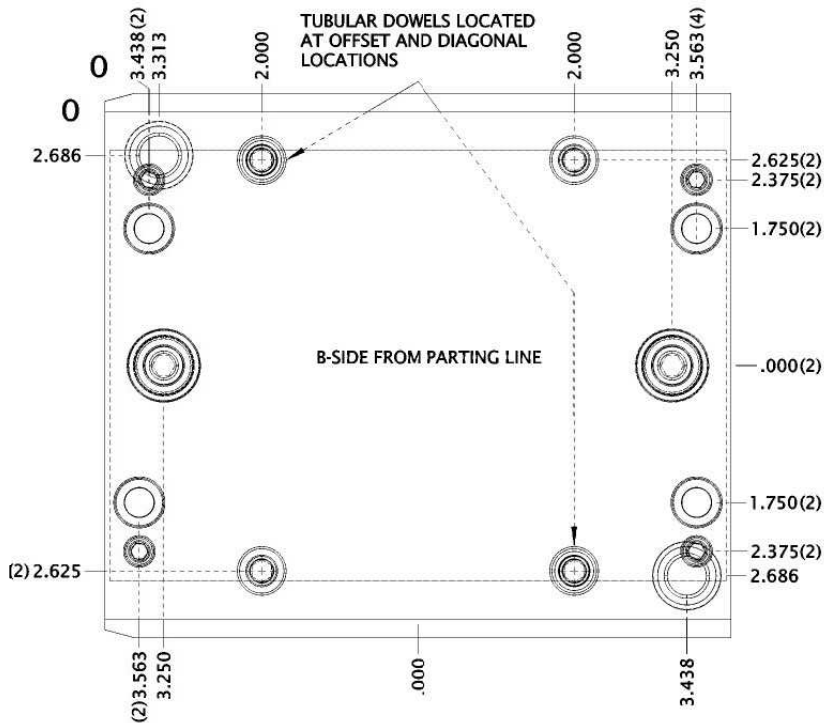


NOTE: THE C-SLU SERIES INCLUDES BOLTED EAR PLATES WITH TUBULAR ALIGNMENT DOWELS.

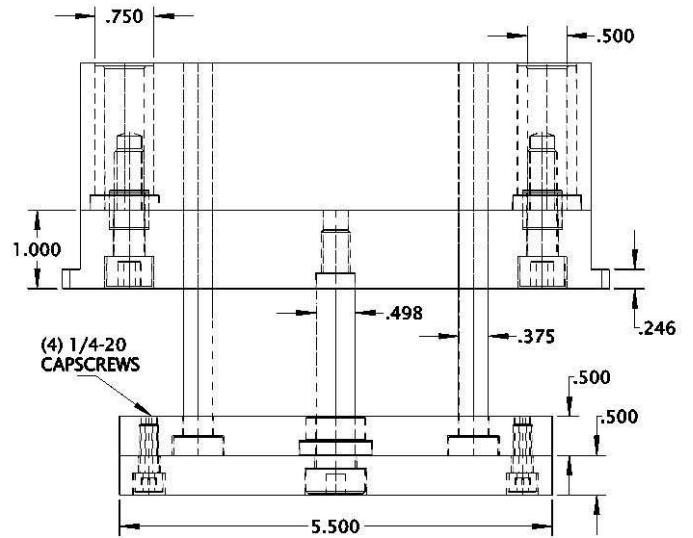
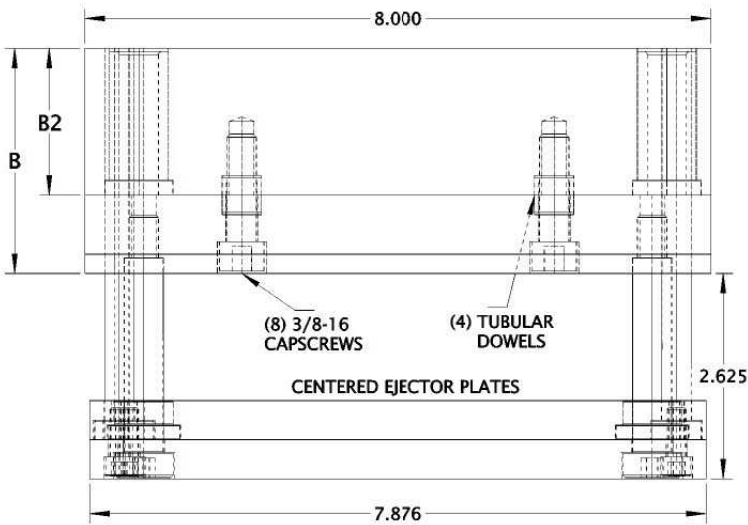
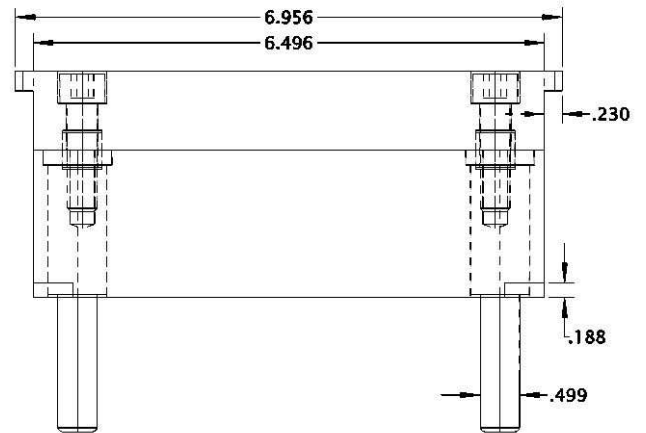
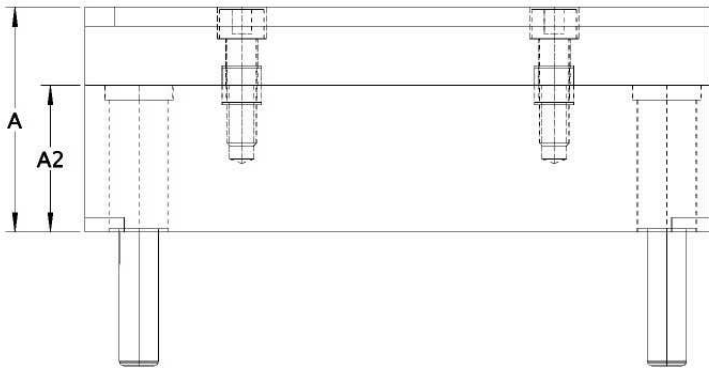
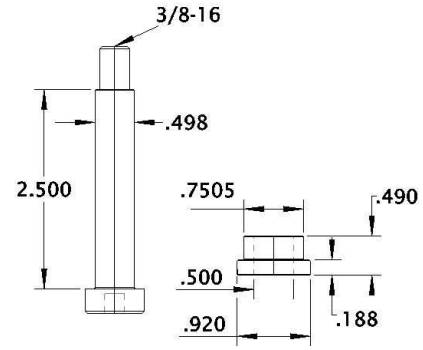
ADDITIONAL OPTIONS:

- RO (RETURN ONLY) INCLUDES ALL RETURN PIN MACHINING, WITH CUT TO SIZE RETURN PINS AND BOLTED EJECTOR PLATES.
- GO (GUIDED ONLY) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES BOLTED EJECTOR PLATES, BUT NO RETURN PINS.
- SG (SIMPLE GUIDED) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM, THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN PIN ONLY.
- GSP (GUIDED SUPPORT PILLAR) USES HIGH PRECISION SUPPORT PILLARS AND ALUMINUM BRONZE BUSHINGS TO PROVIDE A SUPERIOR QUALITY GUIDED EJECTOR SYSTEM. INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN ONLY.

84/90 C-SLU 6.5 X 8.0 FITS 84/90 U-FRAME

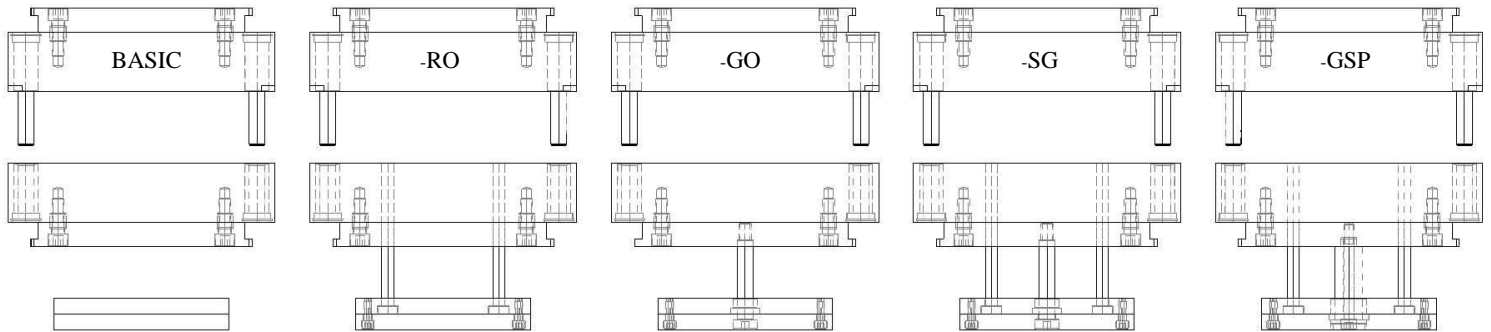


SIMPLE GUIDED



84/90 C-TLU LAMINATED T-STYLE

DRAWINGS AVAILABLE ONLINE IN .STEP OR .SAT FORMATS AT CROSSTOOL.COM



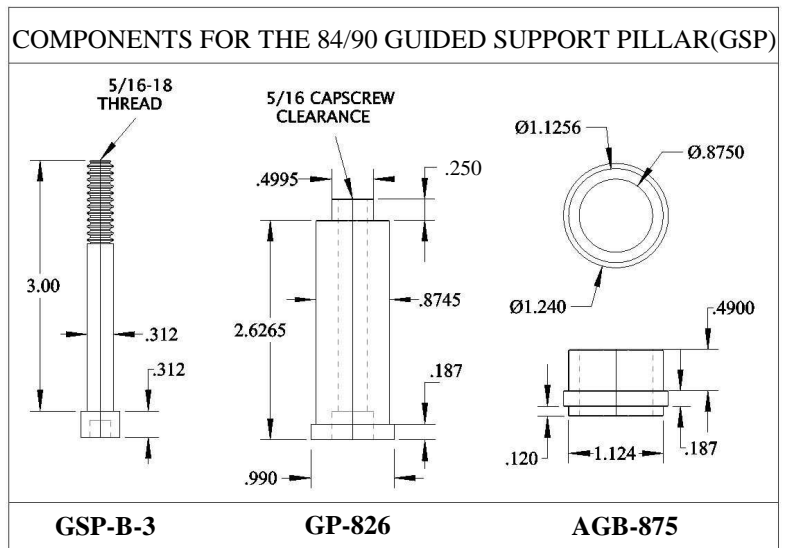
ORDERING EXAMPLES:

84/90 C-TLU-002-RO 84/90 C-TLU-004-GSP
 84/90 C-TLU-004-SG 84/90 C-TLU-006-GO
 84/90 C-TLU-003

THE (GUIDED SUPPORT PILLAR) OPTION USES THE SAME LOCATIONS AS THE (SIMPLE GUIDED), AS DRAWN ON THE OPPOSITE PAGE →

NOTE: NEW SIZES

CATALOG NUMBER BASIC	A	A2	B2	B
84/90 C-TLU-001	2.127	1.377	1.377	2.127
84/90 C-TLU-002	2.127	1.377	1.877	2.627
84/90 C-TLU-003 (TLU 207)	2.627	1.877	1.877	2.627
84/90 C-TLU-004	2.627	1.877	2.377	3.127
84/90 C-TLU-005	3.127	2.377	1.877	2.627
84/90 C-TLU-006	3.127	2.377	2.377	3.127



NOTE: THE C-TLU SERIES INCLUDES BOLTED EAR PLATES WITH TUBULAR ALIGNMENT DOWELS.

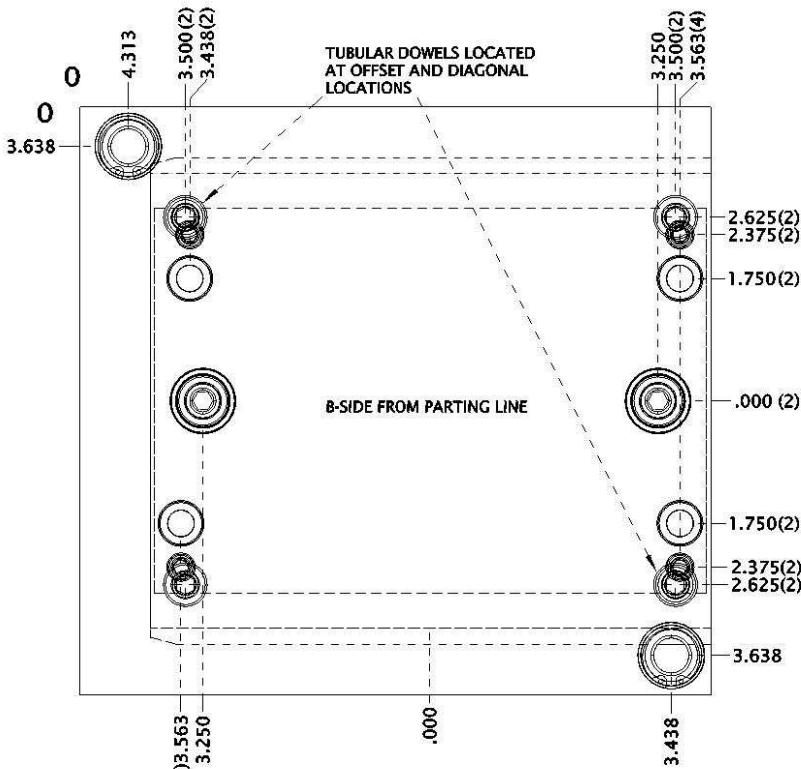
ADDITIONAL OPTIONS:

- RO (RETURN ONLY) INCLUDES ALL RETURN PIN MACHINING, WITH CUT TO SIZE RETURN PINS AND BOLTED EJECTOR PLATES.
- GO (GUIDED ONLY) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES BOLTED EJECTOR PLATES, BUT NO RETURN PINS.
- SG (SIMPLE GUIDED) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM, THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN PIN ONLY.
- GSP (GUIDED SUPPORT PILLAR) USES HIGH PRECISION SUPPORT PILLARS AND ALUMINUM BRONZE BUSHINGS TO PROVIDE A SUPERIOR QUALITY GUIDED EJECTOR SYSTEM. INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN ONLY.

84/90 C-TLU

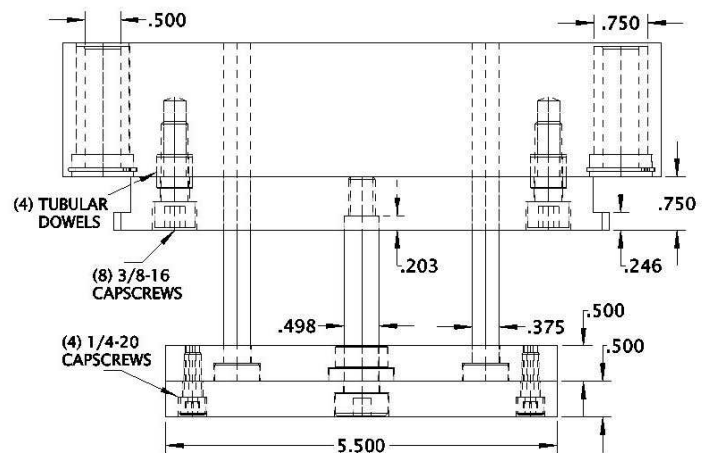
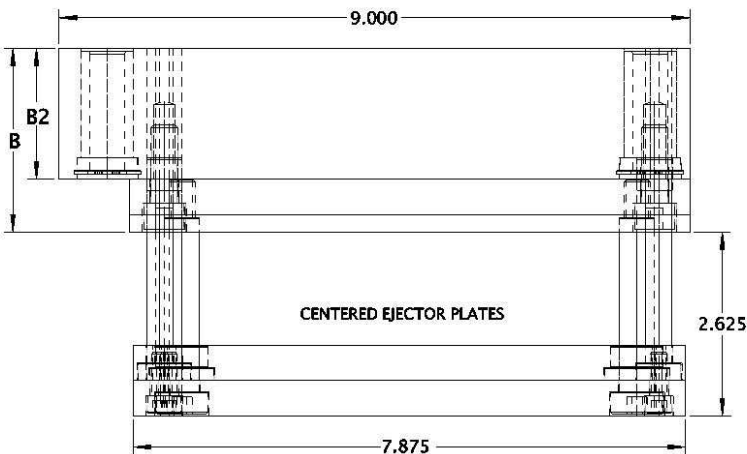
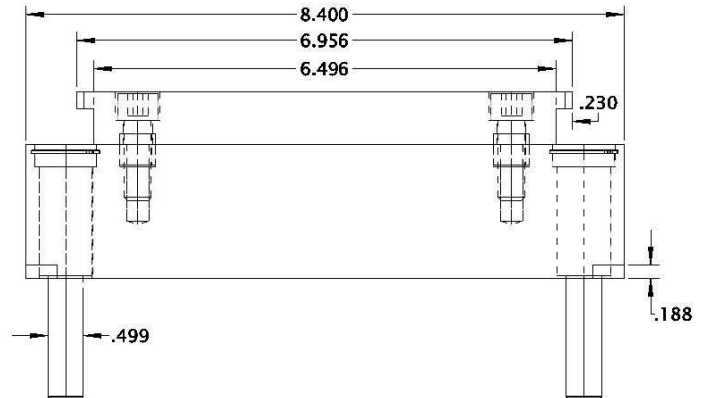
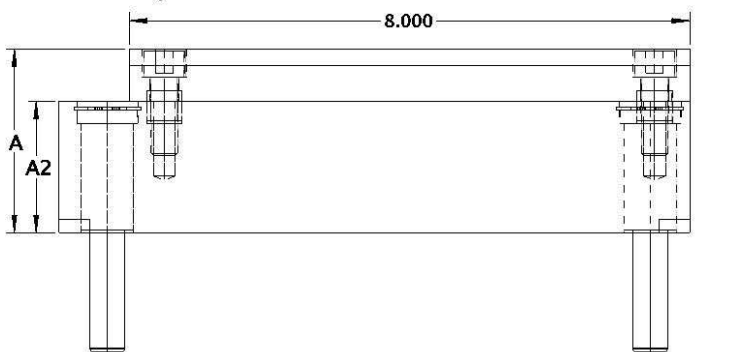
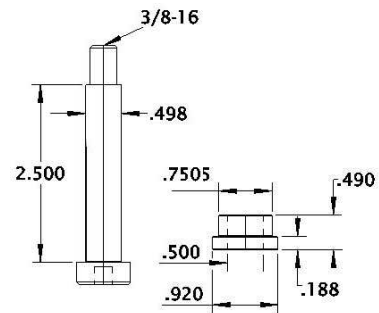
6.5 X 8.0 EAR PLATE
8.4 X 9.0 T-PLATE

FITS 84/90 U-FRAME

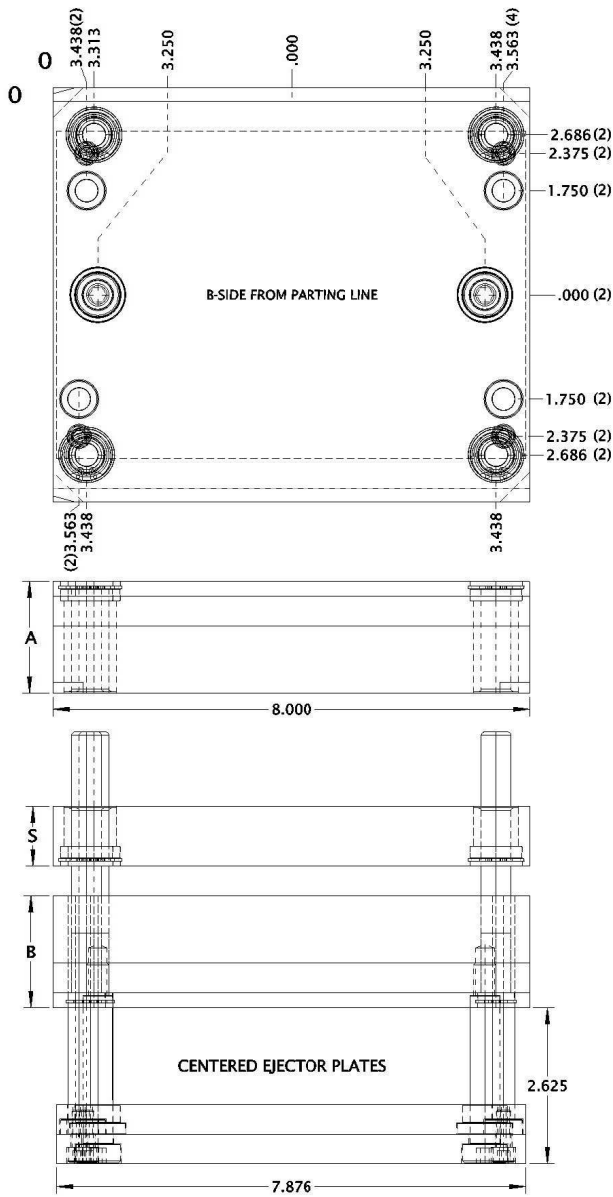


All C-TLU'S can be modified in length and width to accommodate cams or waterlines. Leader Pin locations can be moved, or 2 more Leader Pins can be added for an additional cost. All ear-plate and ejector locations will stay in the same position.

SIMPLE GUIDED



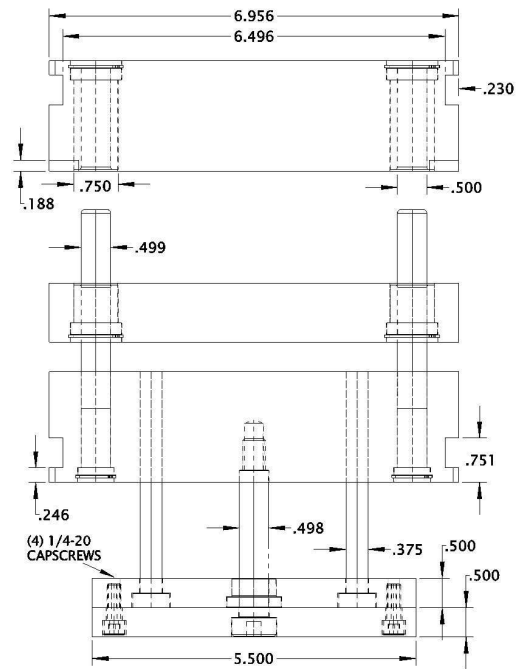
84/90 C-XSU-S STRIPPER PLATE INSERT 6.5 X 8.0 FITS 84/90 U-FRAME



SHOWN AS SIMPLE GUIDED WITH 4 STRAIGHT LEADER PINS.

YOUR CHOICES INCLUDE:

- * 2 STANDARD LOCATED LEADER PINS (OPTIONAL)
- * ALL THE OPTIONS FOR RETURN PINS, GUIDED EJECTORS OR BLANK EJECTOR PLATES (SEE C-XSU PAGE 14)
- * ALSO AVAILABLE WITH A LAMINATED A-SIDE OR B-SIDE



ORDERING EXAMPLES:

84/90 C-XSU-S-005-1
84/90 C-XSU-S-001-1
84/90 C-XSU-S-003-1

CUSTOM ORDER EXAMPLES:

84/90 C-SLU-S 84/90 C-XSU-S-2HOLE
A 1.877 A 1.877
A2 1.125 S 0.750
S 1.000 B 2.377
B2 1.627
B 2.377

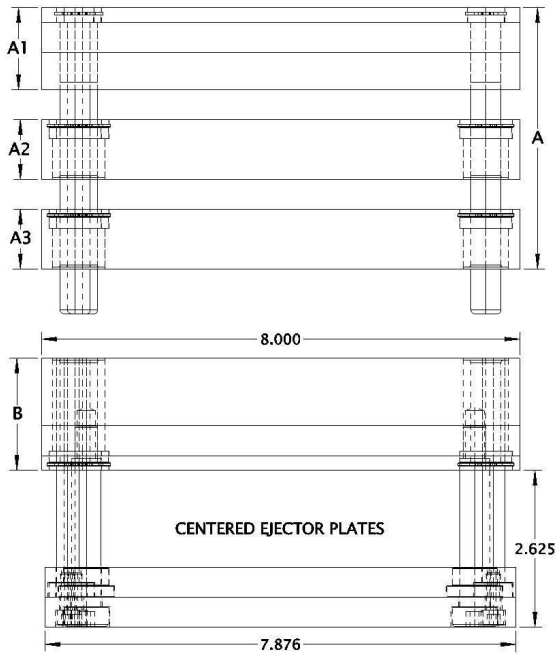
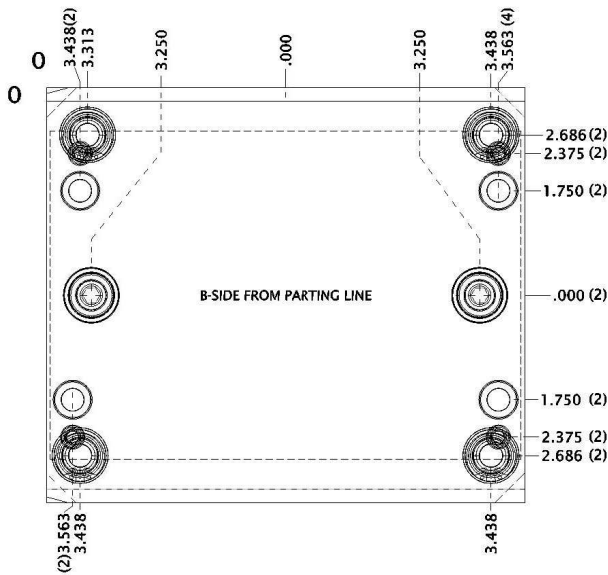
A-PLATES AND B-PLATES CAN BE ORDERED IN ANY COMBINATION OF 1.377, 1.877, 2.377, OR 2.877.

OTHER STRIPPER THICKNESSES ARE ALSO AVAILABLE

CATALOG NUMBER	A	B	S
84/90 C-XSU-S-001	1.877	1.377	1.000
84/90 C-XSU-S-002	1.877	1.877	1.000
84/90 C-XSU-S-003	1.877	2.377	1.000
84/90 C-XSU-S-004	2.377	1.877	1.000
84/90 C-XSU-S-005	2.377	2.377	1.000
84/90 C-XSU-S-006	2.877	2.377	1.000

84/90 C-XSU-3P 3 PLATE INSERT

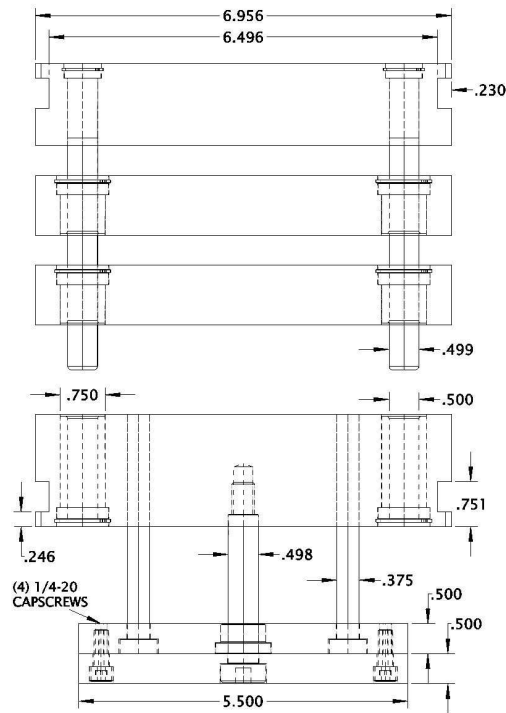
6.5 X 8.0 FITS 84/90 U-FRAME



SHOWN AS SIMPLE GUIDED WITH 4 STRAIGHT LEADER PINS.

YOUR CHOICES INCLUDE:

- * 2 STANDARD LOCATED LEADER PINS (OPTIONAL)
- * ALL THE OPTIONS FOR RETURN PINS, GUIDED EJECTORS OR BLANK EJECTOR PLATES (SEE C-XSU PAGE 14)
- * ALSO AVAILABLE WITH A LAMINATED B-SIDE



CATALOG NUMBER *CUSTOMIZABLE	A1	A2	A3	B
84/90 C-XSU-3P-001	1.000	1.000	1.000	1.877
84/90 C-XSU-3P-002	1.000	1.000	1.000	2.377
84/90 C-XSU-3P-003	1.000	1.000	1.000	2.877
84/90 C-XSU-3P-004	1.377	1.000	1.000	1.877
84/90 C-XSU-3P-005	1.377	1.000	1.000	2.377
84/90 C-XSU-3P-006	1.377	1.000	1.000	2.877

*CAN BE ORDERED IN ANY COMBINATION OF 1.00, 1.377, 1.877, 2.377, OR 2.877.

ORDERING EXAMPLES:

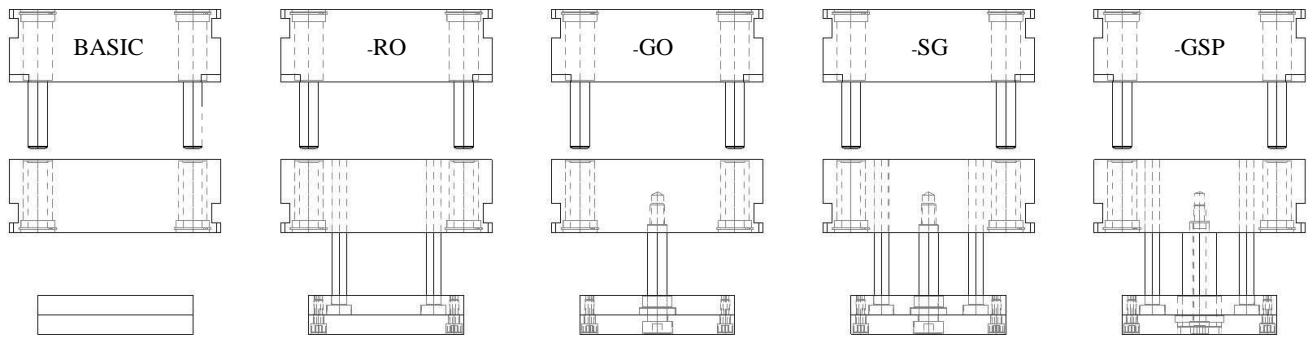
84/90 C-XSU-3P-005
84/90 C-XSU-3P-001
84/90 C-XSU-3P-003

CUSTOM ORDER EXAMPLES:

84/90 C-XSU-3P	84/90 C-XSU-3P
A1 1.877	A1 1.377
A2 1.250	A2 1.877
A3 1.377	A3 1.000
B2 1.627	B 2.377
B 2.377	

10/12 C-XSU SOLID INSERT

DRAWINGS AVAILABLE ONLINE IN .STEP OR .SAT FORMATS AT CROSTOOL.COM

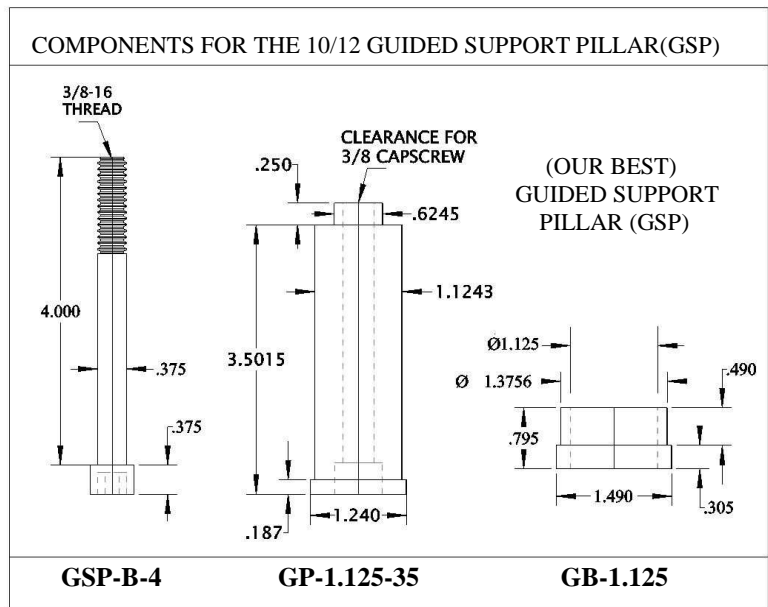


THE (GUIDED SUPPORT PILLAR) OPTION USES THE SAME LOCATIONS AS THE (SIMPLE GUIDED), AS DRAWN ON THE OPPOSITE PAGE →

ORDERING EXAMPLES:

10/12 C-XSU-225-RO 10/12 C-XSU-229-GSP

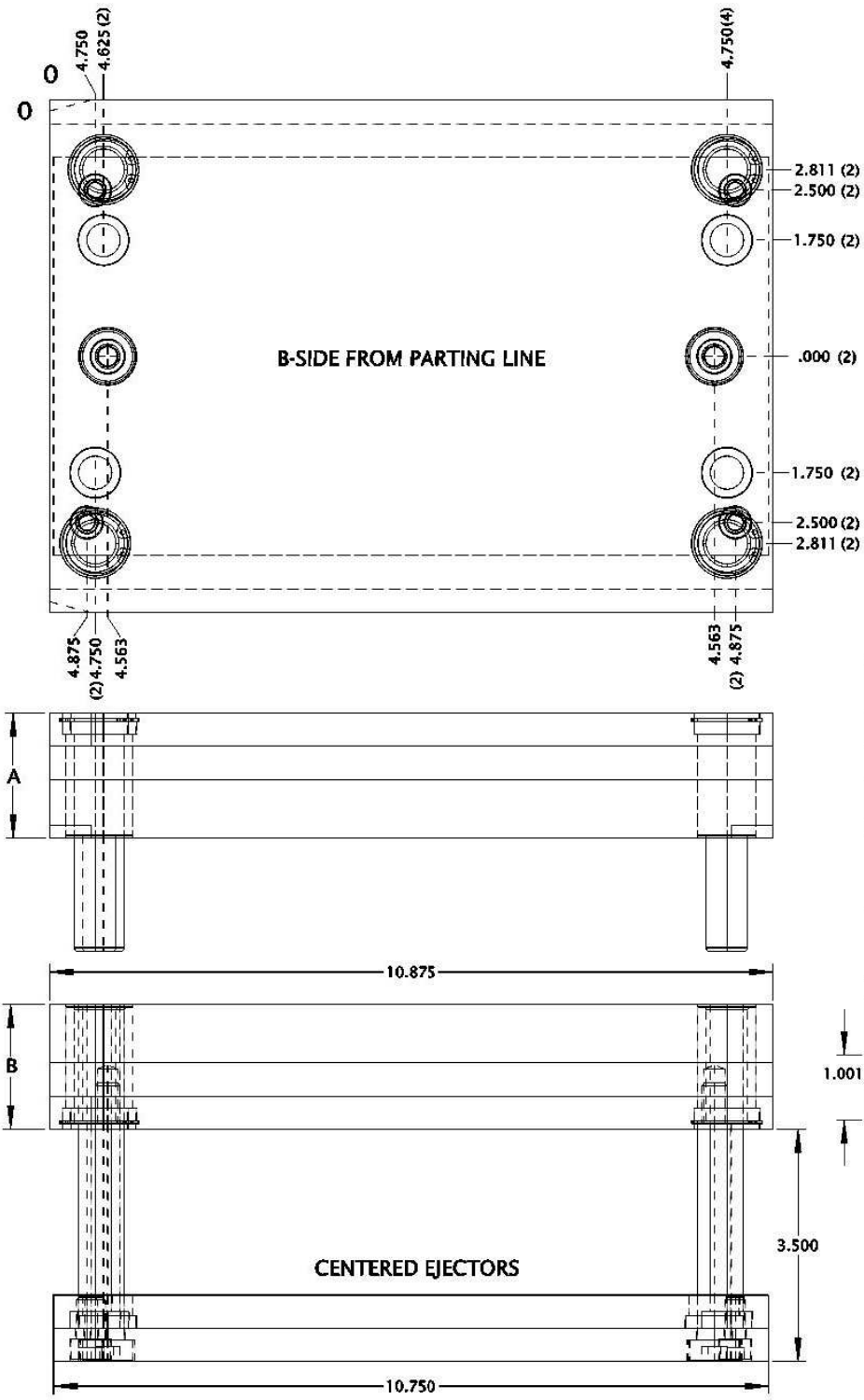
CATALOG NUMBER	A	B
BASIC		
10/12 C-XSU-224	1.877	1.877
10/12 C-XSU-225	1.877	2.377
10/12 C-XSU-226	2.377	1.877
10/12 C-XSU-227	2.377	2.377
10/12 C-XSU-228	2.377	2.877
10/12 C-XSU-229	2.877	2.377
10/12 C-XSU-230	2.877	2.877



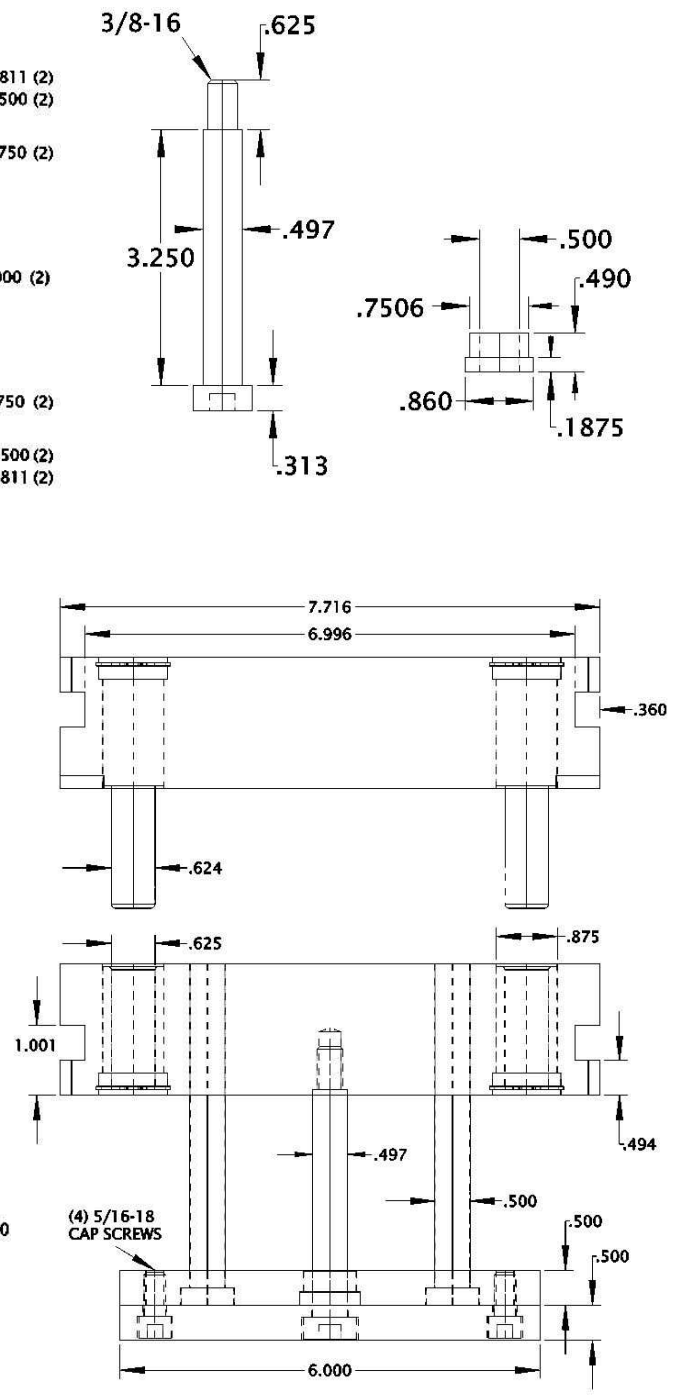
ADDITIONAL OPTIONS:

- RO (RETURN ONLY) INCLUDES ALL RETURN PIN MACHINING, WITH CUT TO SIZE RETURN PINS AND BOLTED EJECTOR PLATES.
- GO (GUIDED ONLY) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES BOLTED EJECTOR PLATES, BUT NO RETURN PINS.
- SG (SIMPLE GUIDED) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM, THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN PIN ONLY.
- GSP (GUIDED SUPPORT PILLAR) USES HIGH PRECISION SUPPORT PILLARS AND ALUMINUM BRONZE BUSHINGS TO PROVIDE A SUPERIOR QUALITY GUIDED EJECTOR SYSTEM. INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN ONLY.

10/12 C-XSU 7.0 X 10.9 FITS 10/12 U-FRAME

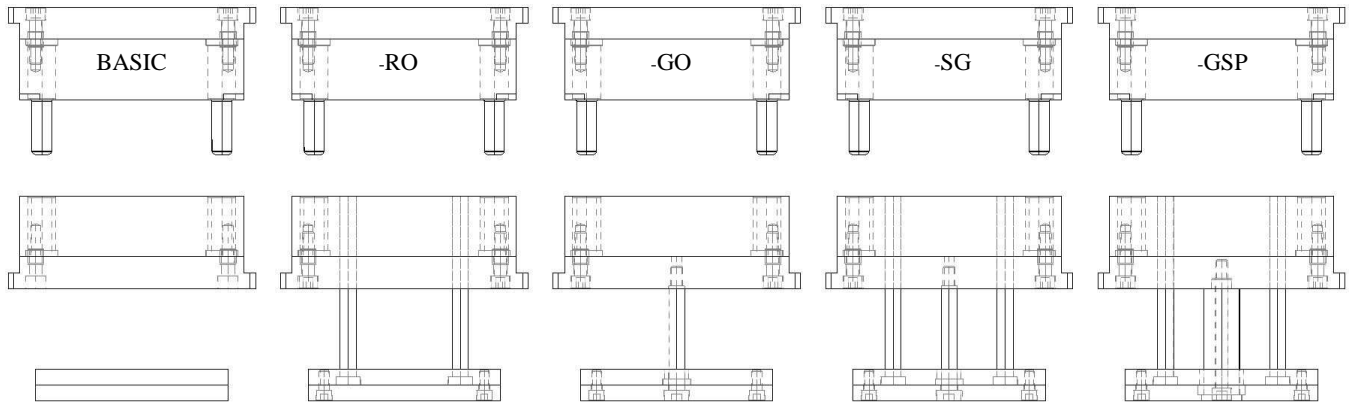


SIMPLE GUIDED



10/12 C-SLU LAMINATED INSERT

DRAWINGS AVAILABLE ONLINE IN .STEP OR .SAT FORMATS AT CROSSTOOL.COM

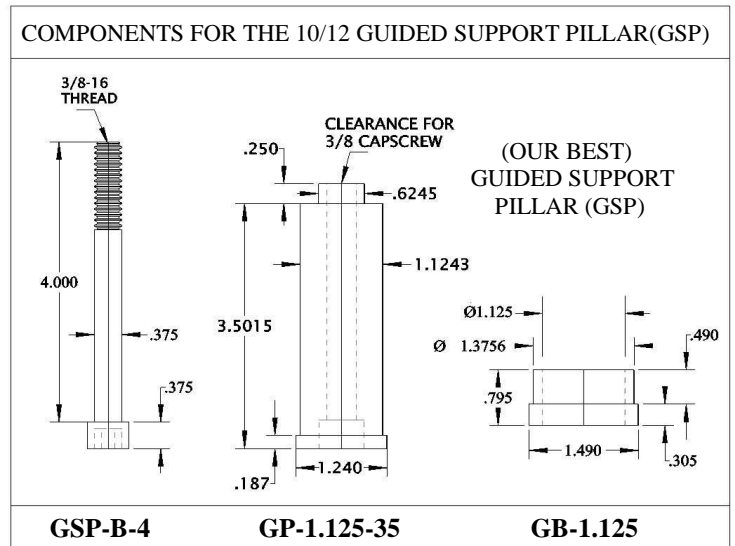


ORDERING EXAMPLES:
10/12 C-SLU-286-RO 10/12 C-SLU-287-GSP

THE (GUIDED SUPPORT PILLAR) OPTION USES THE SAME LOCATIONS AS THE (SIMPLE GUIDED), AS DRAWN ON THE OPPOSITE PAGE →

NOTE: NEW SIZES

CATALOG NUMBER	A	A2	B2	B
BASIC				
10/12 C-SLU-285	2.377	1.377	1.377	2.377
10/12 C-SLU-286	2.377	1.377	1.877	2.877
10/12 C-SLU-288	2.877	1.877	1.377	2.377
10/12 C-SLU-289	2.877	1.877	1.877	2.877
10/12 C-SLU-290	2.877	1.877	2.377	3.377
10/12 C-SLU-291	3.377	2.377	1.877	2.877
10/12 C-SLU-292	3.377	2.377	2.377	3.377

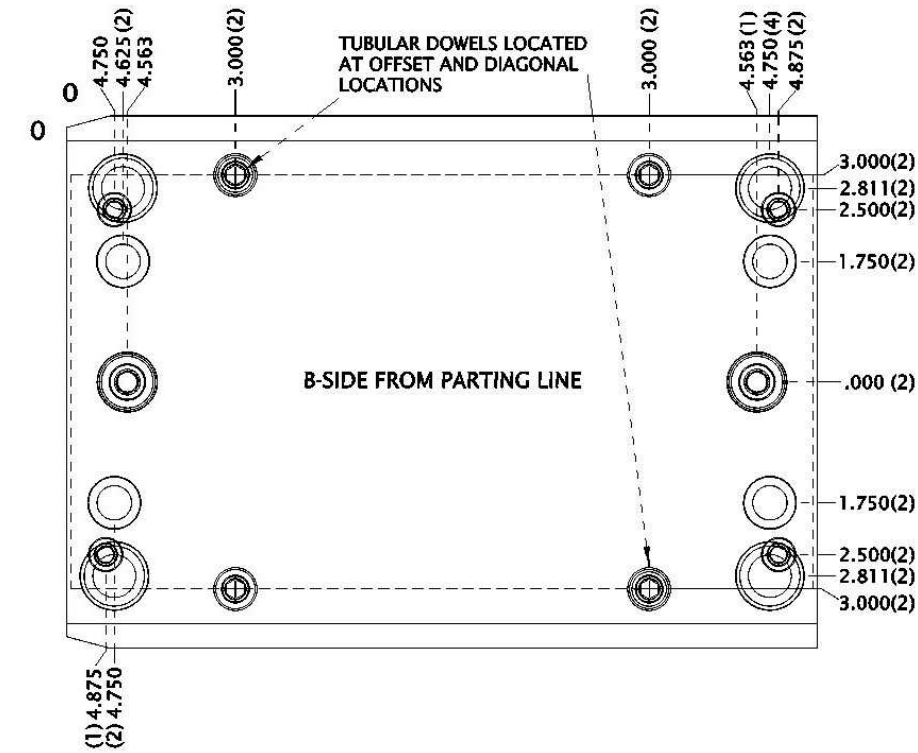


NOTE: THE C-SLU SERIES INCLUDES BOLTED EAR PLATES WITH TUBULAR ALIGNMENT DOWELS.

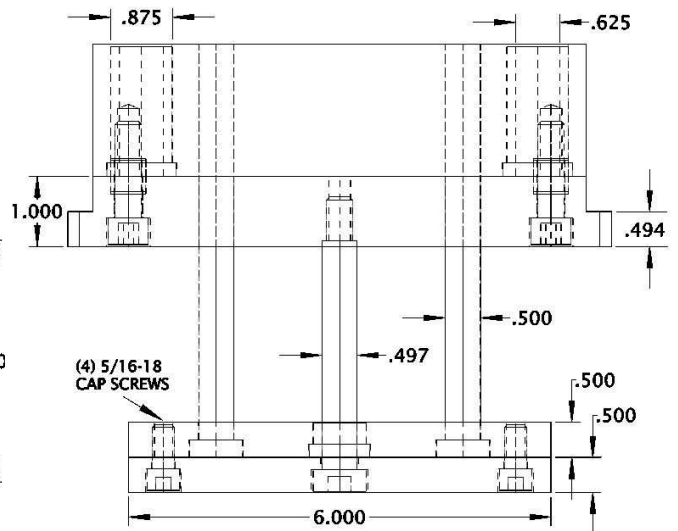
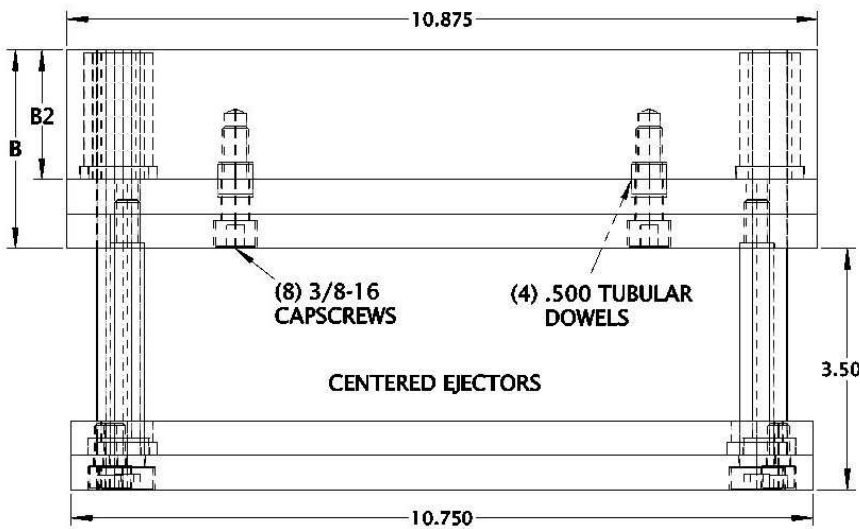
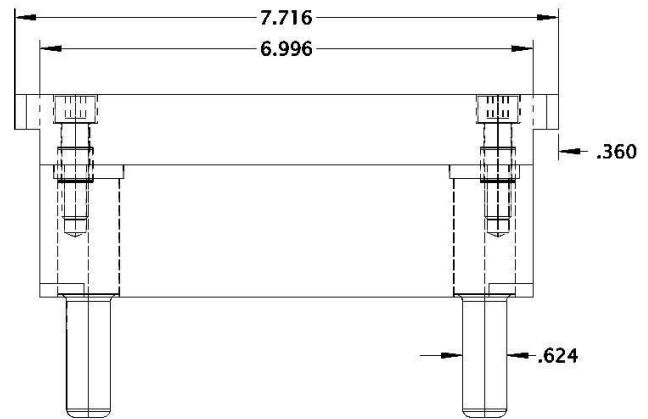
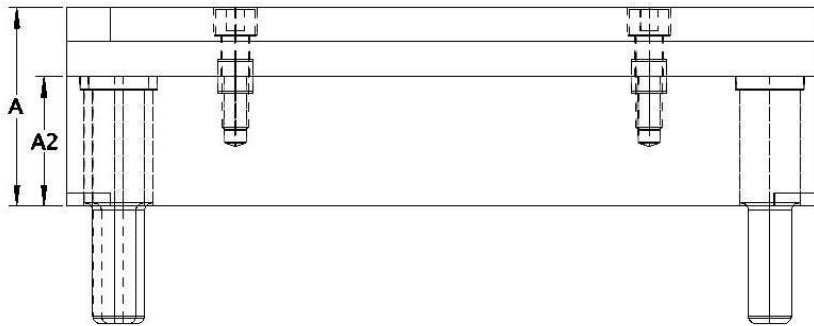
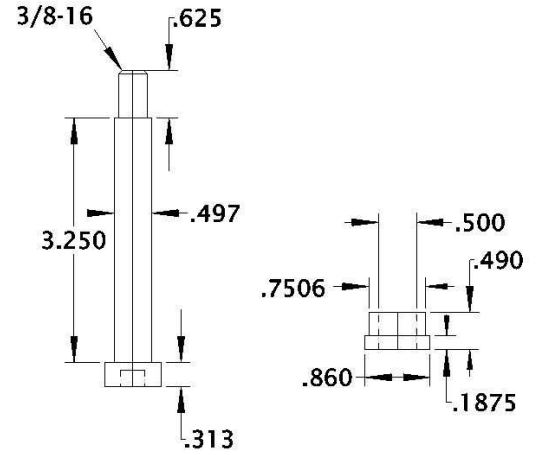
ADDITIONAL OPTIONS:

- RO (RETURN ONLY) INCLUDES ALL RETURN PIN MACHINING, WITH CUT TO SIZE RETURN PINS AND BOLTED EJECTOR PLATES.
- GO (GUIDED ONLY) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES BOLTED EJECTOR PLATES, BUT NO RETURN PINS.
- SG (SIMPLE GUIDED) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM, THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN PIN ONLY.
- GSP (GUIDED SUPPORT PILLAR) USES HIGH PRECISION SUPPORT PILLARS AND ALUMINUM BRONZE BUSHINGS TO PROVIDE A SUPERIOR QUALITY GUIDED EJECTOR SYSTEM. INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN ONLY.

10/12 C-SLU 7.0 X 10.9 FITS 10/12 U-FRAME

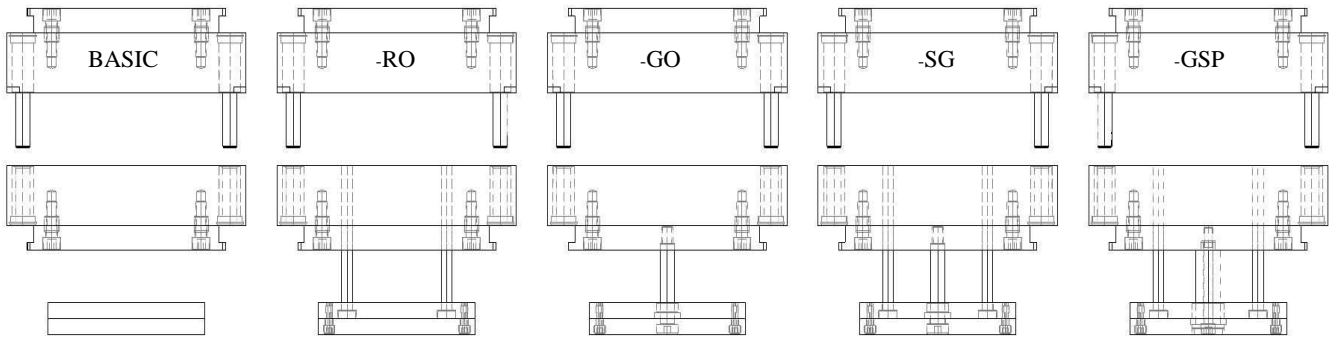


SIMPLE GUIDED



10/12 C-TLU LAMINATED T-STYLE

DRAWINGS AVAILABLE ONLINE IN .STEP OR .SAT FORMATS AT CROSTOOL.COM



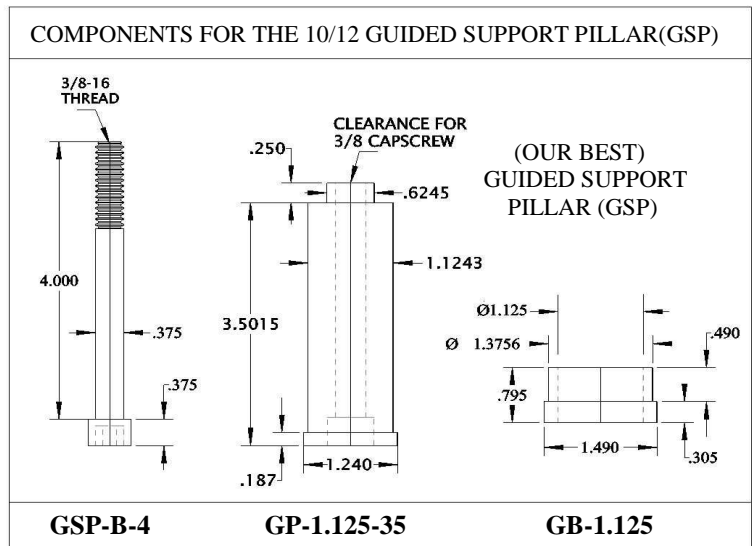
ORDERING EXAMPLES:

10/12 C-TLU 207-RO 10/12 C-TLU-204-GSP
 10/12 C-TLU-210-SG 10/12 C-TLU-206-GO

THE (GUIDED SUPPORT PILLAR) OPTION USES THE SAME LOCATIONS AS THE (SIMPLE GUIDED), AS DRAWN ON THE OPPOSITE PAGE →

CATALOG NUMBER BASIC	A	A2	B2	B
10/12 C-TLU-204	2.377	1.377	1.377	2.377
10/12 C-TLU-205	2.377	1.377	1.877	2.877
10/12 C-TLU-206	2.877	1.877	1.377	2.377
10/12 C-TLU-207	2.877	1.877	1.877	2.877
10/12 C-TLU-208	2.877	1.877	2.377	3.377
10/12 C-TLU-209	3.377	2.377	1.877	2.877
10/12 C-TLU-210	3.377	2.377	2.377	3.377

NOTE: NEW SIZES



NOTE: THE C-TLU SERIES INCLUDES BOLTED EAR PLATES WITH TUBULAR ALIGNMENT DOWELS.

ADDITIONAL OPTIONS:

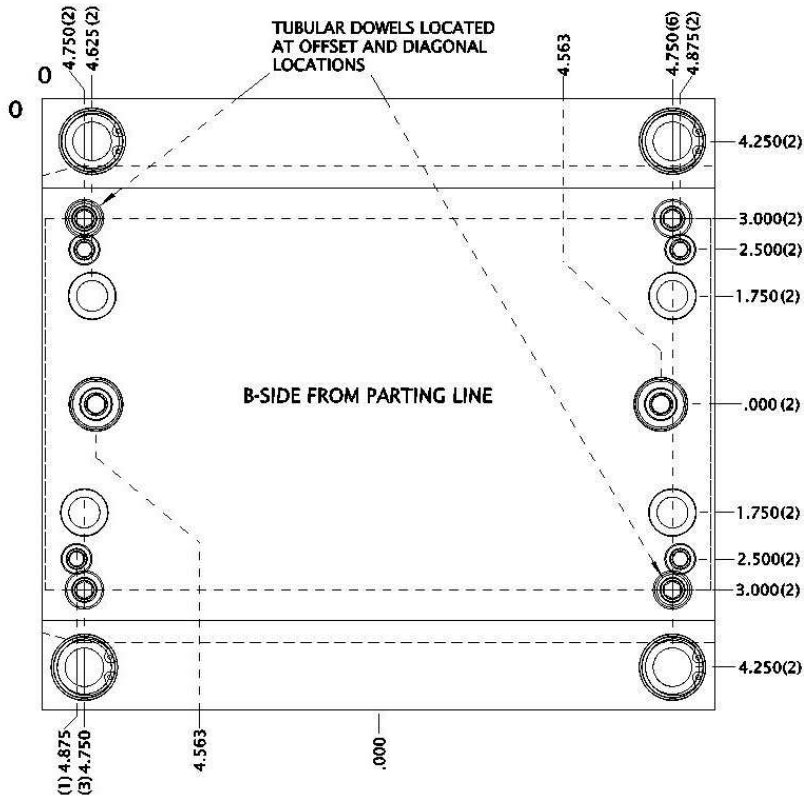
- RO (RETURN ONLY) INCLUDES ALL RETURN PIN MACHINING, WITH CUT TO SIZE RETURN PINS AND BOLTED EJECTOR PLATES.
- GO (GUIDED ONLY) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES BOLTED EJECTOR PLATES, BUT NO RETURN PINS.
- SG (SIMPLE GUIDED) USES SHOULDER BOLTS AND ALUMINUM BRONZE BUSHINGS. A GOOD QUALITY GUIDED SYSTEM, THAT INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN PIN ONLY.
- GSP (GUIDED SUPPORT PILLAR) USES HIGH PRECISION SUPPORT PILLARS AND ALUMINUM BRONZE BUSHINGS TO PROVIDE A SUPERIOR QUALITY GUIDED EJECTOR SYSTEM. INCORPORATES AN EJECTOR PLATE RETENSION SYSTEM. INCLUDES ALL THE FEATURES OF THE RETURN ONLY.

10/12 C-TLU

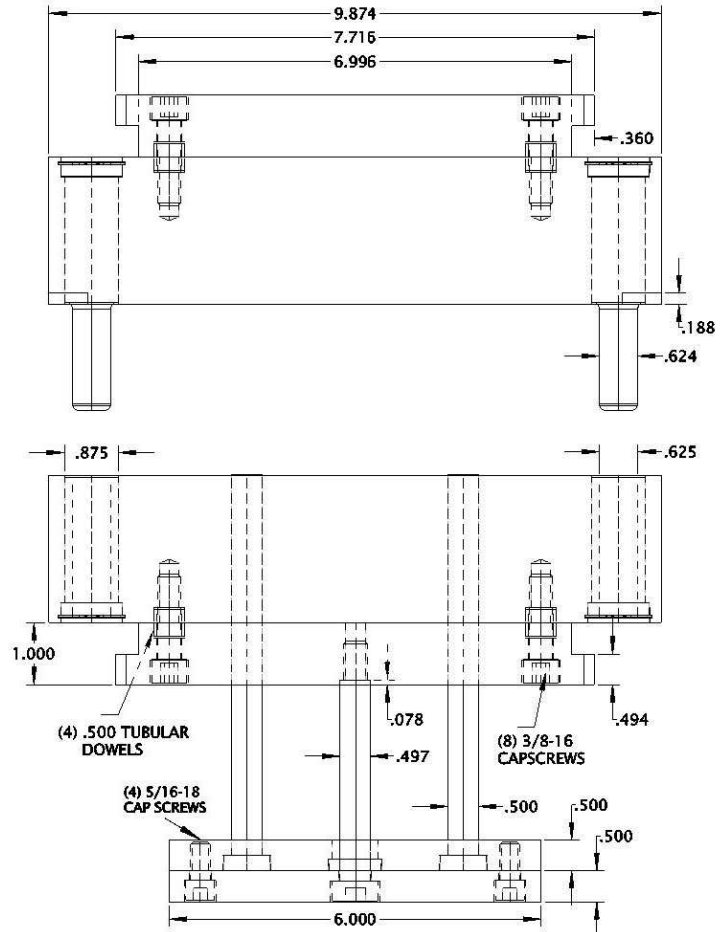
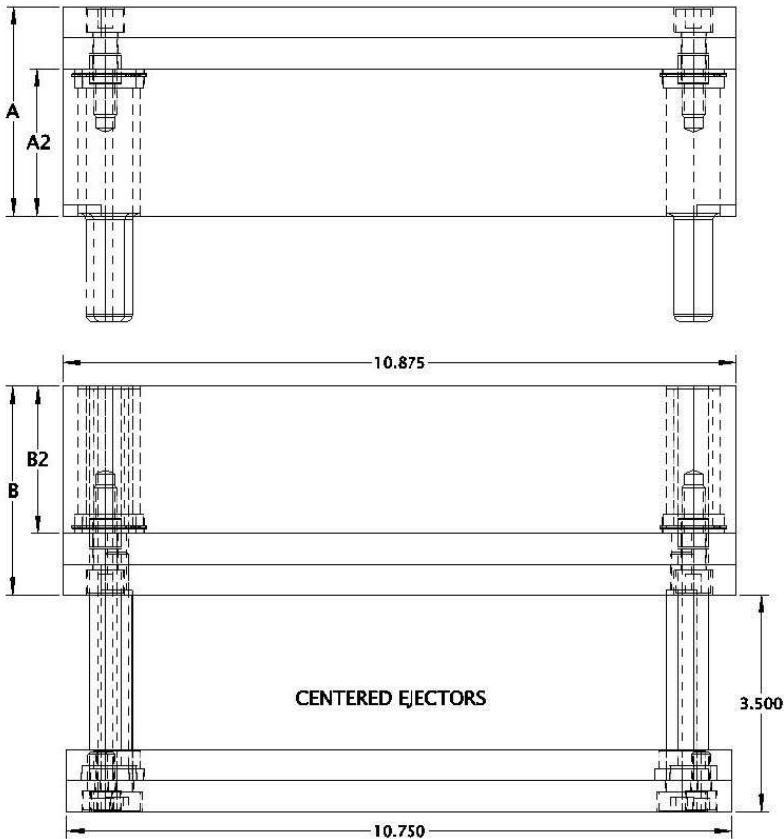
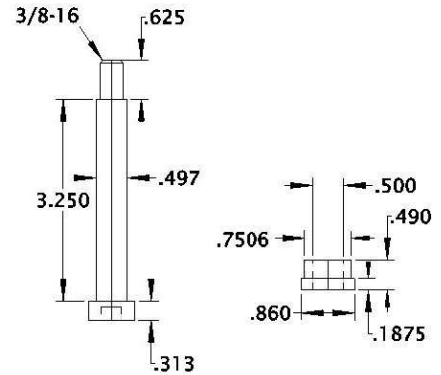
7.0 X 10.9 EAR PLATE
9.9 X 10.9 T-PLATE

FITS 10/12 U-FRAME

All C-TLU'S can be modified in length and width to accommodate cams or waterlines. Leader Pin locations can be moved, or 2 more Leader Pins can be added for an additional cost. All ear-plate and ejector locations will stay in the same position.

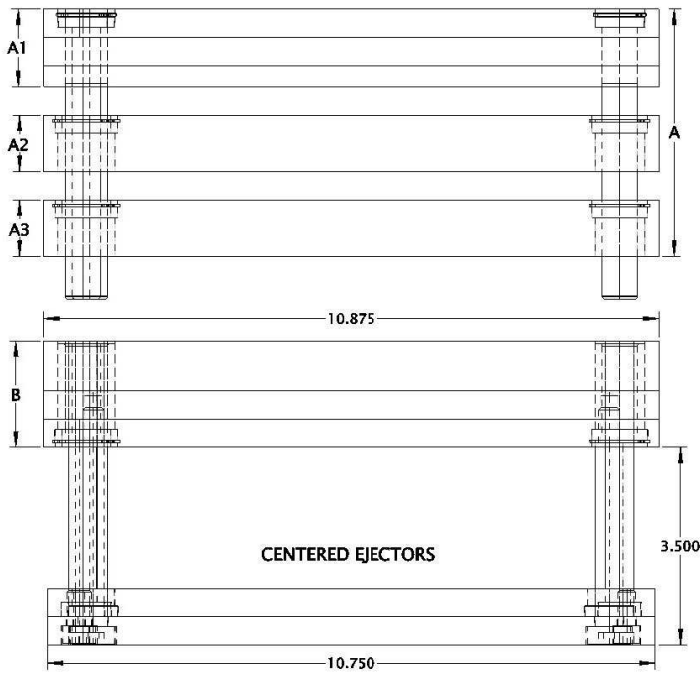
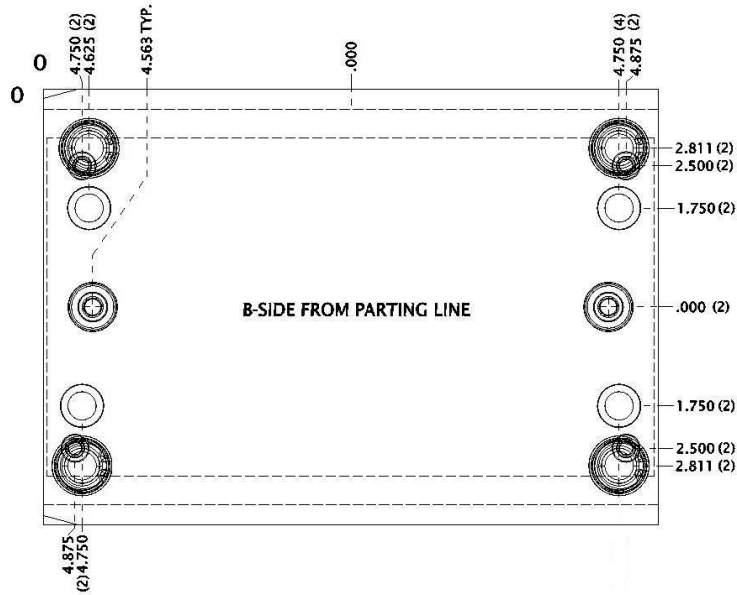


SIMPLE GUIDED



10/12 C-XSU-3P 3 PLATE INSERT

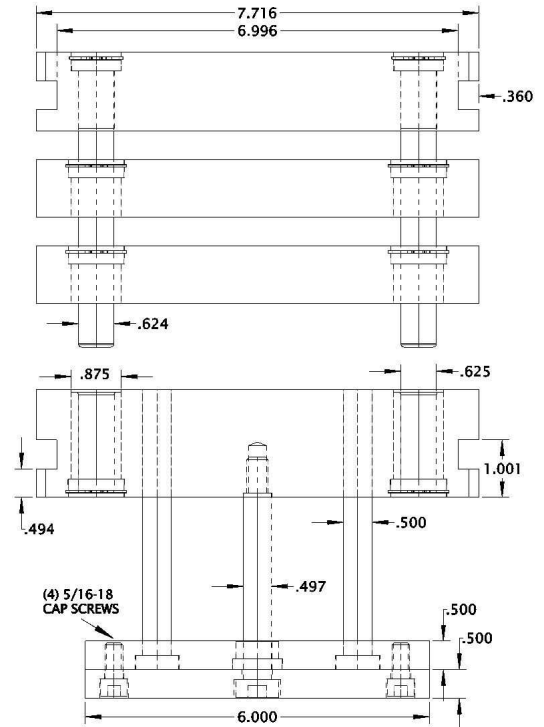
7.0 X 10.9 FITS 10/12 U-FRAME



YOUR CHOICES INCLUDE:

- * ALL THE OPTIONS FOR RETURN PINS, GUIDED EJECTORS OR BLANK EJECTOR PLATES (SEE C-XSU PAGE 22)
- * ALSO AVAILABLE WITH A LAMINATED B-SIDE

SHOWN WITH SIMPLE GUIDED EJECTION



CATALOG NUMBER *CUSTOMIZABLE	A1	A2	A3	B
10/12 C-XSU-3P-001	1.000	1.000	1.000	1.877
10/12 C-XSU-3P-002	1.000	1.000	1.000	2.377
10/12 C-XSU-3P-003	1.000	1.000	1.000	2.877
10/12 C-XSU-3P-004	1.377	1.000	1.000	1.877
10/12 C-XSU-3P-005	1.377	1.000	1.000	2.377
10/12 C-XSU-3P-006	1.377	1.000	1.000	2.877

*CAN BE ORDERED IN ANY COMBINATION OF 1.00, 1.377, 1.877, 2.377, OR 2.877.

ORDERING EXAMPLES:

- 10/12 C-XSU-3P-005
- 10/12 C-XSU-3P-001
- 10/12 C-XSU-3P-003

CUSTOM ORDER EXAMPLES:

- | | |
|----------------|----------------|
| 10/12 C-XSU-3P | 10/12 C-XSU-3P |
| A1 1.877 | A1 1.377 |
| A2 1.250 | A2 1.877 |
| A3 1.377 | A3 1.000 |
| B2 1.627 | B 2.377 |
| B 2.377 | |

C-08/09 POCKETS

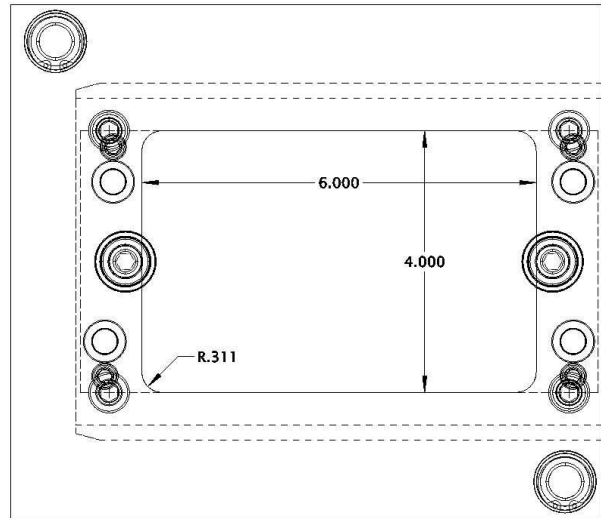
REQUIRED INFORMATION

Single Pocket:

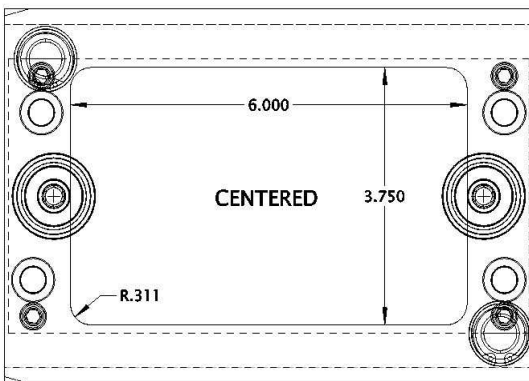
- Width of pocket inside the 4.996 width on C-XSU and C-SLU, or 7.85 inch T-plate dimension.
- Length of pocket inside 8 inch ear-plate dimension
- Depth of pocket
- Corner radius (.3115 standard to 1 inch deep)
- Corner radius (.375 standard from 1 to 2 inch deep)
- Center of pocket from middle of ear-plate towards or away from offset leader pin.

Multiple Pocket:

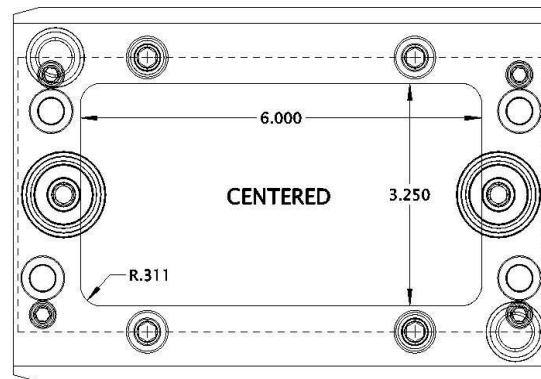
- Width of pockets
- Length of pockets
- Depth of Pockets
- Corner radius (.3115 standard to 1 inch deep)
- Corner radius (.375 standard from 1 to 2 inch deep)
- Location of pocket centers from middle of ear-plate towards or away from offset leader pin.



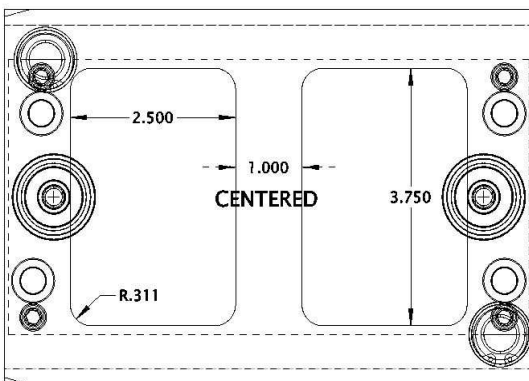
08/09 CTLU laminated pockets
maximum through size



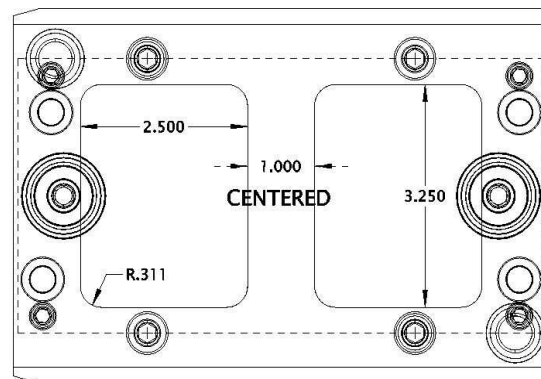
08/09 CXSU solid pockets
maximum size



08/09 CSLU laminated pockets
maximum size



08/09 CXSU solid pockets
maximum size



08/09 CSLU laminated pockets
maximum size

C-84/90 POCKETS

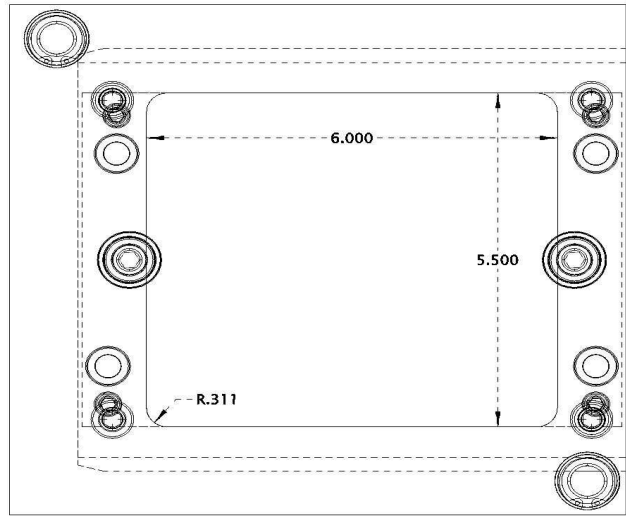
REQUIRED INFORMATION

Single Pocket:

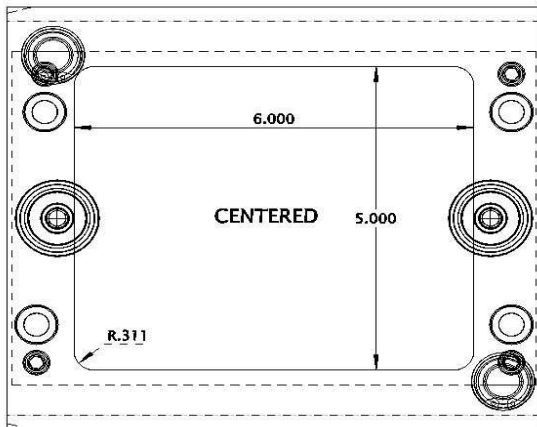
- Width of pocket inside the 6.956 width on C-XSU and C-SLU, or 8.400 inch T-plate dimension.
- Length of pocket inside 8 inch ear-plate dimension
- Depth of pocket
- Corner radius (.3115 standard to 1 inch deep)
- Corner radius (.375 standard from 1 to 2 inch deep)
- Center of pocket from middle of ear-plate towards or away from offset leader pin.

Multiple Pocket:

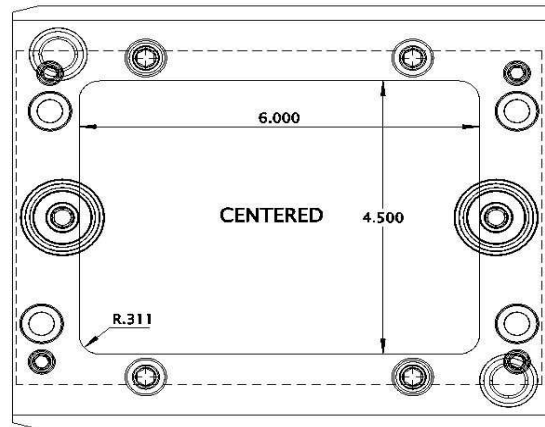
- Width of pockets
- Length of pockets
- Depth of Pockets
- Corner radius (.3115 standard to 1 inch deep)
- Corner radius (.375 standard from 1 to 2 inch deep)
- Location of pocket centers from middle of ear-plate towards or away from offset leader pin.



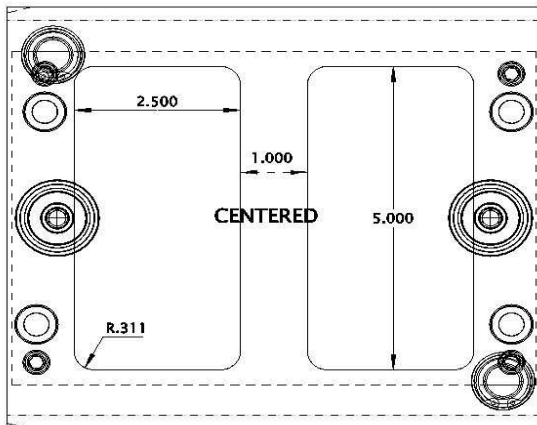
84/90 CTLU laminated pockets
maximum through size



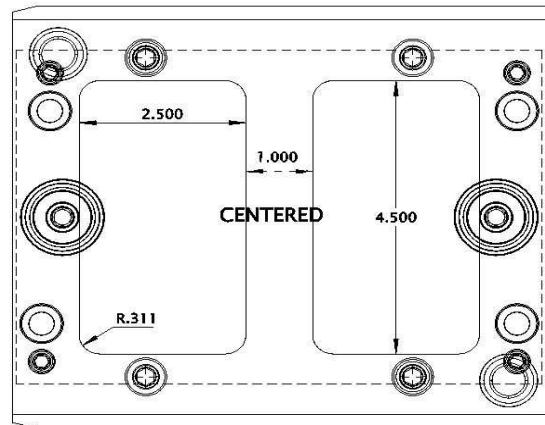
84/90 CXSU solid pockets
maximum size



84/90 CSLU laminated pockets
maximum size



84/90 CXSU solid pockets
maximum size



84/90 CSLU laminated pockets
maximum size

REQUIRED INFORMATION

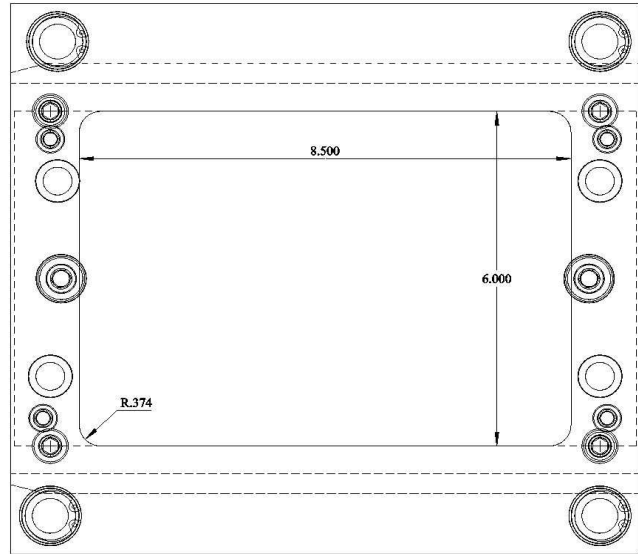
C-10/12 POCKETS

Single Pocket:

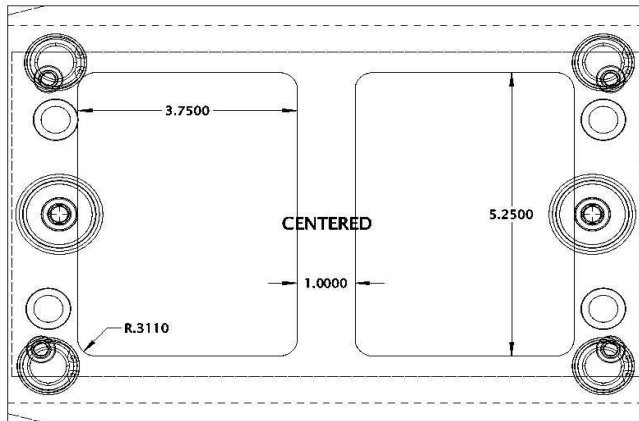
- Width of pocket inside the 6.996 dimension on C-XSU and C-SLU, or 9.875 inch T-plate dimension.
- Length of pocket inside 8 inch ear-plate dimension
- Depth of pocket
- Corner radius (.3115 standard to 1 inch deep)
- Corner radius (.374 standard from 1 to 2 inch deep)
- Center of pocket from middle of ear-plate towards or away from offset leader pin.

Multiple Pocket:

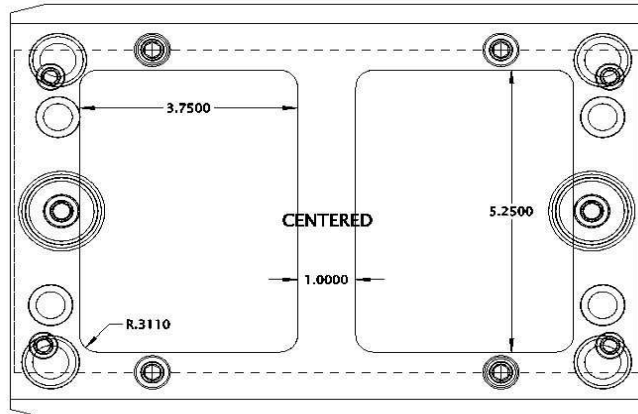
- Width of pockets
- Length of pockets
- Depth of Pockets
- Corner radius (.3115 standard to 1 inch deep)
- Corner radius (.375 standard from 1 to 2 inch deep)
- Location of pocket centers from middle of ear-plate towards or away from offset leader pin.



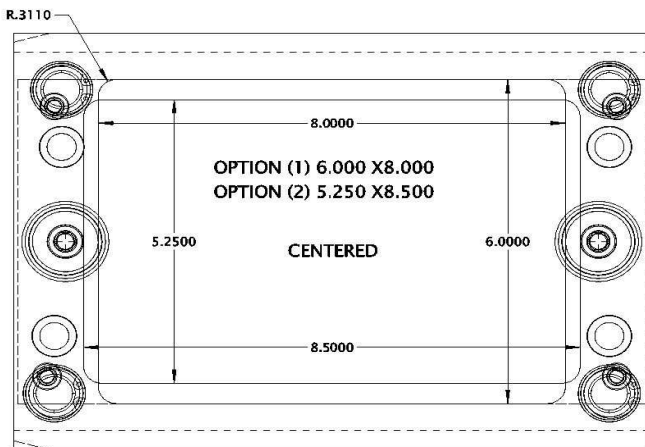
10/12 CTLU laminated pockets
maximum through size



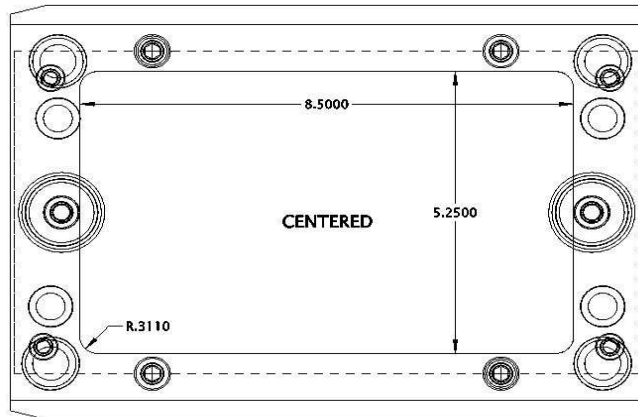
10/12 CXSU solid pocket
maximum size



10/12 CSLU laminated pocket
maximum size



10/12 CXSU solid pocket
maximum size

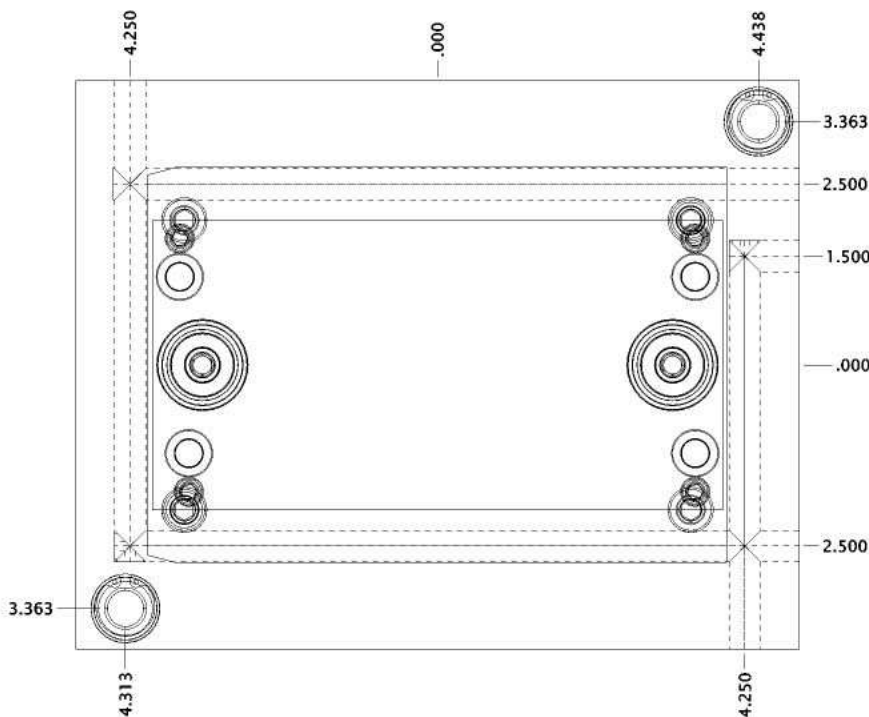


10/12 CSLU laminated pocket
maximum size

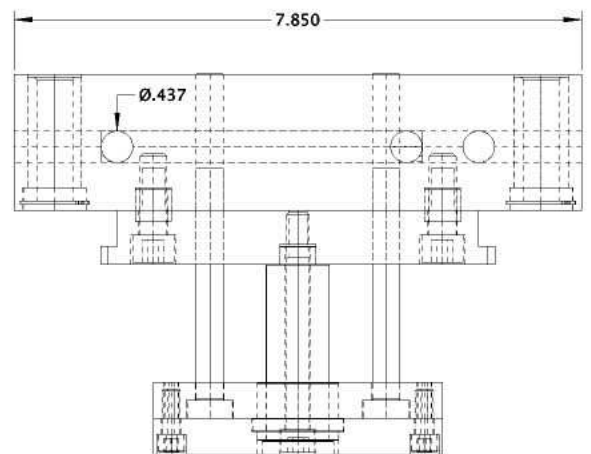
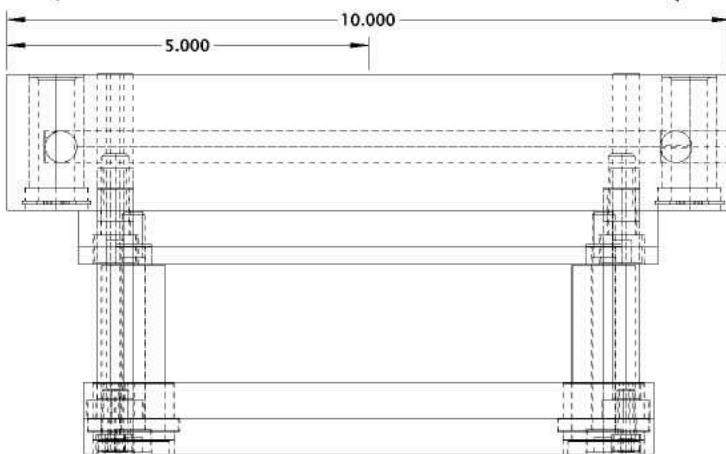
C-08/09 WATERLINES

Shown in a (modified) C-TLU

Cross Tool incorporates waterlines into the manufacturing process saving you time and money. Your choices include gun-drilled holes for waterlines, or cartridge heating elements. With a simple layout drawing or sketch we can provide a competitive quote. Threaded holes can be added for a nominal extra fee.



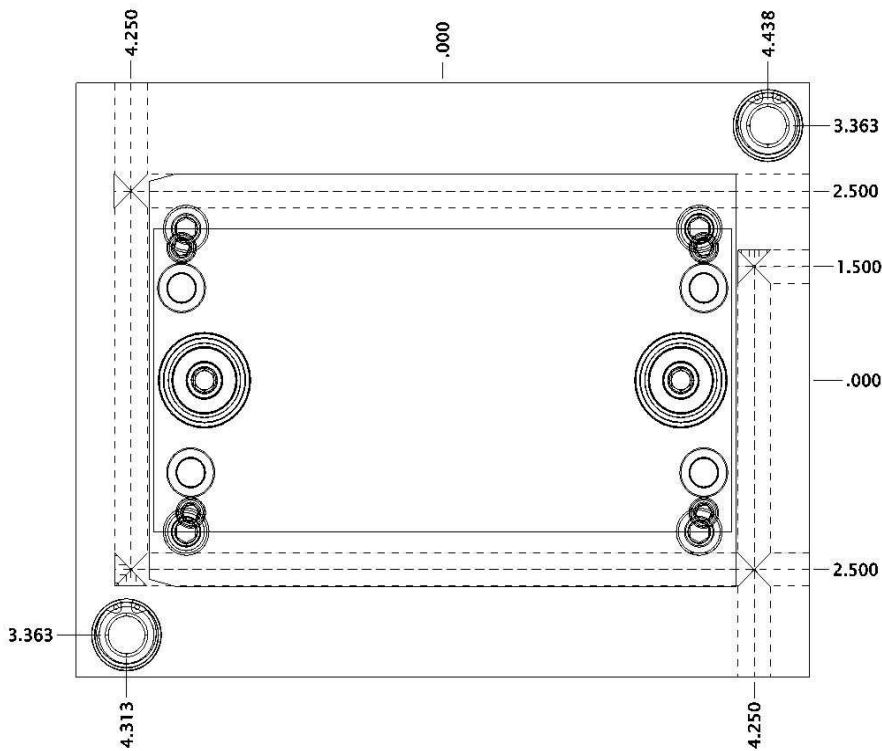
All C-TLU'S can be modified in length and width to accommodate cams or waterlines. Leader Pin locations can be moved. 2 more Leader Pins and Bushings can be added for an additional cost. All ear-plate and ejector locations will stay the same. All guided ejection and return pins options are available. (see Page 6)



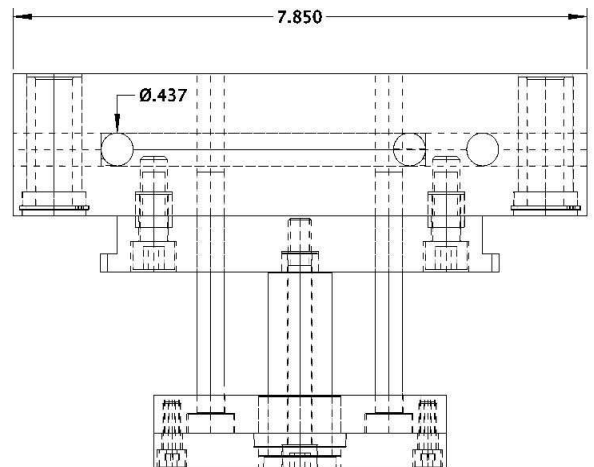
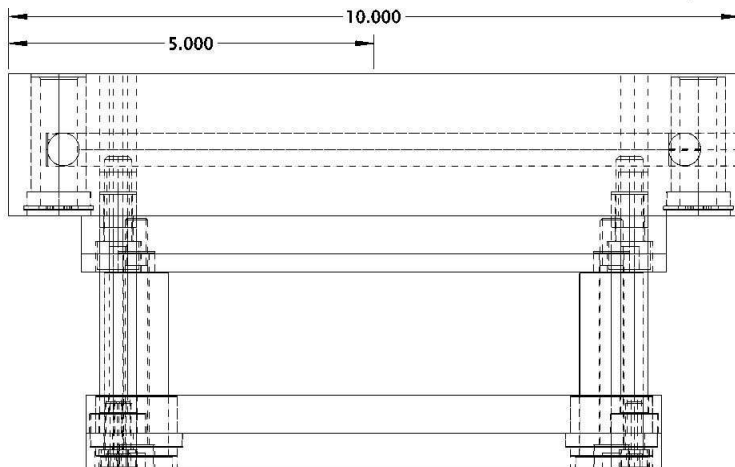
C-84/90 WATERLINES

Shown in a (modified) C-TLU

Cross Tool incorporates waterlines into the manufacturing process saving you time and money. Your choices include gun-drilled holes for waterlines, or cartridge heating elements. With a simple layout drawing or sketch we can provide a competitive quote. Threaded holes can be added for a nominal extra fee.



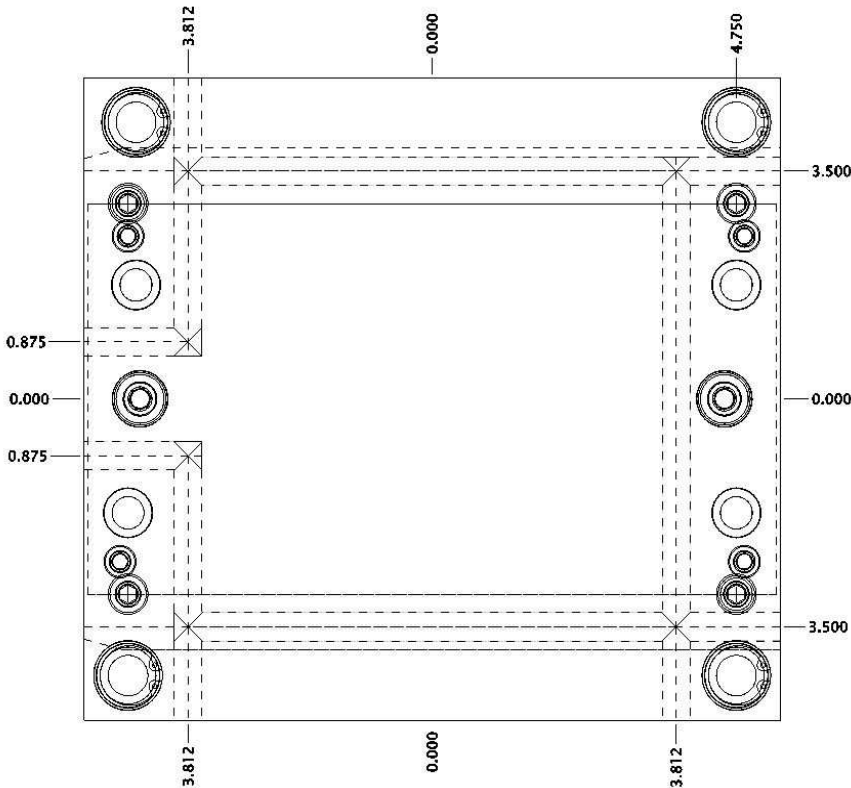
All C-TLU'S can be modified in length and width to accommodate cams or waterlines. Leader Pin locations can be moved. 2 more Leader Pins and Bushings can be added for an additional cost. All ear-plate and ejector locations will stay the same. All guided ejection and return pins options are available. (see Page 14)



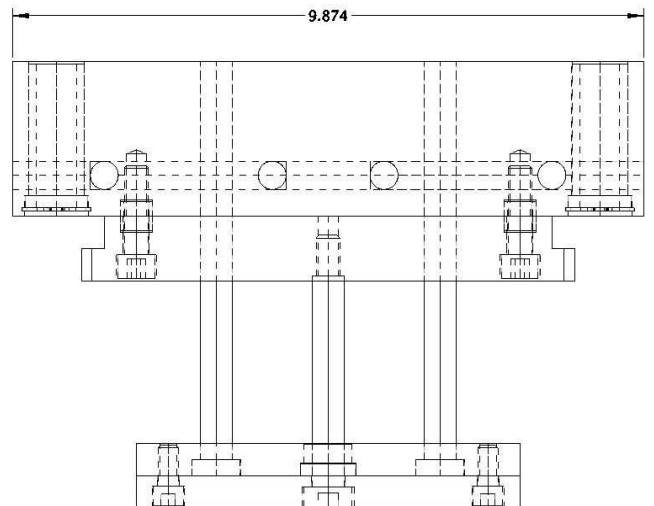
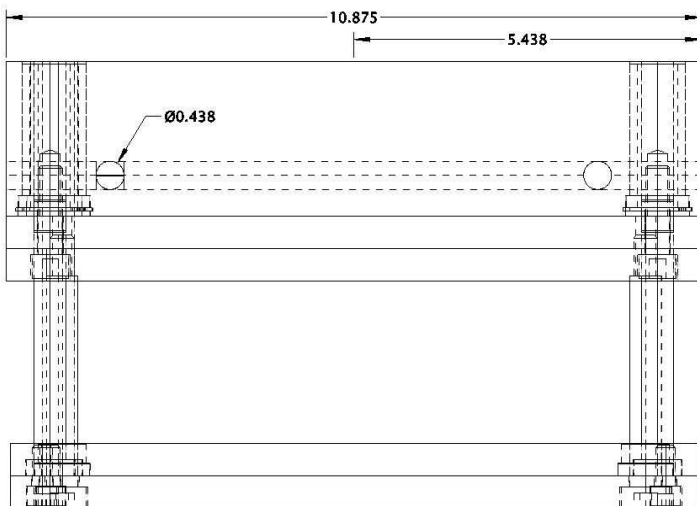
C-10/12 WATERLINES

Shown in a standard C-TLU

Cross Tool incorporates waterlines into the manufacturing process saving you time and money. Your choices include gun-drilled holes for waterlines, or cartridge heating elements. With a simple layout drawing or sketch we can provide a competitive quote. Threaded holes can be added for a nominal extra fee.



All C-TLU'S can be modified in length and width to accommodate cams or waterlines. Leader Pin locations can be moved. 2 more Leader Pins and Bushings can be added for an additional cost. All ear-plate and ejector locations will stay the same. All guided ejection and return pins options are available. (see Page 22)



“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 .000” to .001” oversize at parting line unless otherwise specified.

STANDARD SOLID INSERT

C-XSU

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

C-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

C-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:

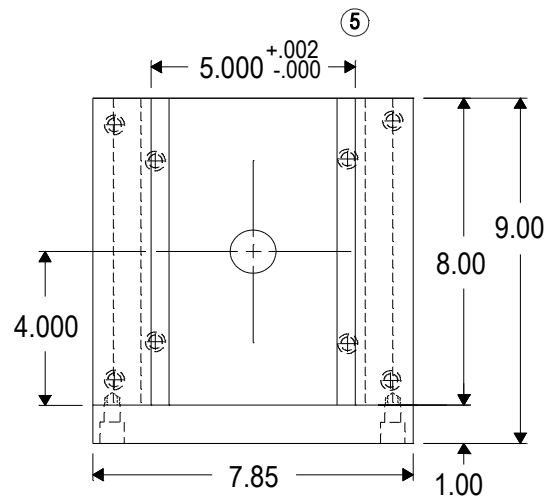
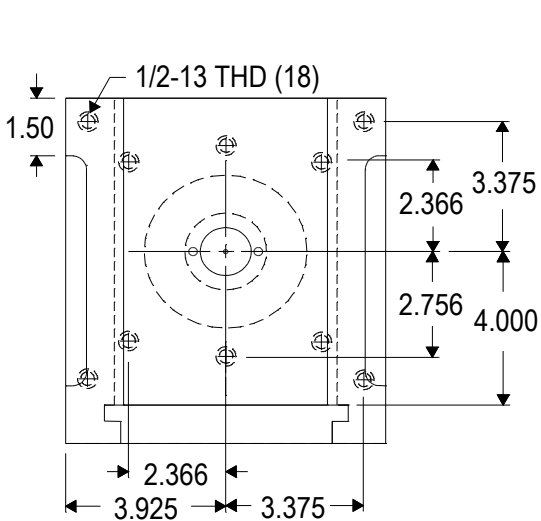
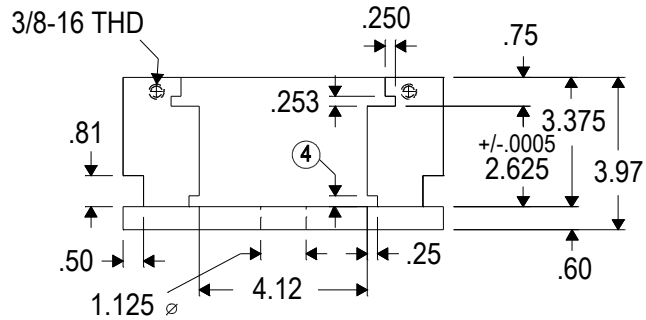
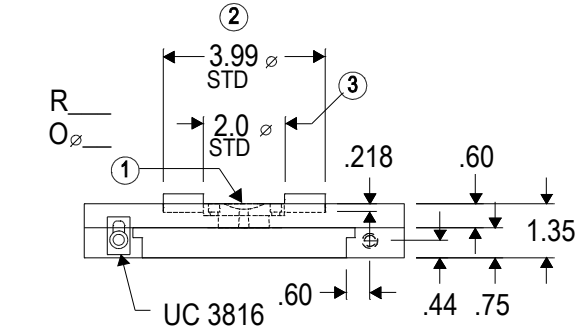
- Standard materials for inserts are P-20 Prehard, Holder Block (#2). Other grades available: H-13 Standard or Premium, 420 Stainless Prehard, S-7 and ALUMOLD®¹ (comparable to QC7®²)
- Standard material for Frames is Holder Block (#2).
- OTHER MATERIALS FOR FRAMES/INSERTS ARE AVAILABLE UPON REQUEST.

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

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 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 Holder Block (#2)

INSERTS

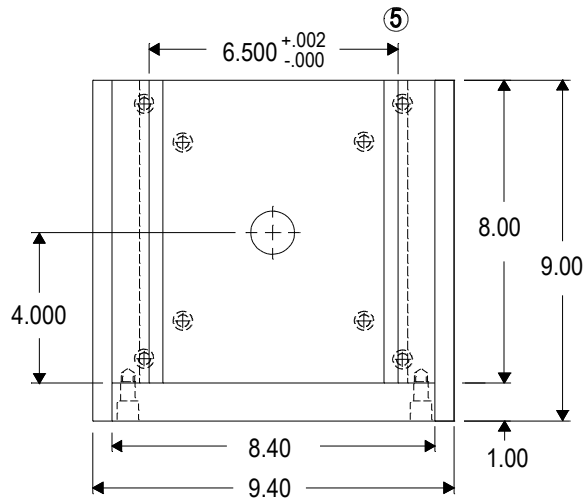
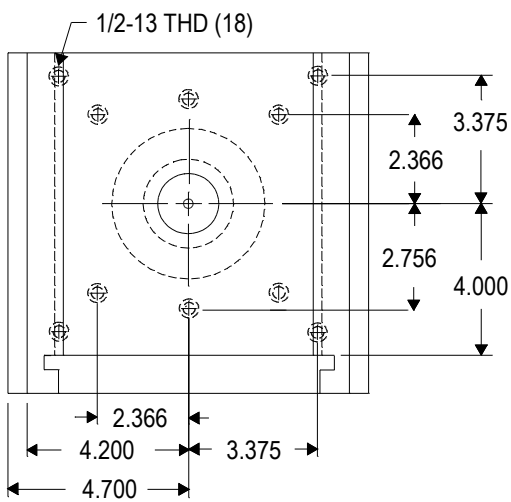
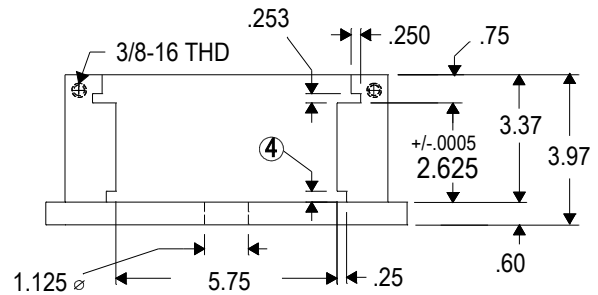
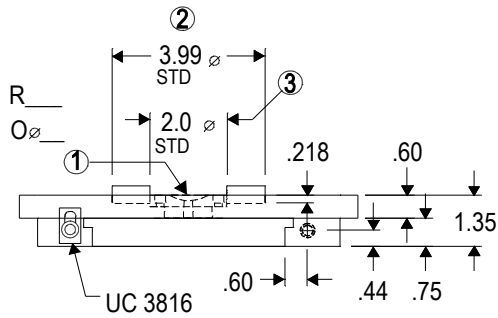
- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or Holder Block (#2). (Other grades available upon request)

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

FRAMES

- Please specify Quantity & Catalog #
- Specify Locating Ring Diameter & Sprue Bushing R & O sizes
- Standard Material for Frames is Holder Block (#2)

INSERTS

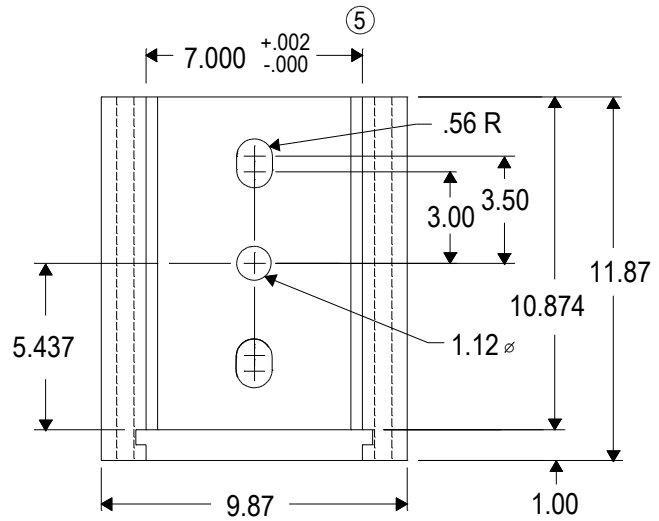
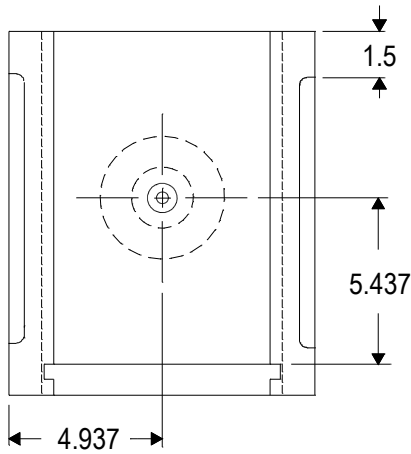
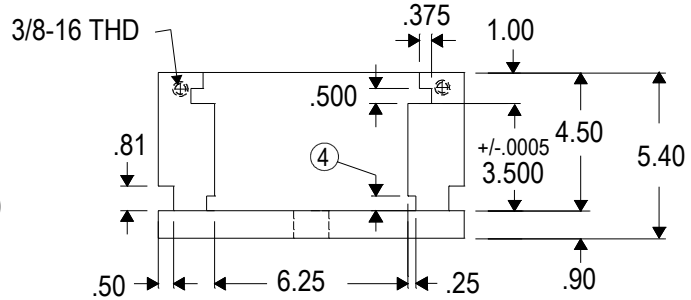
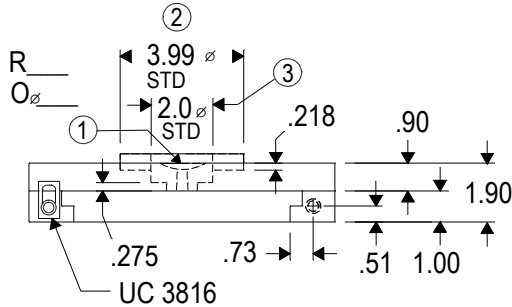
- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or Holder Block (#2) (Other grades available upon request)

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 Holder Block (#2)

INSERTS

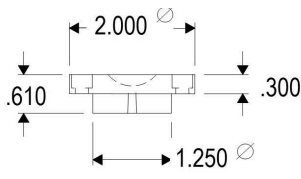
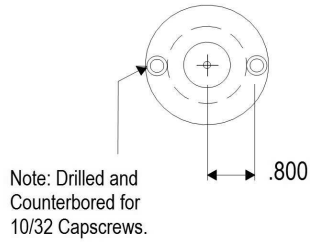
- Please specify Quantity & Catalog #
- Steel grades available: P-20 Prehard or Holder Block (#2) (Other grades available upon request)
- Optional "A", "A2", "B2", & "B" thickness!



COMPONENT INDEX

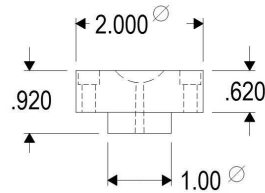
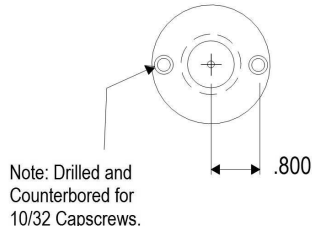
	PAGE
Frame Components.....	41
C-SERIES Leader Pins and Bushings.....	42-43
C-08/09 and C-84/90 Components.....	44
C-10/12 Components.....	45
C-SERIES Ear Plate, Ejector Plates, and Sleeve Ejector Plates.....	46

FRAME COMPONENTS



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

SPRUE BUSHING ORDERING INFORMATION

Please specify R & O Sizes:

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

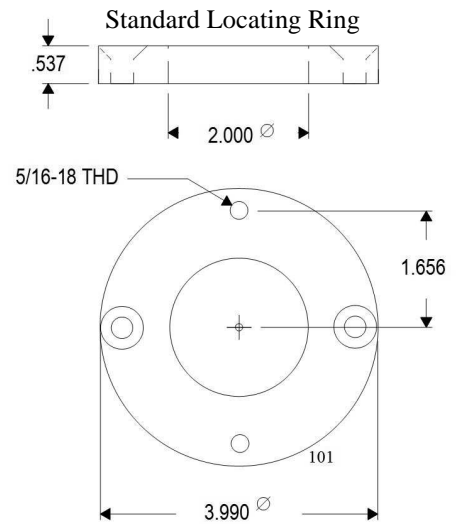
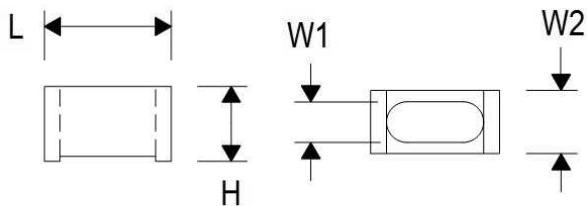
O = Small Diameter of Sprue Bushing Orifice:
5/32", 7/32", 9/32"

Locating Rings

Catalog #	INSIDE DIA.	THICKNESS
LR-3990-2	2.000	.531
LR-3990-2.5	2.500	.531
LR-3990-2-1.12	2.000	1.125
LR-3990-2.5-1.12	2.500	1.125

Frame Holding Clamps

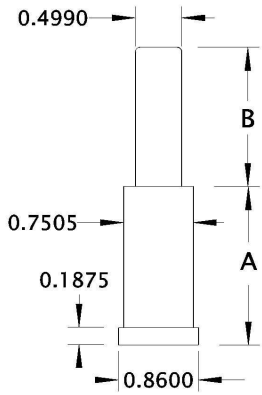
Catalog #	L	H	W1	W2
UC-2520	1.00	.50	0.27	0.50
UC-3816	1.25	.75	0.40	0.62



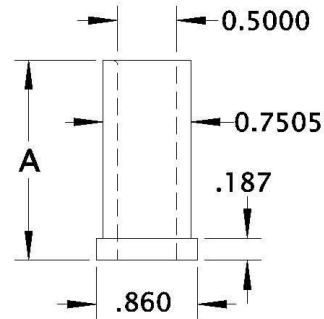
*Other size Locating Rings available upon request.

C-SERIES LEADER PINS AND BUSHINGS

08/09 C-SLU PINS AND BUSHINGS

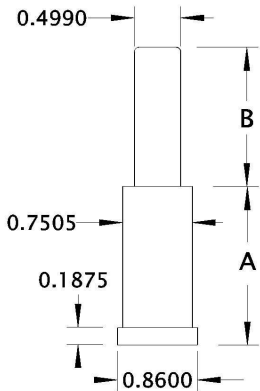


Catalog #	A	B
P5-1085-1	1.085	1.000
P5-1585-12	1.585	.1250
P5-1585-17	1.585	1.750
P5-2085-12	2.085	1.250
P5-2085-17	2.085	1.750

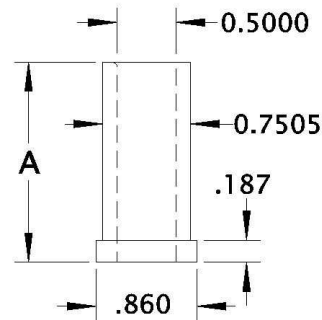


Catalog #	A
B5-1085	1.085
B5-1585	1.585
B5-2085	2.085

84/90 C-SLU PINS AND BUSHINGS

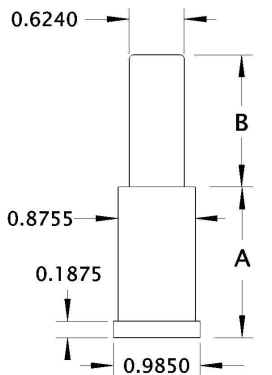


Catalog #	A	B
P5-1335-12	1.335	1.250
P5-1335-17	1.335	1.750
P5-1835-12	1.835	1.250
P5-1835-17	1.835	1.750
P5-2335-12	2.338	1.250
P5-2335-17	2.335	1.750

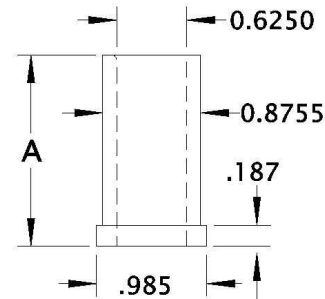


Catalog #	A
B5-1335	1.335
B5-1835	1.835
B5-2335	2.335

10/12 C-SLU PINS AND BUSHINGS



Catalog #	A	B
P6-1335-12	1.335	1.250
P6-1335-17	1.335	1.750
P6-1835-12	1.835	1.250
P6-1835-17	1.835	1.750
P6-2335-12	2.335	1.250
P6-2335-17	2.335	1.750



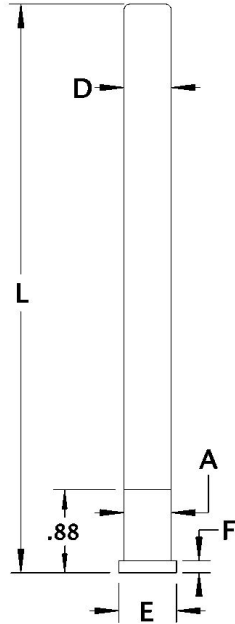
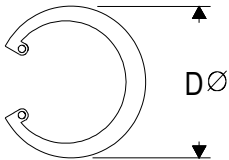
Catalog #	A
B6-1335	1.335
B6-1835	1.835
B6-2335	2.335

Straight Leader Pin

Snap Rings

Catalog #	Pin	D
SR-88	0.500 \varnothing	0.88
SR-100	0.625 \varnothing	1.00

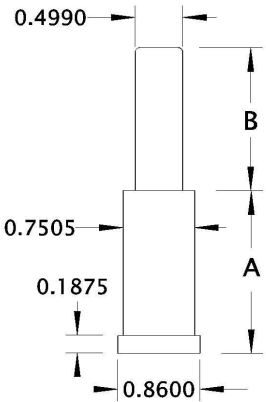
Snap Ring



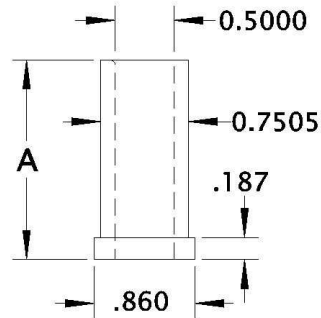
Catalog #	A	D	L	E	F
SP 5-4.0	0.5005	0.499	4.0	0.610	0.125
SP 5-4.5	0.5005	0.499	4.5	0.610	0.125
SP 5-5.0	0.5005	0.499	5.0	0.610	0.125
SP 5-5.5	0.5005	0.499	5.5	0.610	0.125
SP 5-6.0	0.5005	0.499	6.0	0.610	0.125
SP 5-6.5	0.5005	0.499	6.0	0.610	0.125
SP 5-7.0	0.5005	0.499	6.0	0.610	0.125

Catalog #	A	D	L	E	F
SP 6-4.0	0.6255	0.624	4.0	0.860	0.187
SP 6-4.5	0.6255	0.624	4.5	0.860	0.187
SP 6-5.0	0.6255	0.624	5.0	0.860	0.187
SP 6-5.5	0.6255	0.624	5.5	0.860	0.187
SP 6-6.0	0.6255	0.624	6.0	0.860	0.187
SP 6-6.5	0.6255	0.624	6.5	0.860	0.187
SP 6-7.0	0.6255	0.624	7.0	0.860	0.187

08/09 & 84/90 C-XSU AND C-TLU PINS AND BUSHINGS

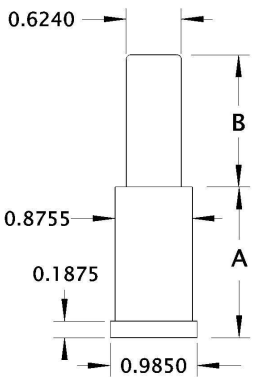


Catalog #	A	B
P5-1210-12	1.210	1.250
P5-1210-17	1.210	1.750
P5-1710-12	1.710	1.250
P5-1710-17	1.710	1.750
P5-2210-17	2.210	1.750
P5-2710-17	2.710	1.750

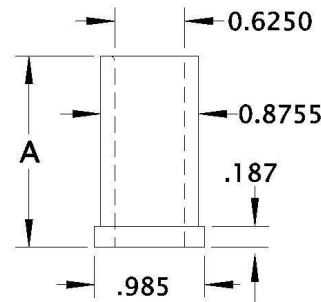


Catalog #	A
B5-1210	1.210
B5-1710	1.710
B5-1835	1.835
B5-2210	2.210
B5-2710	2.710

10/12 C-XSU AND C-TLU PINS AND BUSHINGS



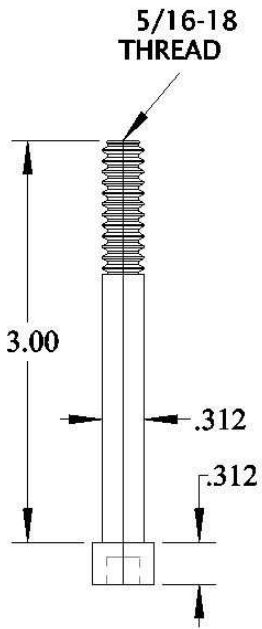
Catalog #	A	B
P6-1210-12	1.210	1.250
P6-1710-12	1.710	1.250
P6-1710-17	1.710	1.750
P6-2210-12	2.210	1.250
P6-2210-17	2.210	1.750
P6-2710-12	2.710	1.250
P6-2710-17	2.710	1.750
P6-3210-17	3.210	1.750
P6-3710-17	3.710	1.750



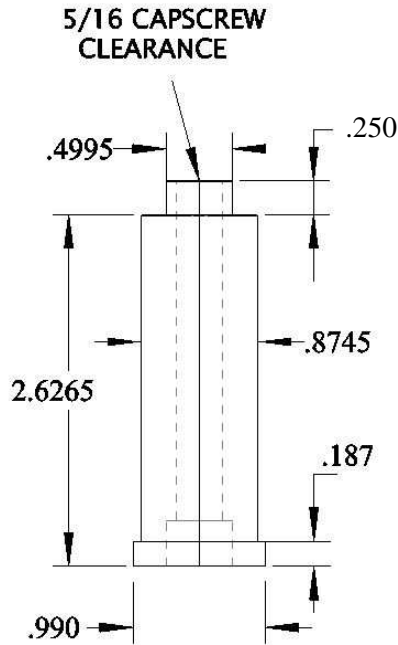
Catalog #	A
B6-835	0.835
B6-1210	1.210
B6-1710	1.710
B6-2210	2.210
B6-2710	2.710
B6-3210	3.210
B6-3710	3.210

C-08/09 & C-84/90 COMPONENTS

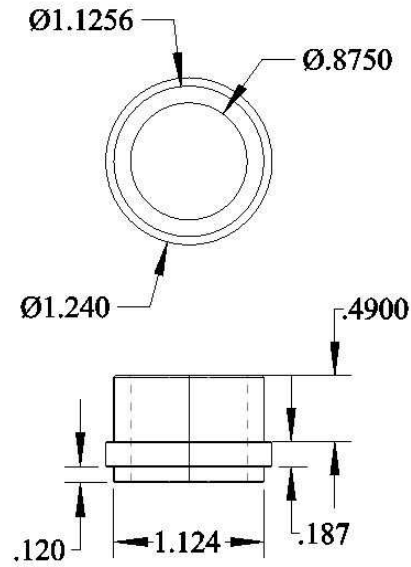
COMPONENTS FOR THE 08/09 & 84/90 GUIDED SUPPORT PILLAR



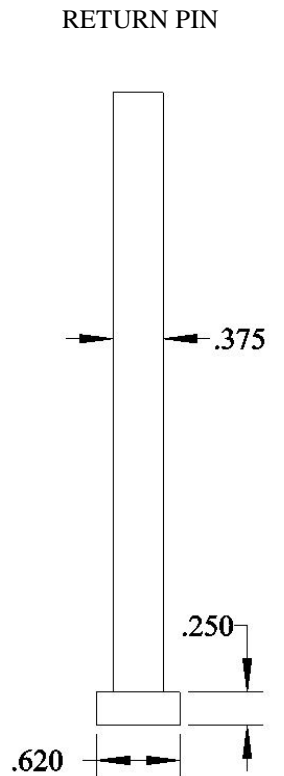
GSP-B-3
5/16-16 X 3 CAPSCREW



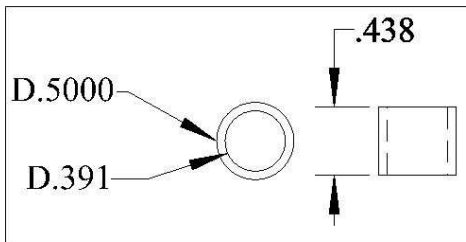
GP-826
GUIDED SUPPORT PILLAR



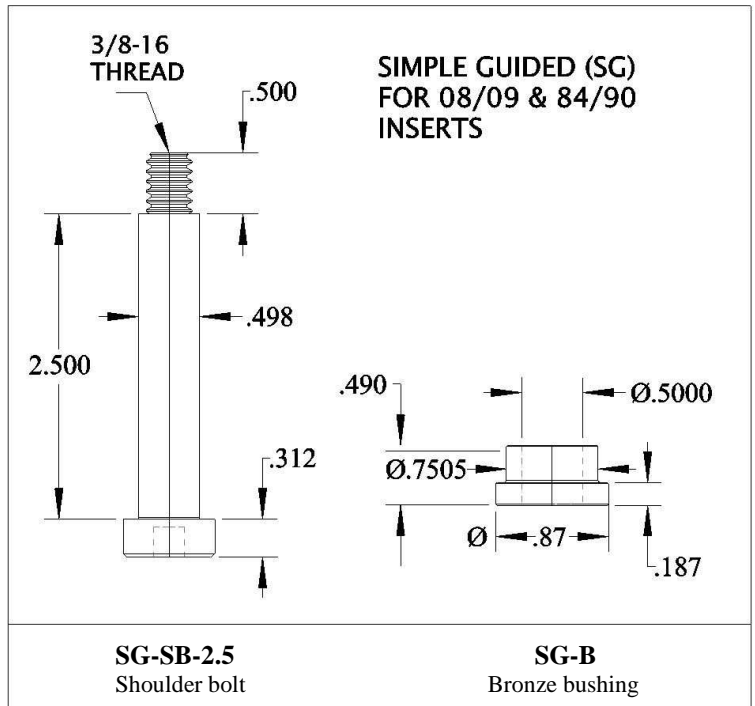
AGB-875
BRONZE BUSHING



RETURN PIN
EJ-38-L6
EJ-38-L10
Cut to length
available

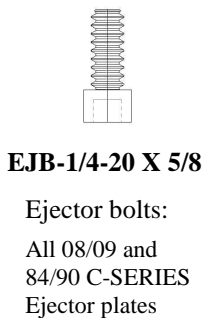


TD-500 Tubular dowel



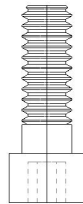
SG-SB-2.5
Shoulder bolt

SG-B
Bronze bushing

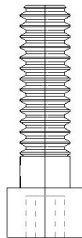


EJB-1/4-20 X 5/8
Ejector bolts:
All 08/09 and
84/90 C-SERIES
Ejector plates

44



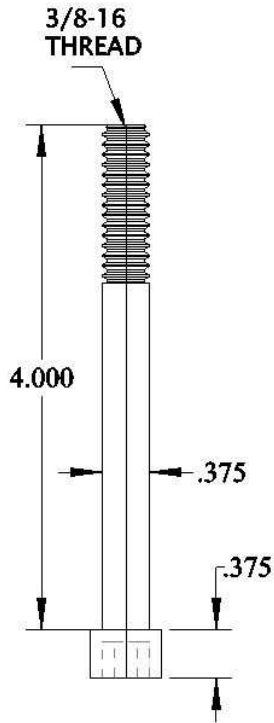
EPB-3/8-16 X 1 1/8
Ear plate bolts:
08/09 C-SLU
08/09 C-TLU
84/90 C-TLU



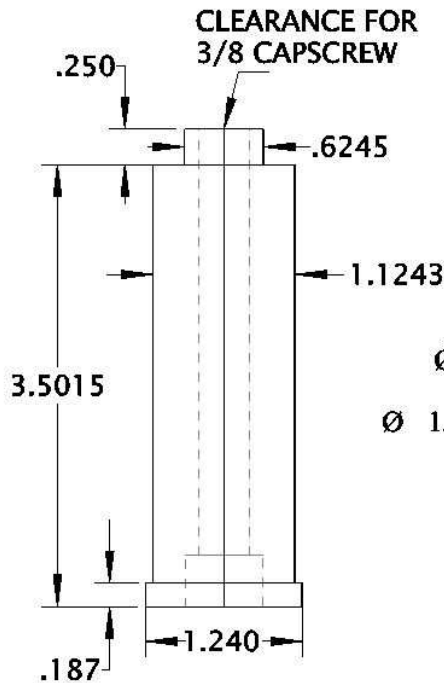
EPB-3/8-16 X 1 3/8
Ear plate bolts:
84/90 C-SLU

C-10/12 COMPONENTS

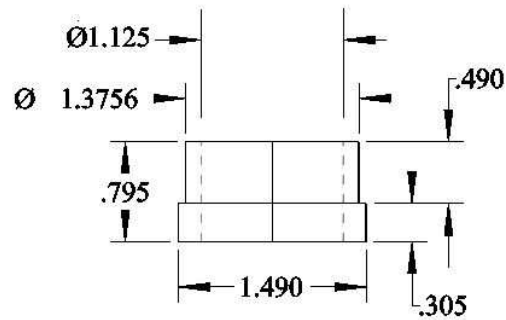
COMPONENTS FOR THE 10/12 GUIDED SUPPORT PILLAR(GSP)



GSP-B-4
5/16-16 X 3 CAPSCREW

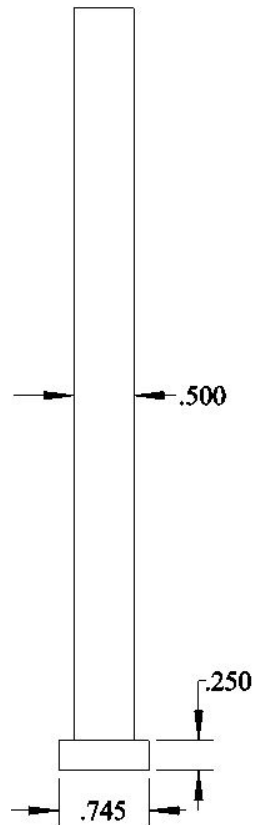


GP-1.125-35
GUIDED SUPPORT PILLAR



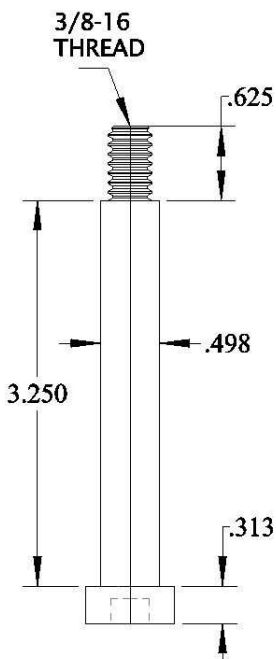
AGB-1.125
BRONZE BUSHING

RETURN PIN

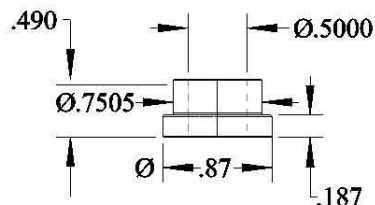


EJ-50-L6
EJ-50-L10
Cut to length
available

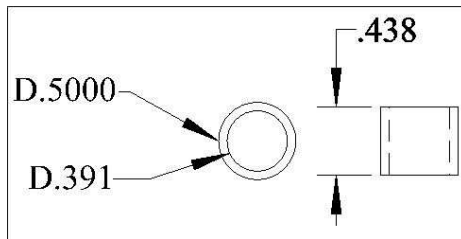
SIMPLE GUIDED (SG) FOR 10/12 INSERTS



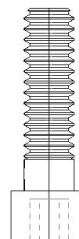
SG-SB-3.25
Shoulder bolt



SG-B
Bronze bushing

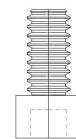


TD-500 Tubular dowel



EPB-3/8-16 X 1 3/8

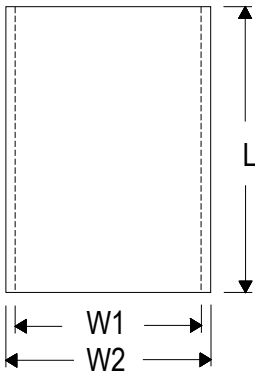
Ear plate bolts:
All 10/12 C-SLU &
C-TLU Ear plates



EJB-5/16-18 X 5/8

Ejector bolts:
All 10/12 C-SERIES
Ejector plates

Ear Plates



Ear Plates for T-Style Molding Inserts						
Catalog #	L	W1	W2	D	E	T
08/09 EPU	8.000	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
10/12 EPU	10.874	6.996	7.716	0.494	0.360	1.000

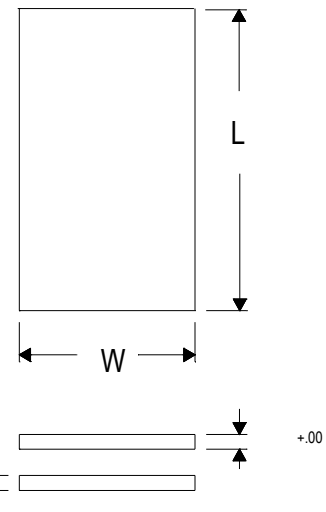
Note: Ear Plates are sold in a set of (2) plates. Steel grade is Holder Block (#2).



Standard Ejector Plate Sets for U-Frame

Catalog #	L	W	T1	T2
08/09 C-EJU	7.88	4.00	0.500	.500
84/90 C-EJU	7.88	5.50	0.500	0.500
10/12 C-EJU	10.75	6.00	0.500	0.500

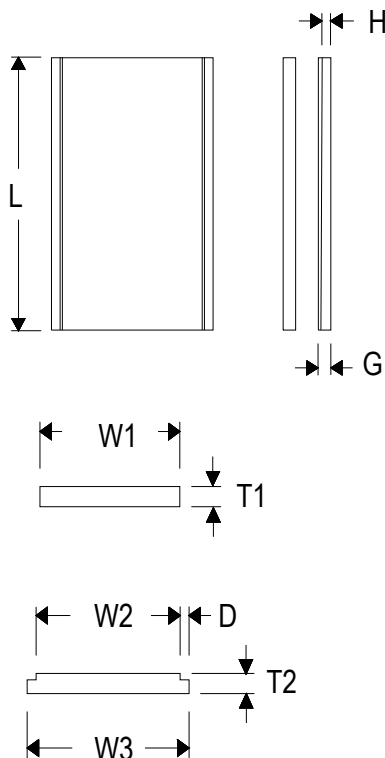
Standard Ejector Plates



Sleeve Ejector Plate Assemblies

Catalog #	L	H	G	W1	W2	W3	D	T1	T2
08/09 SEPU	7.88	0.247	0.283	4.00	4.00	4.50	.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

Sleeve Ejector Plates



ORDERING INFORMATION

EJECTOR PLATES: STANDARD OR SLEEVE

- Please specify Quantity & Catalog # (Catalog # is for a set of (2) plates)
- Material grade is 1018 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 Holder Block (#2)
- First four digits of catalog # must match those of Molding Insert

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 _____

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

Fed. Tax I.D. #: _____	Resale Tax #: _____
Date Established: _____	Number of Employees: _____
Type of Business: _____	
Principal (Printed Name, Title): _____	Please check one:
Principal (Signature, Date): _____	<input type="checkbox"/> Sole Owner <input type="checkbox"/> Corporation

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.

★ _____ 47
 Authorized Signature, Title, Date

