



# IN-LINE PUNCH TOOL CATALOGUE



**Version 2025.1**

 **SCOTTSDALE**

**THE TRUSTED STEEL-FRAMING PARTNER**



# DISCLOSURES

The SCOTTSDALE CONSTRUCTION SYSTEMS mission is to take care of its customers by being the safest, highest quality, lowest cost, most productive and most profitable load bearing light gauge steel framing products company in the world.

This manual collects all the current practices, methods, tools and organization that SCOTTSDALE CONSTRUCTION SYSTEMS utilizes to ensure the quality of its products. These elements together with this manual constitute SCOTTSDALE CONSTRUCTION SYSTEMS Production Quality Assurance System for all of its manufacturing facilities. The information compiled here will be helpful for the purposes of training, audits, internal and external reviews.

The contents of this manual will be reviewed annually and updated as required by the Industrial Engineering function within the manufacturing organization for SCOTTSDALE CONSTRUCTION SYSTEMS, to assure accuracy and completeness of the information.



# IN-LINE PUNCH TOOL CATALOGUE

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## Table of Contents

<b>SECTION I INTRODUCTION .....</b>	<b>I-1</b>
<b>SECTION II FINISHED STATE – FLANGE (FIF).....</b>	<b>II-2</b>
FIF-1 0.13 X 0.63 SLOT (FLANGE).....	II-2
FIF-2 0.13 X 1.25 SLOT (FLANGE) .....	II-3
FIF-3 0.137 ROUND (FLANGE).....	II-4
FIF-4 0.188 X 0.75 SLOT (FLANGE).....	II-5
FIF-5 DIMPLE UNIT - STUD (FLANGE).....	II-6
FIF-6 DIMPLE UNIT - TRACK (FLANGE).....	II-7
FIF-7 FLANGE BOSS (FLANGE) .....	II-8
FIF-8 FLANGE HOLE (FLANGE) .....	II-9
<b>SECTION III FINISHED STATE – WEB (FIW).....</b>	<b>III-10</b>
FIW-1 0.177 ROUND (WEB).....	III-10
FIW-2 0.313 ROUND (WEB) .....	III-11
FIW-3 0.50 ROUND (WEB) .....	III-12
FIW-4 0.63 ROUND (WEB) .....	III-13
FIW-5 0.69 ROUND (WEB) .....	III-14
FIW-6 0.75 X 1.75 RECTANGLE (WEB) .....	III-15
FIW-7 0.75 X 4.00 SLOT (WEB).....	III-16
FIW-8 0.81 ROUND (WEB).....	III-17

FIW-9 1.00 ROUND (WEB).....	III-18
FIW-10 1.13 ROUND (WEB).....	III-19
FIW-11 1.25 ROUND (WEB).....	III-20
FIW-12 1.38 ROUND (WEB).....	III-21
FIW-13 1.50 ROUND (WEB).....	III-22
FIW-14 1.50 X 2.50 SILHOUETTE (WEB).....	III-23
FIW-15 1.50 X 3.00 SLOT (WEB) .....	III-24
FIW-16 1.50 X 4.00 SLOT (WEB).....	III-25
FIW-17 1.75 ROUND (WEB).....	III-26
FIW-18 2.00 ROUND (WEB).....	III-27
FIW-19 2.00 X 3.00 SLOT (WEB) .....	III-28
FIW-20 3.00 ROUND (WEB).....	III-29
FIW-21 CRC 01 (WEB) .....	III-30
FIW-22 CUSTOM 02 (WEB) .....	III-31
FIW-23 KEYHOLE SLOT - HFX (WEB) .....	III-32
FIW-24 RECTANGLE - 0.75 X 1.75 (WEB) .....	III-33
FIW-25 SWAGE (PART END).....	III-34
<b>SECTION IV FLAT STATE – FLANGE (FLF) .....</b>	<b>IV-35</b>
FLF-1 FLANGE PUNCH - 1.63.....	IV-35
FLF-2 FLANGE PUNCH - 2.13.....	IV-36
FLF-3 FLANGE SLOT - 6X (FLANGE) .....	IV-37
FLF-4 SLIP TRACK SLOT (FLANGE) .....	IV-38
<b>SECTION V FLAT STATE – RETURN (FLR).....</b>	<b>V-39</b>
FLR-1 LIP CUT (RETURN) .....	V-39
<b>SECTION VI FLAT STATE – WEB (FLW) .....</b>	<b>VI-40</b>
FLW-1 05.00 ROUND (WEB) .....	VI-40
FLW-2 10.00 X 12.00 SLOT (WEB).....	VI-41

<b>FLW-3 127MM ROUND (WEB) .....</b>	<b>VI-42</b>
<b>FLW-4 4.00 ROUND (WEB) .....</b>	<b>VI-43</b>
<b>FLW-5 4.00 X 4.00 SQUARE (WEB) .....</b>	<b>VI-44</b>
<b>FLW-6 6.00 ROUND (WEB).....</b>	<b>VI-45</b>
<b>FLW-7 6.50 ROUND (WEB) .....</b>	<b>VI-46</b>
<b>FLW-8 8.00 ROUND (WEB).....</b>	<b>VI-47</b>
<b>FLW-9 DUAL CONNECTION TAB (WEB).....</b>	<b>VI-48</b>
<b>FLW-10 FS4-S - END-ANGLE CUT (PART END) .....</b>	<b>VI-49</b>
<b>FLW-11 WEB PUNCH (WEB) .....</b>	<b>VI-50</b>





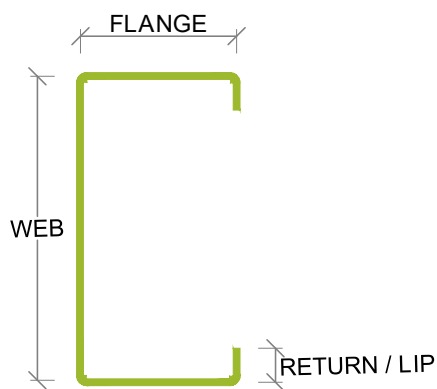
# SECTION I INTRODUCTION

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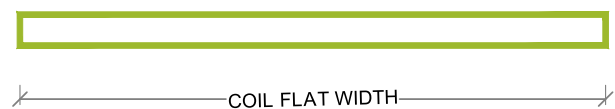
Knudson by Scottsdale's KFD and KFS Framemaker series of roll formers supports a large selection of toolkits designed to create a variety of section and member modifications. These geometric modifications encompass various forms of web and flange cuts, along with section deformations. The toolkits are broadly classified as follows:

- Finished state on flange
- Finished state on web
- Flat state on flange
- Flat state on web
- Flat state on return

The finished state denotes the fully formed section, while the flat state corresponds to the input coil. The following images illustrate key components of a C-section profile, essential for interpreting the in-line punch tool catalog.



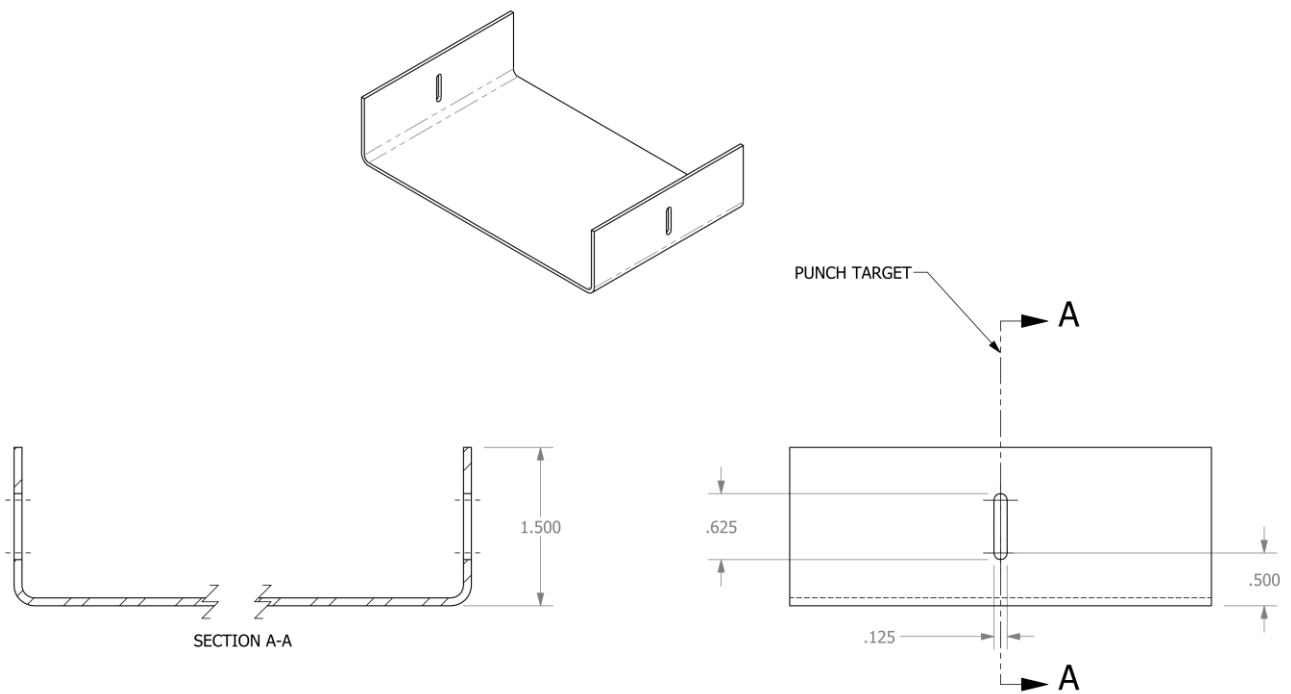
(a) Finished state



(b) Flat state

# SECTION II FINISHED STATE – FLANGE (FIF)

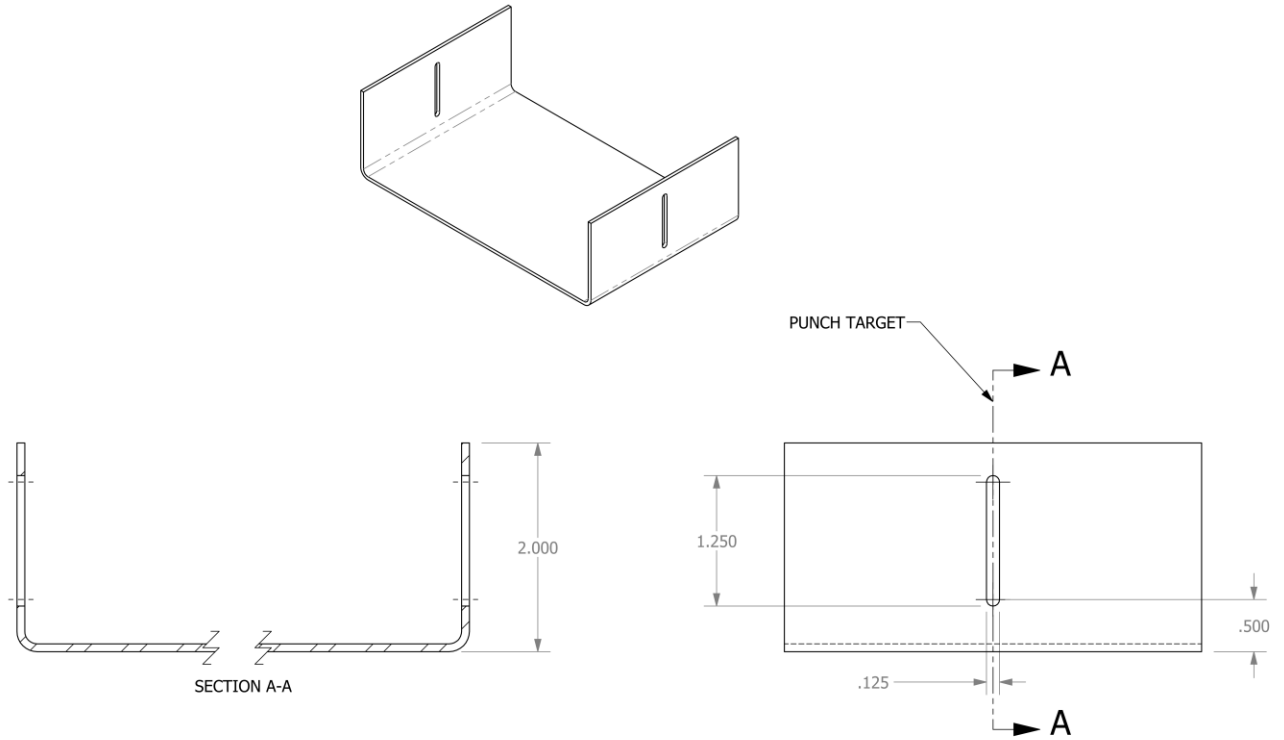
## FIF-1 0.13 X 0.63 SLOT (FLANGE)



### 0.13 X 0.63 SLOT (FLANGE)

PUNCH TOOL - FINISHED STATE

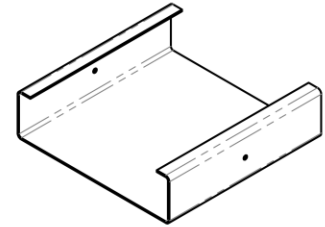
# FIF-2 0.13 X 1.25 SLOT (FLANGE)



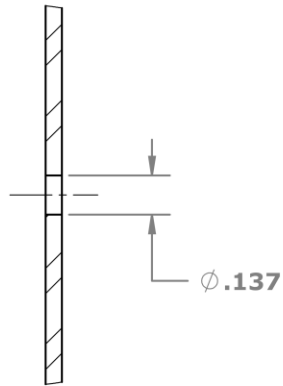
## 0.13 X 1.25 SLOT (FLANGE)

PUNCH TOOL - FINISHED STATE

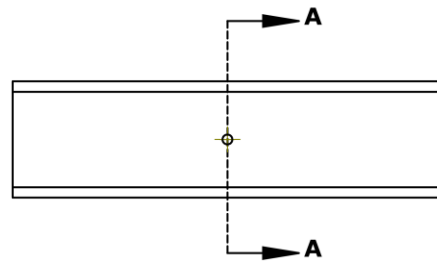
# FIF-3 0.137 ROUND (FLANGE)



**DETAIL C  
SCALE 2 : 1**

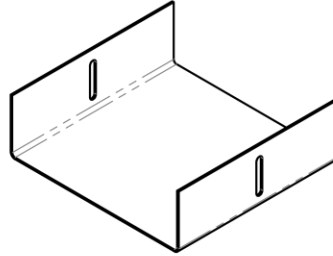


**SECTION A-A**

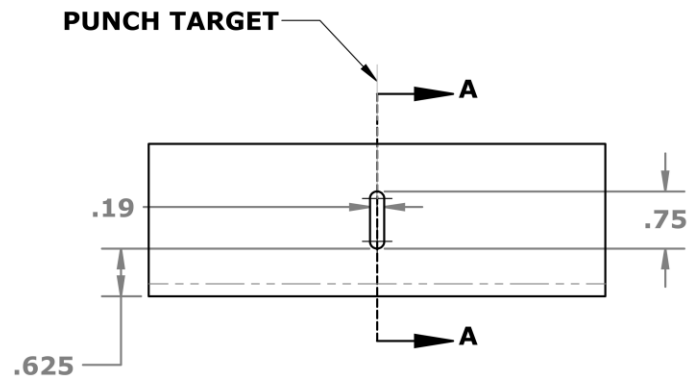


**0.137 ROUND (FLANGE)  
PUNCH TOOL  
(FINISHED STATE)**

# FIF-4 0.188 X 0.75 SLOT (FLANGE)



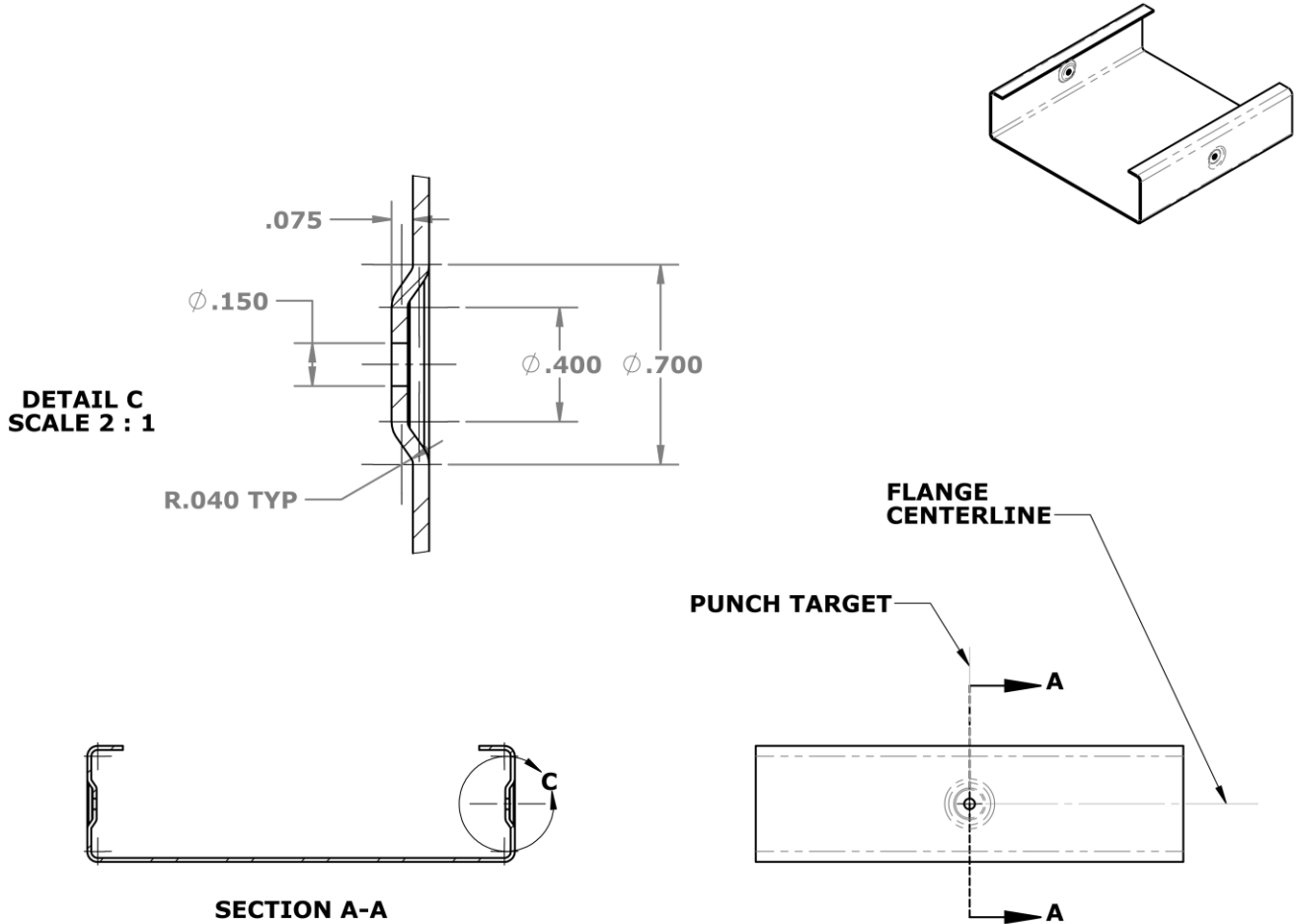
SECTION A-A



## 0.188 X 0.75 SLOT (FLANGE)

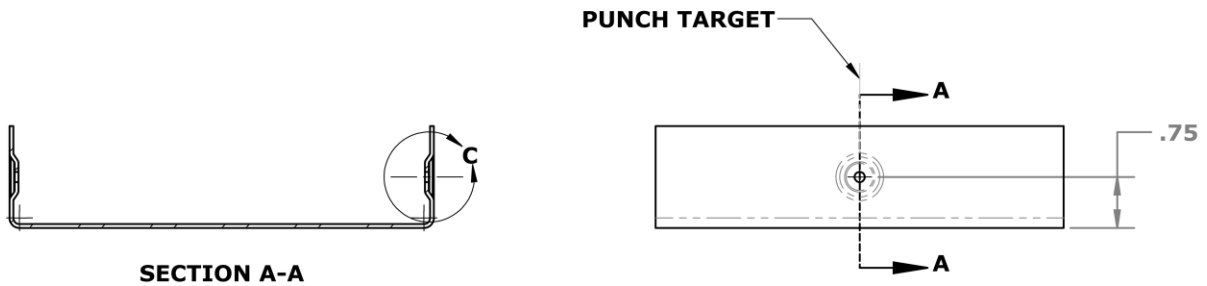
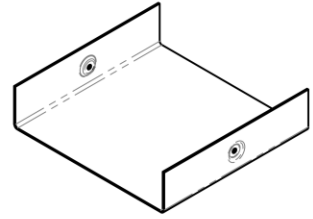
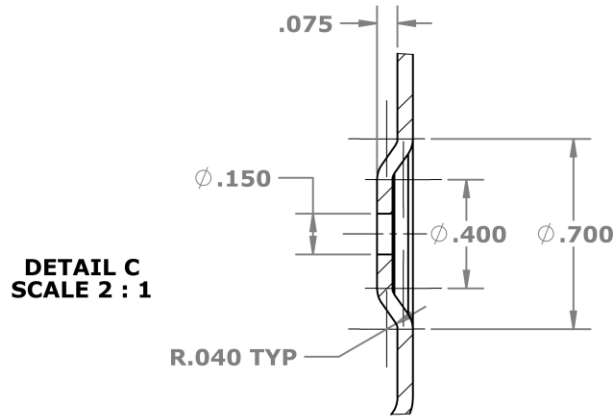
PUNCH TOOL  
(FINISHED STATE)

# FIF-5 DIMPLE UNIT - STUD (FLANGE)



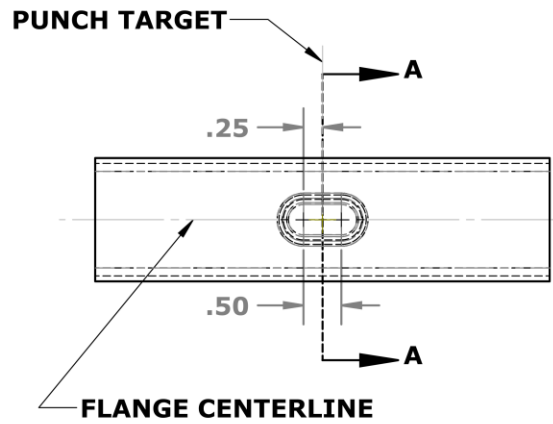
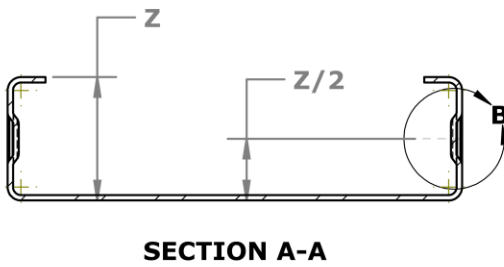
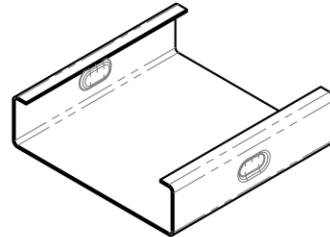
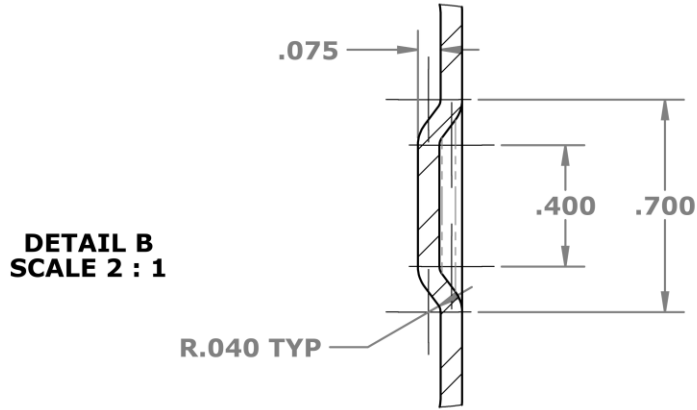
**DIMPLE UNIT (FLANGE)**  
**PUNCH TOOL**  
**(FINISHED STATE)**

# FIF-6 DIMPLE UNIT - TRACK (FLANGE)



**DIMPLE UNIT (FLANGE)**  
**PUNCH TOOL**  
**(FINISHED STATE)**

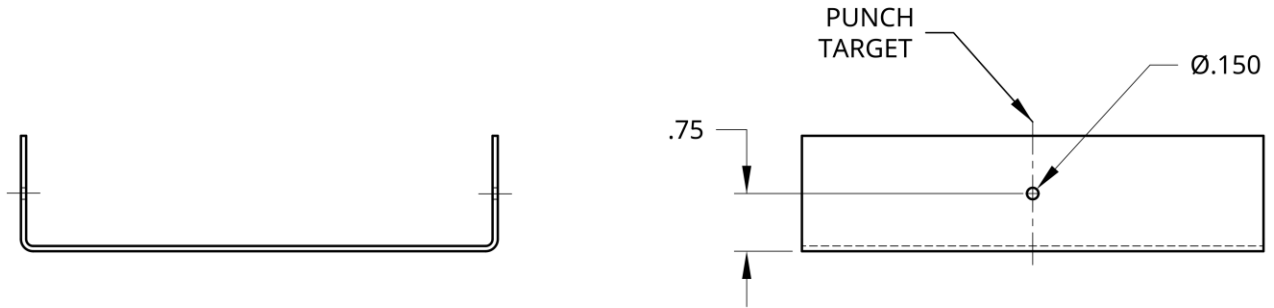
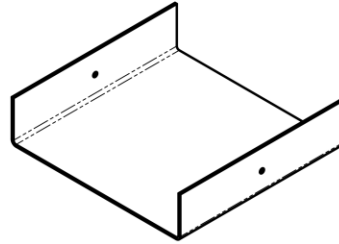
# FIF-7 FLANGE BOSS (FLANGE)



**BOSS (FLANGE)**  
IRENE 2.0 - PUNCH TOOL  
(FINISHED STATE)



## FIF-8 FLANGE HOLE (FLANGE)

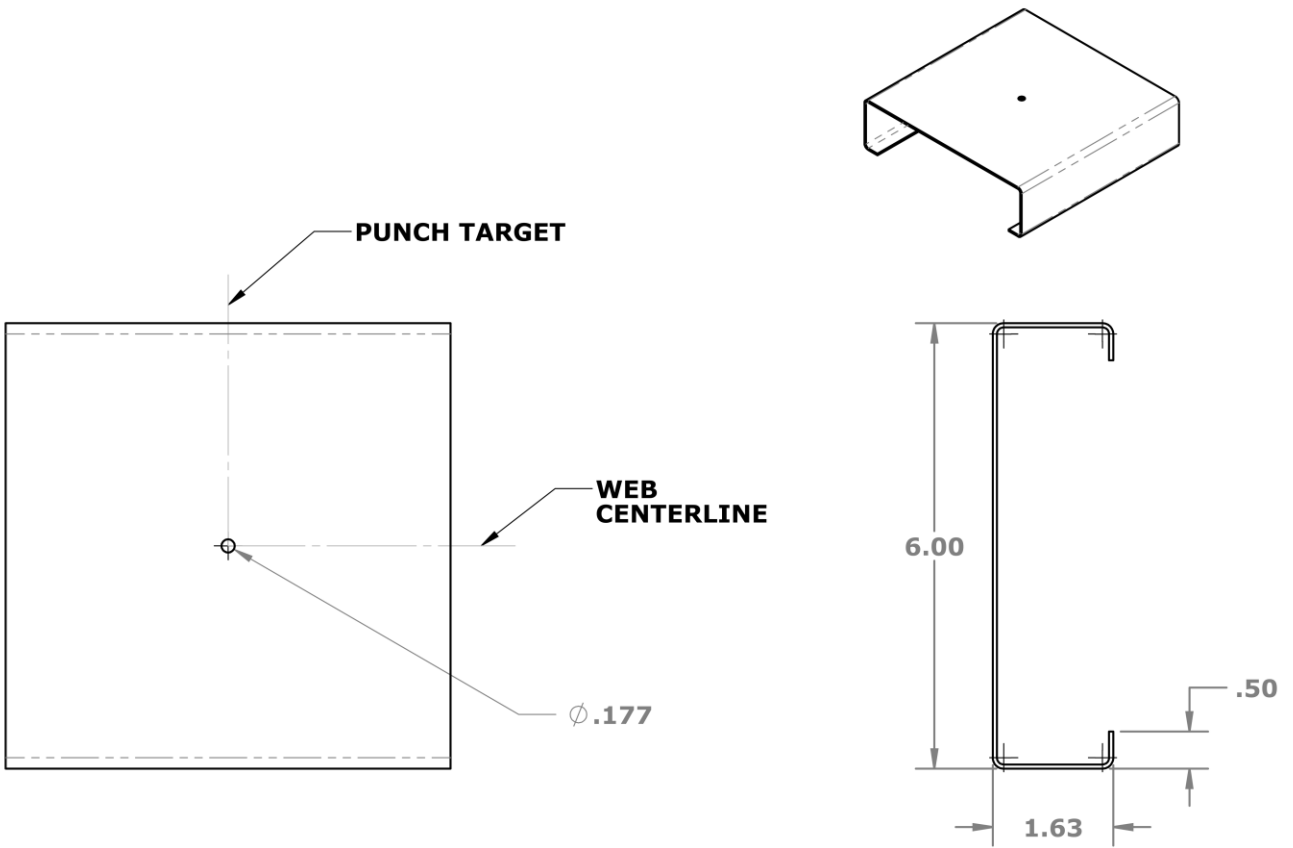


### FLANGE HOLE (FLANGE)

PUNCH TOOL CARTRIDGE  
(FINISHED STATE)

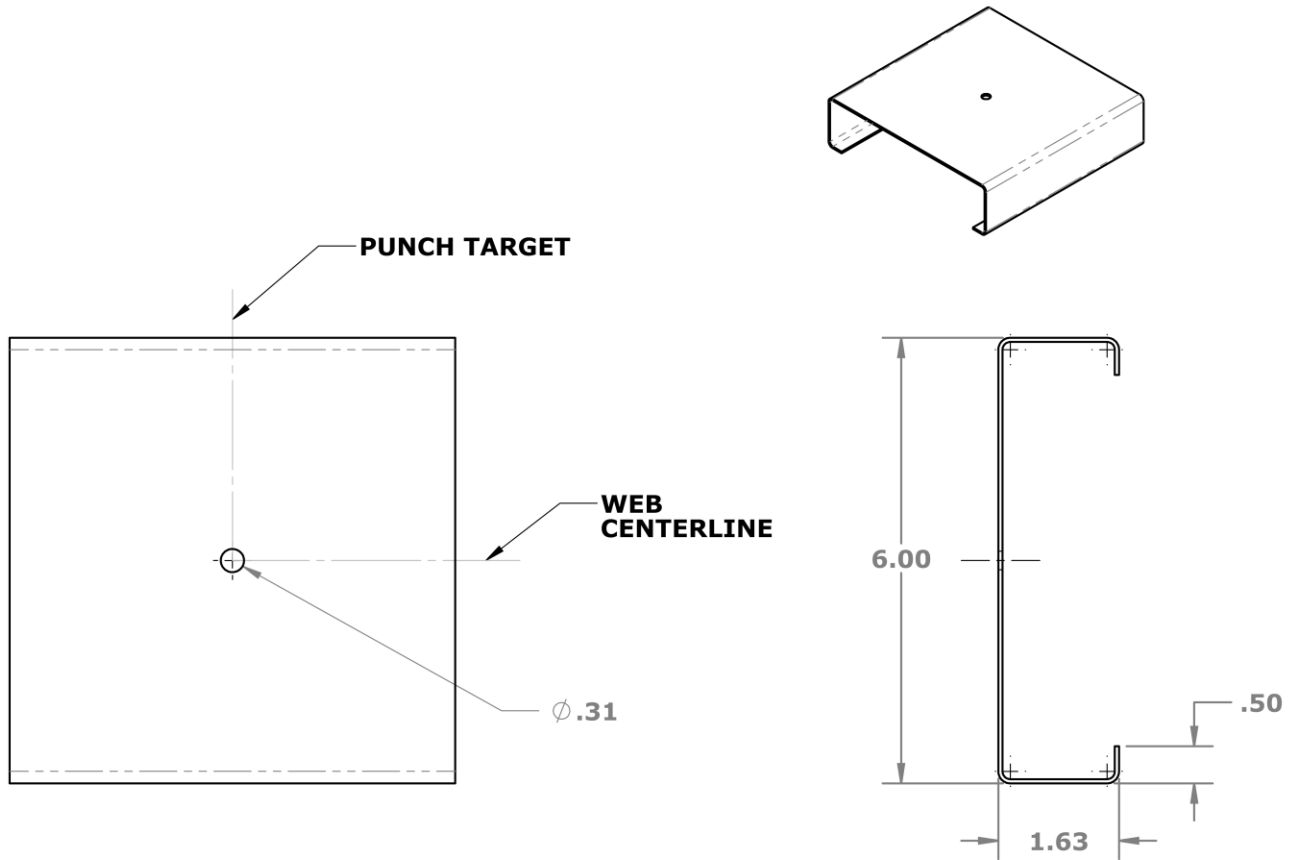
# SECTION III FINISHED STATE – WEB (FIW)

## FIW-1 0.177 ROUND (WEB)



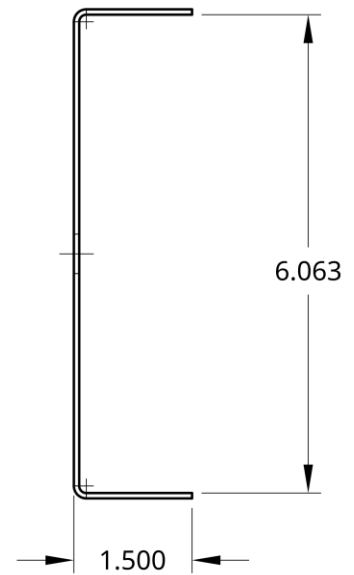
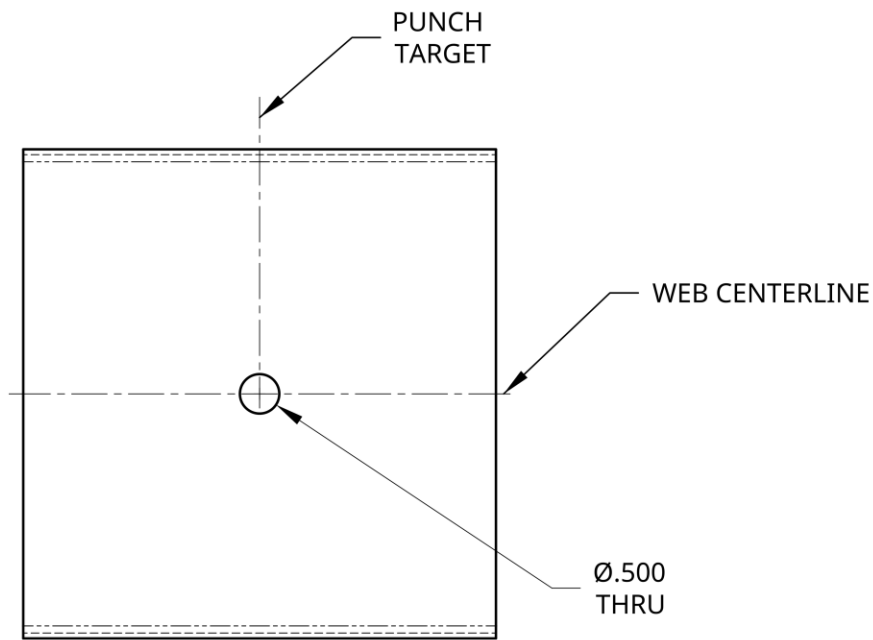
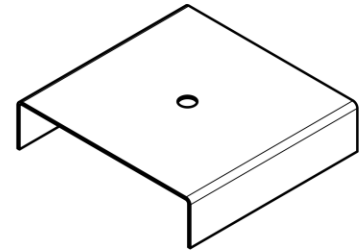
**0.177 ROUND (WEB)  
PUNCH TOOL CARTRIDGE  
(FINISHED STATE)**

# FIW-2 0.313 ROUND (WEB)



**0.313 ROUND (WEB)**  
**PUNCH TOOL CARTRIDGE**  
**(FINISHED STATE)**

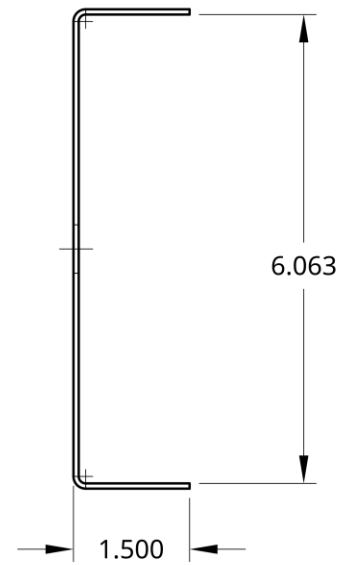
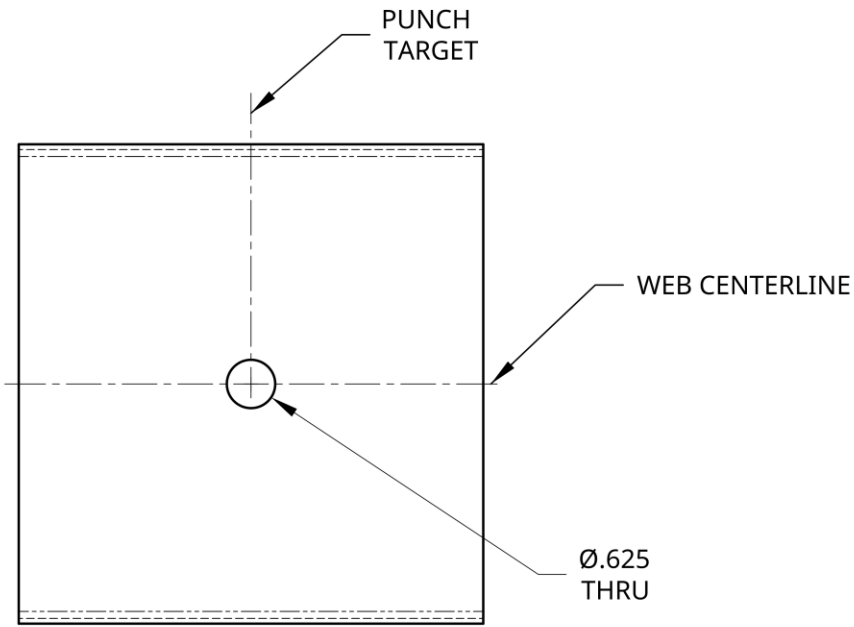
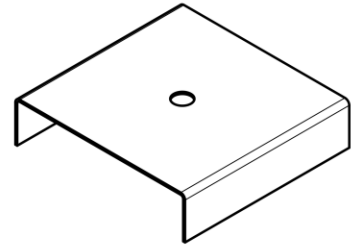
# FIW-3 0.50 ROUND (WEB)



## 0.50 ROUND (WEB)

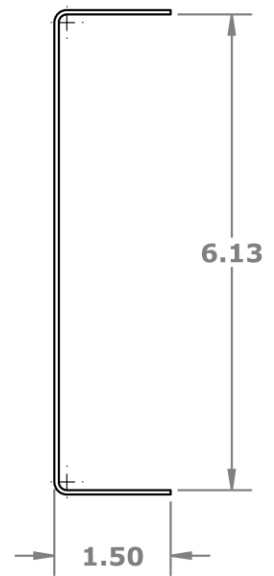
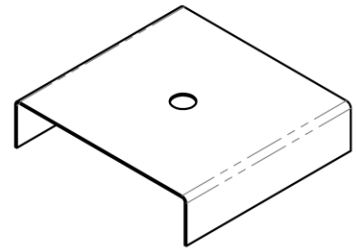
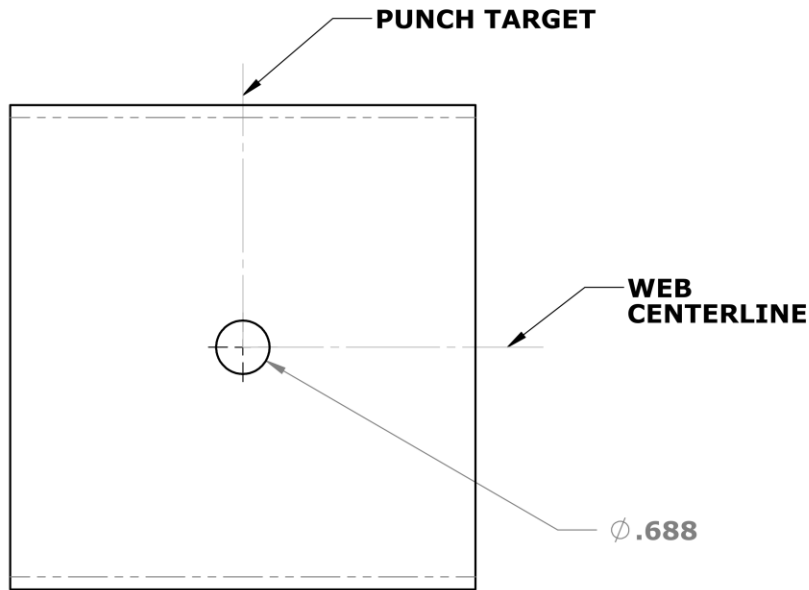
PUNCH TOOL CARTRIDGE  
(FINISHED STATE)

# FIW-4 0.63 ROUND (WEB)



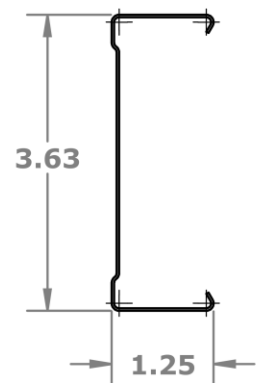
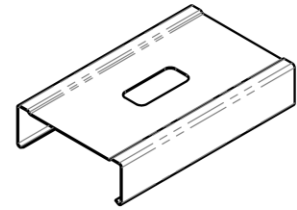
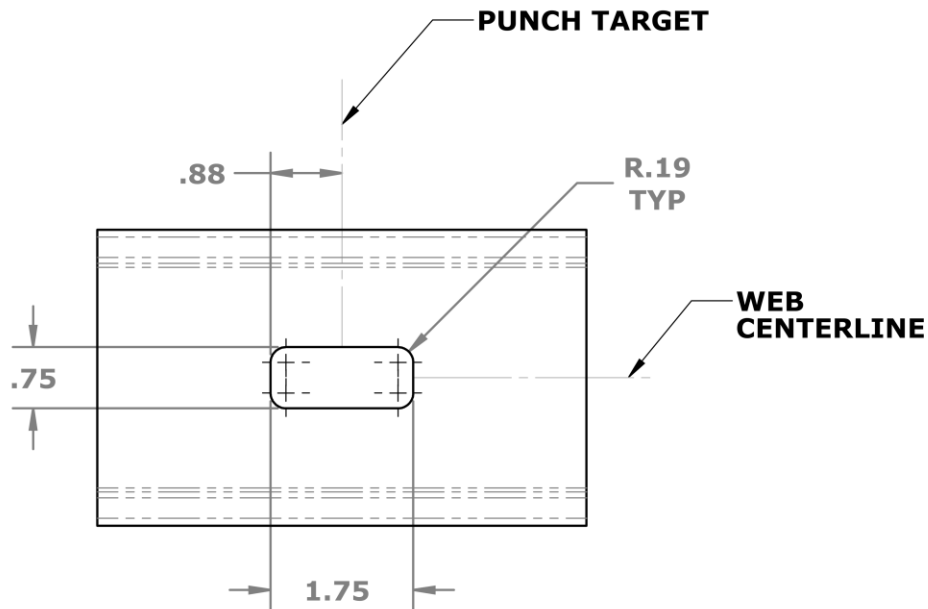
**0.63 ROUND (WEB)**  
**PUNCH TOOL CATRIDGE**  
**(FINISHED STATE)**

# FIW-5 0.69 ROUND (WEB)



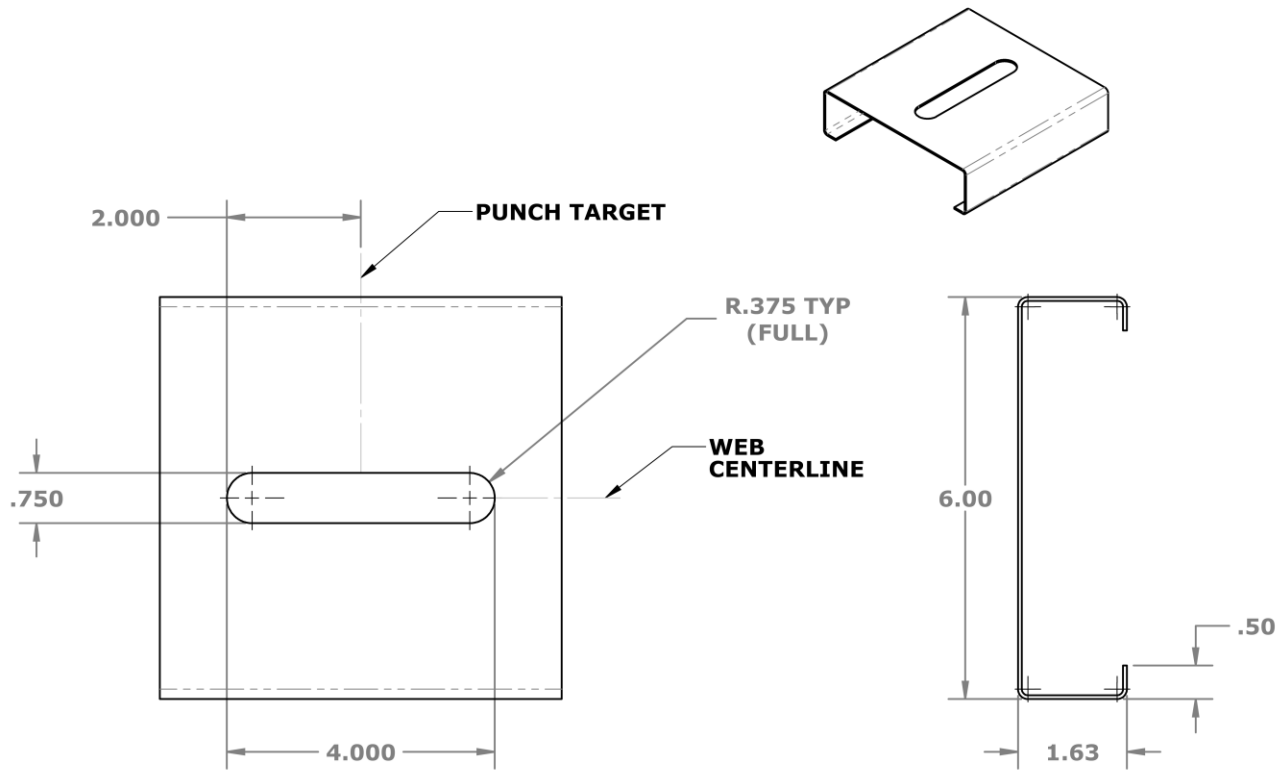
**0.69 ROUND (WEB)**  
**PUNCH TOOL CARTRIDGE**  
**(FLAT/FINISHED STATE)**

# FIW-6 0.75 X 1.75 RECTANGLE (WEB)



**0.75 X 1.75  
RECTANGLE (WEB)  
PUNCH TOOL CARTRIDGE  
(FINISHED STATE)**

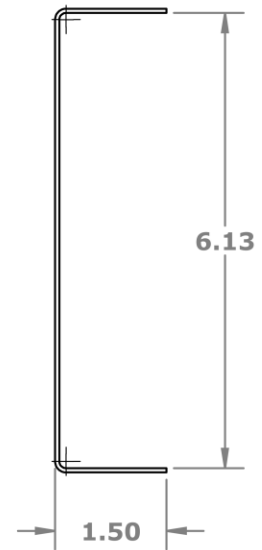
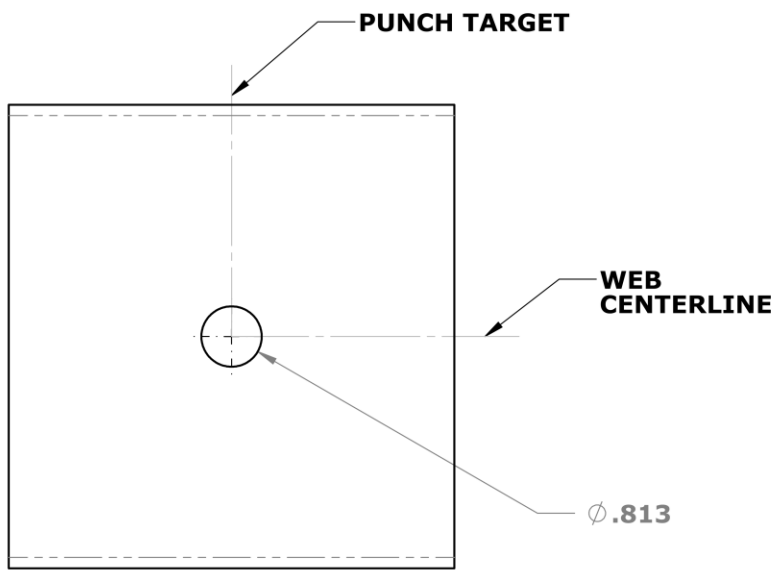
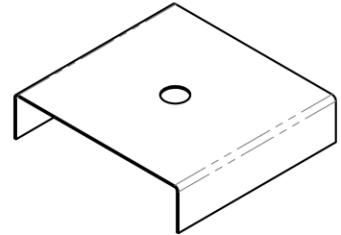
# FIW-7 0.75 X 4.00 SLOT (WEB)



**0.75 X 4.00 SLOT (WEB)**  
PUNCH TOOL CARTRIDGE  
(FINISHED STATE)

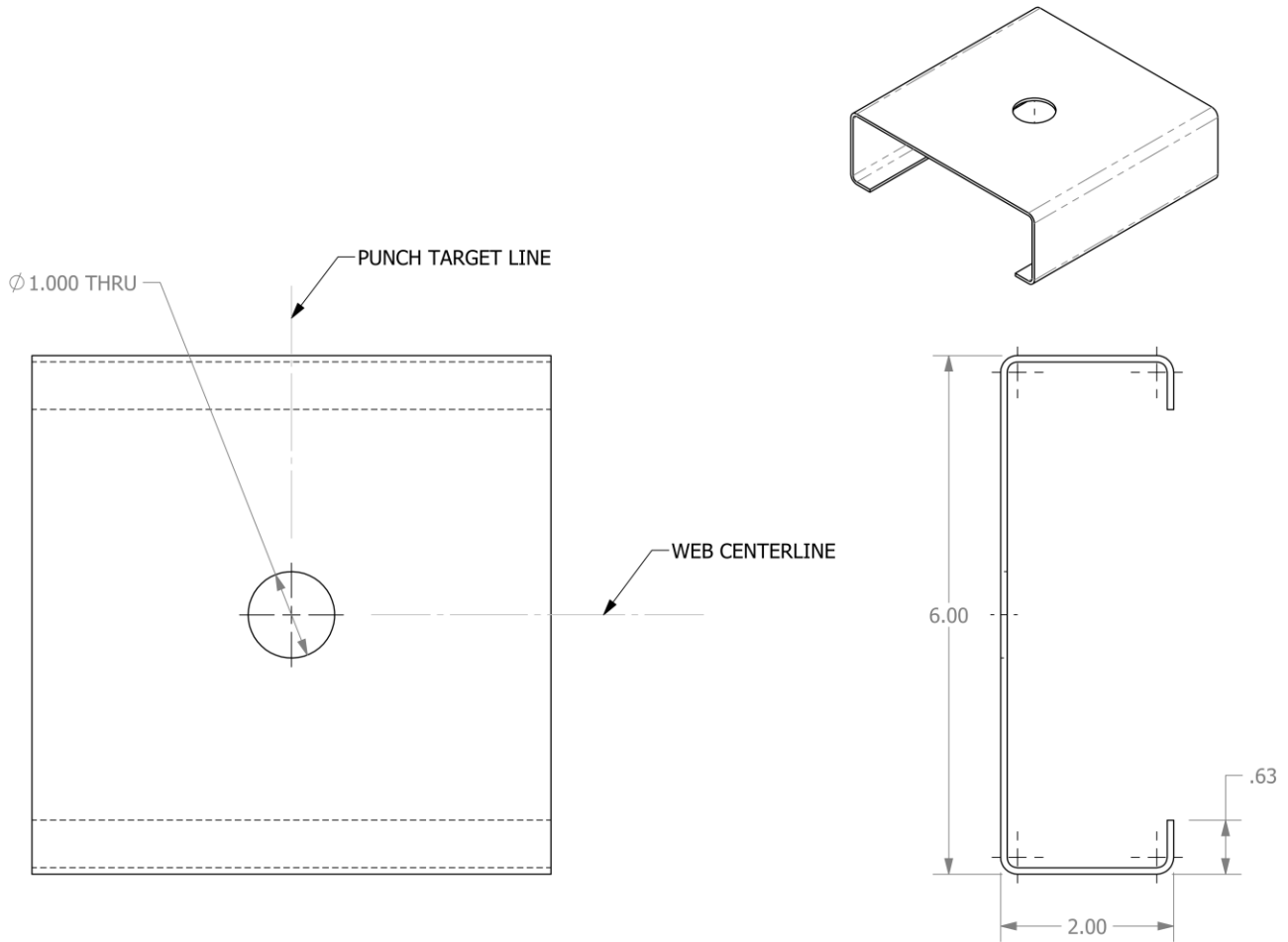


# FIW-8 0.81 ROUND (WEB)



**0.81 ROUND (WEB)**  
**PUNCH TOOL CARTRIDGE**  
**(FLAT/FINISHED STATE)**

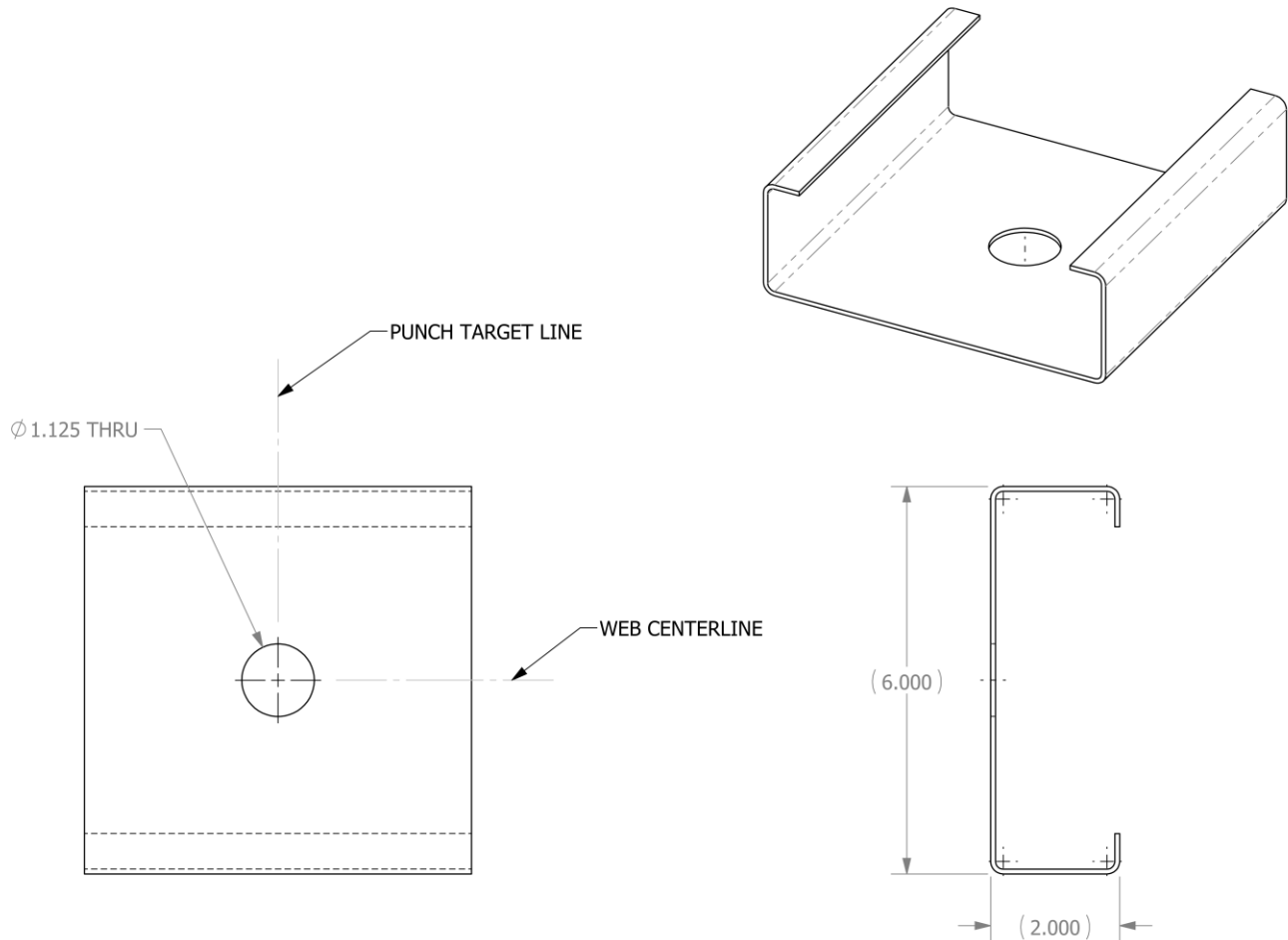
# FIW-9 1.00 ROUND (WEB)



## 1.00 ROUND (WEB)

### FINISHED STATE

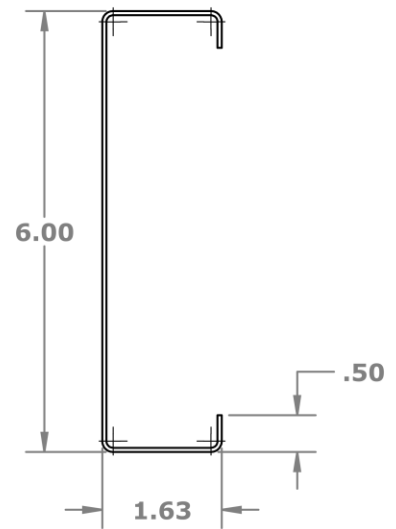
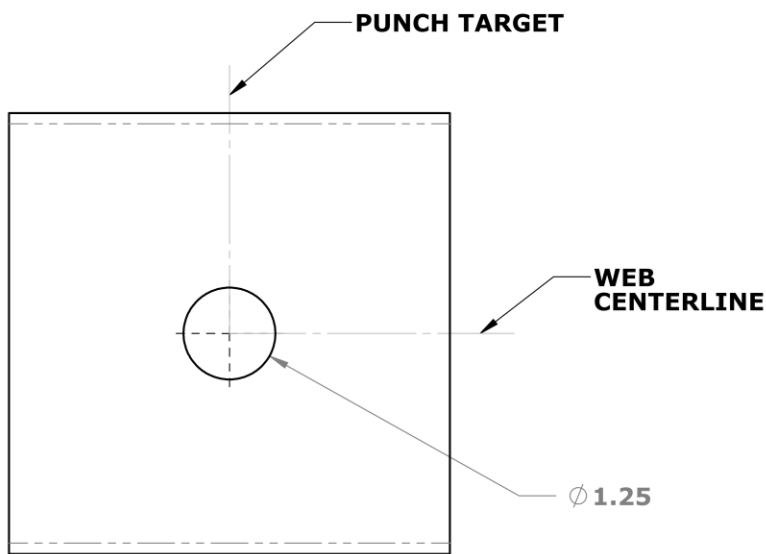
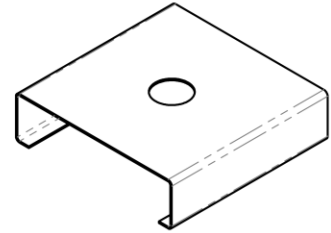
# FIW-10 1.13 ROUND (WEB)



## 1.13 ROUND (WEB)

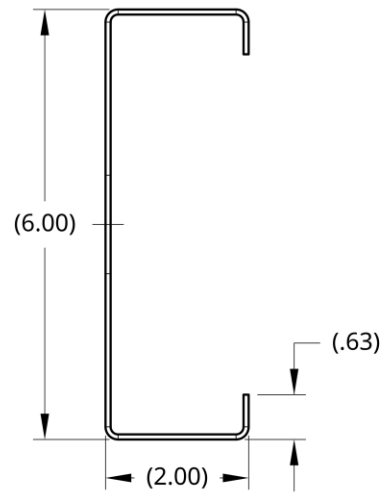
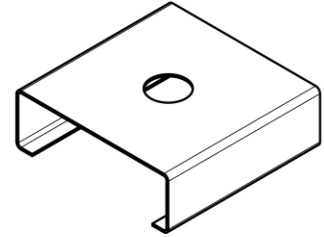
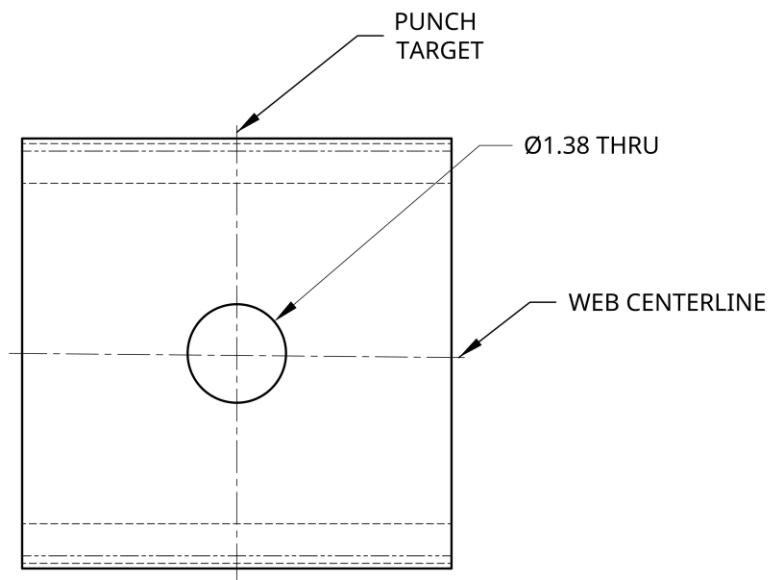
FINISHED STATE

# FIW-11 1.25 ROUND (WEB)



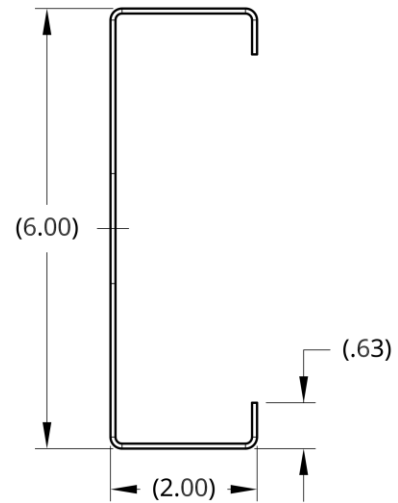
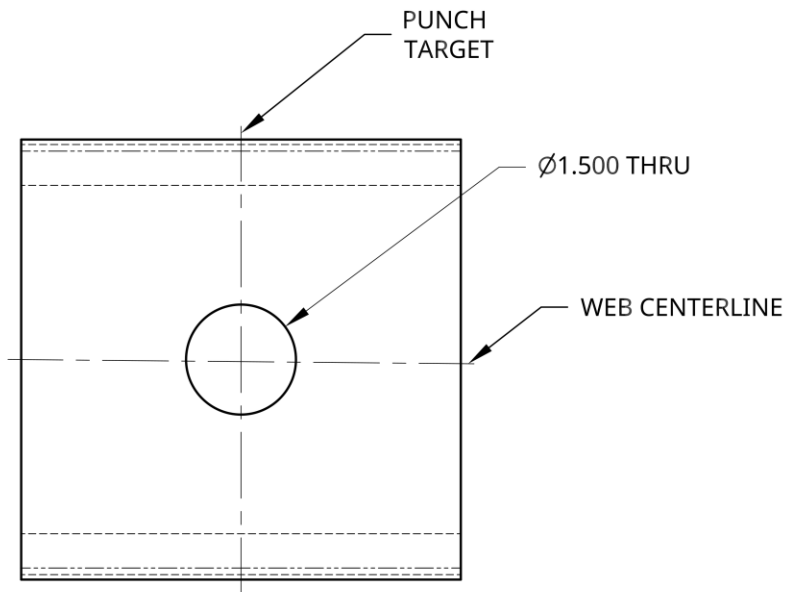
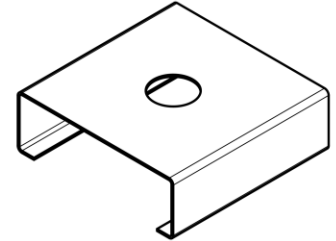
**1.25 ROUND (WEB)**  
**PUNCH TOOL CARTRIDGE**  
**(FINISHED STATE)**

# FIW-12 1.38 ROUND (WEB)



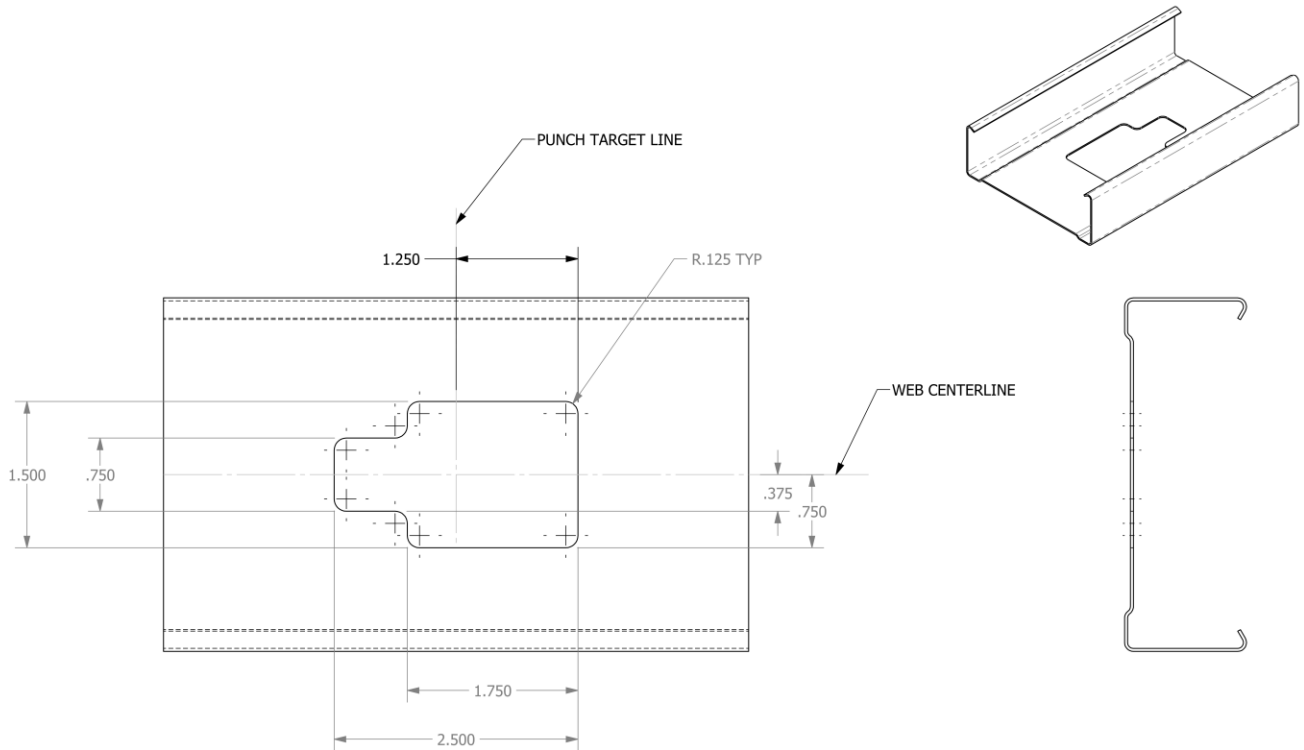
**1.38 ROUND (WEB)**  
PUNCH TOOL CARTRIDGE  
(FINISHED STATE)

# FIW-13 1.50 ROUND (WEB)



**1.50 ROUND (WEB)**  
PUNCH TOOL CATRIDGE  
(FINISHED STATE)

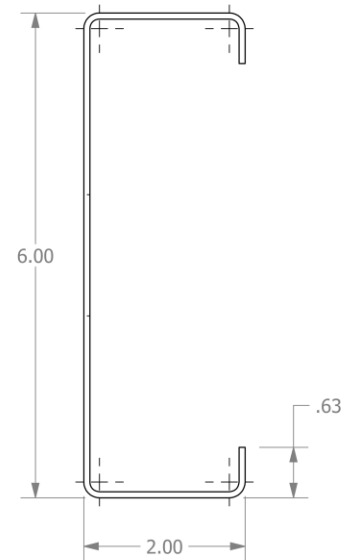
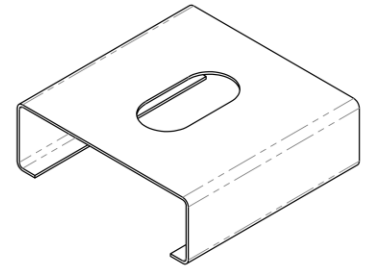
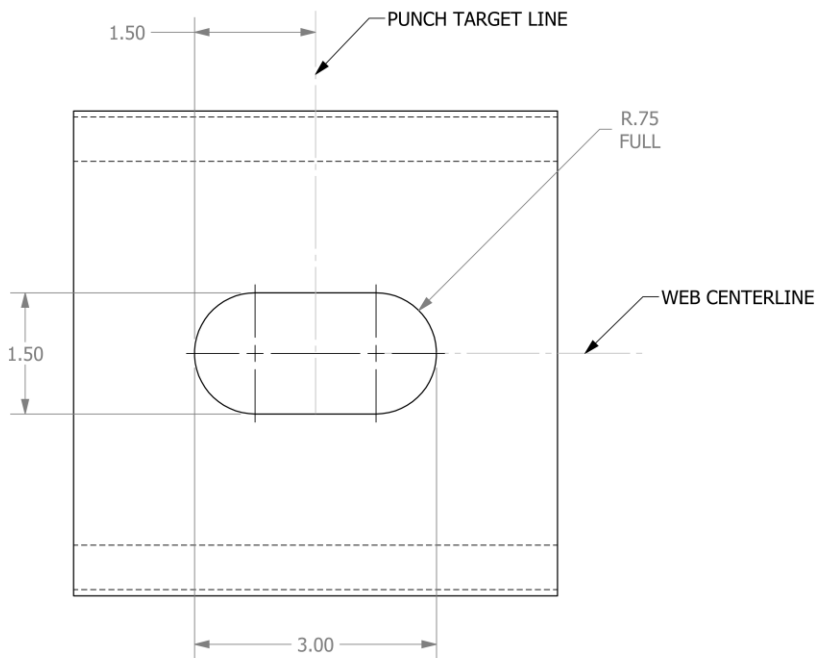
# FIW-14 1.50 X 2.50 SILHOUETTE (WEB)



## 1.50 X 2.50 SILHOUETTE (WEB)

FINISHED STATE (WEB)

# FIW-15 1.50 X 3.00 SLOT (WEB)

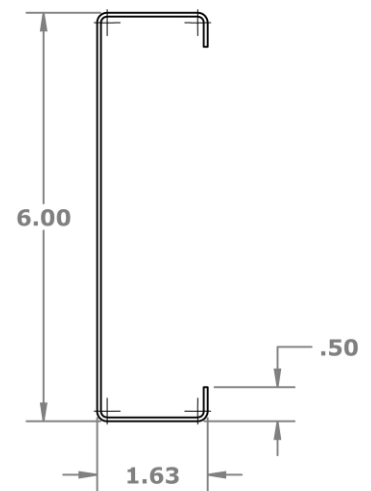
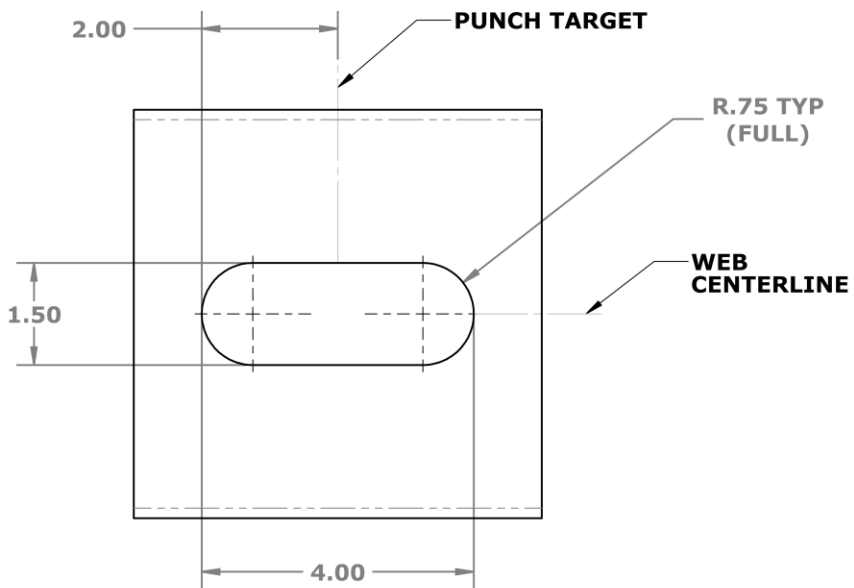
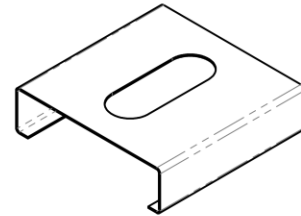


## 1.50 X 3.00 SLOT (WEB)

FINISHED STATE

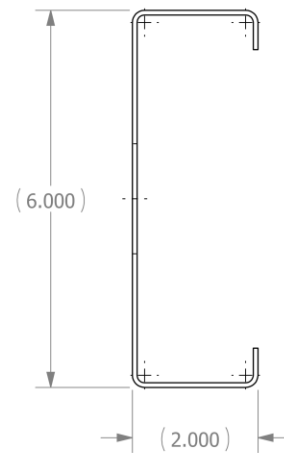
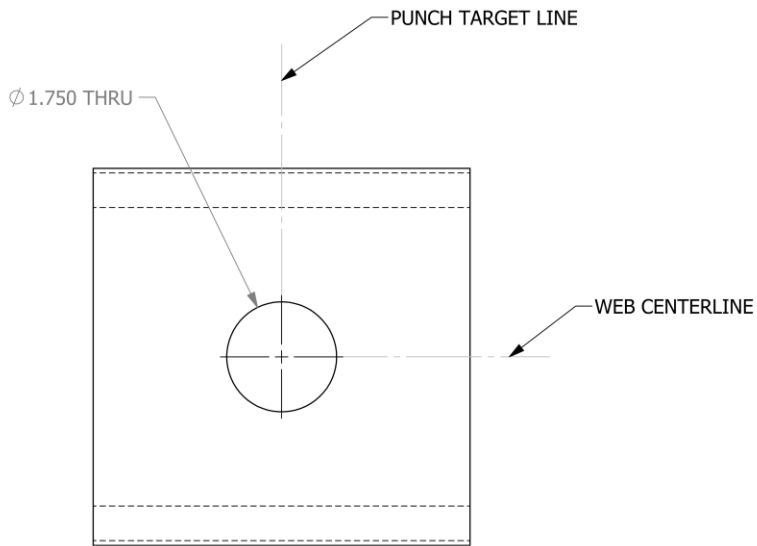
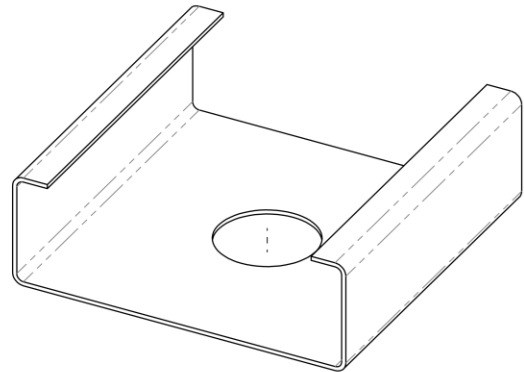


# FIW-16 1.50 X 4.00 SLOT (WEB)



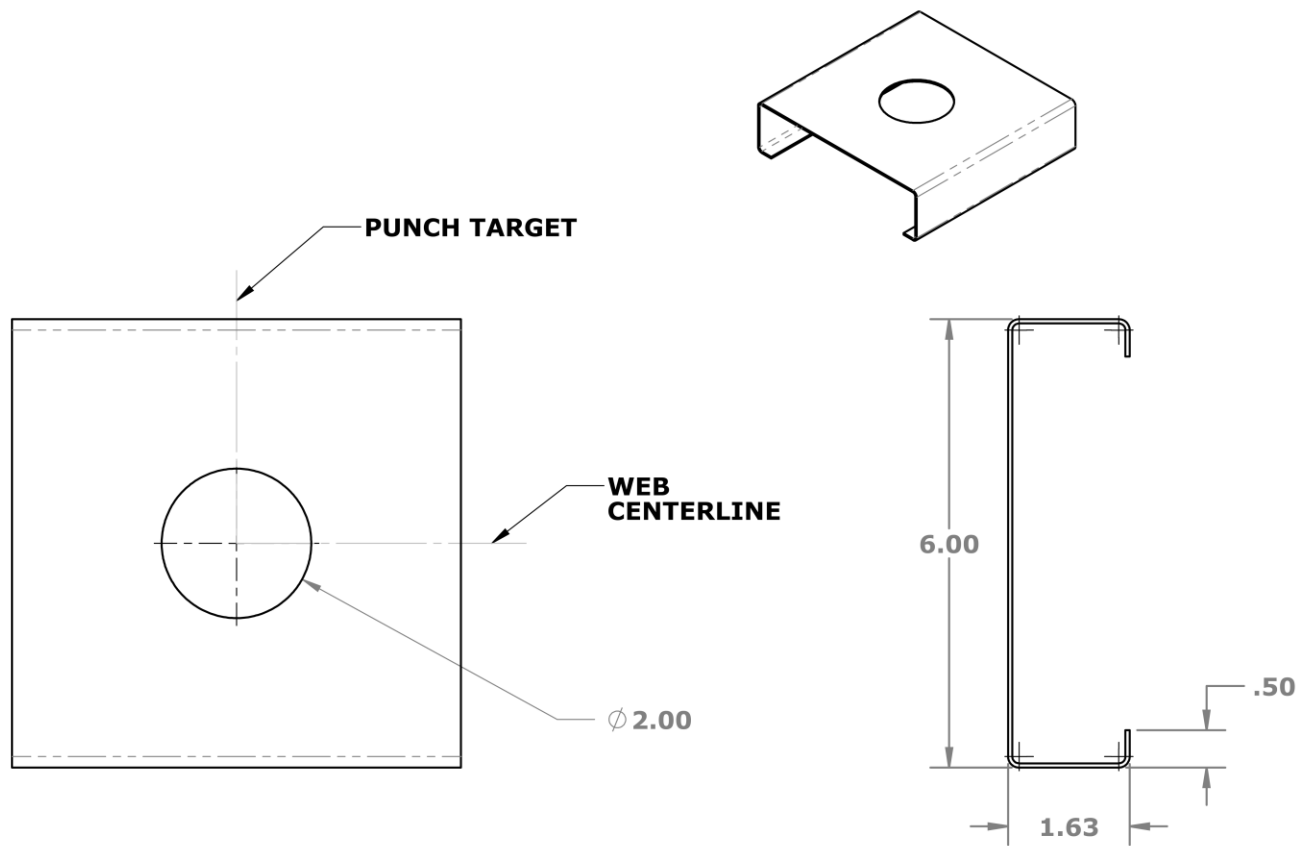
**1.50 X 4.00 SLOT (WEB)**  
**PUNCH TOOL CARTRIDGE**  
**(FINISHED STATE)**

# FIW-17 1.75 ROUND (WEB)



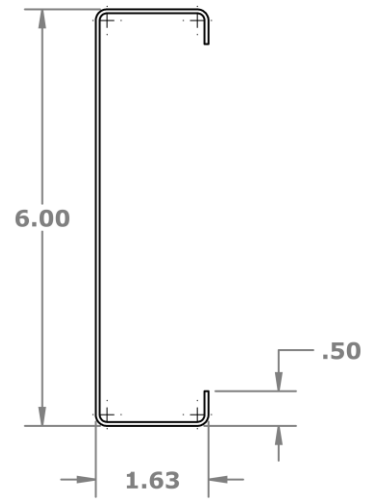
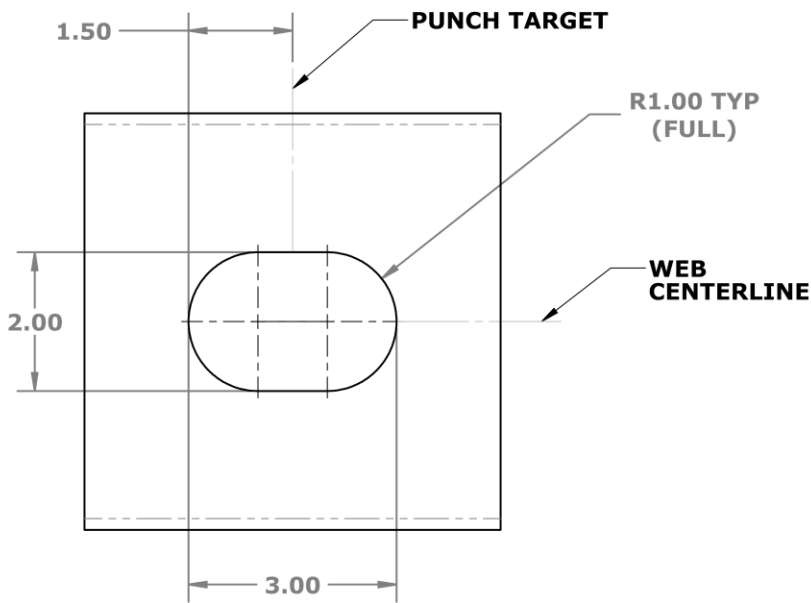
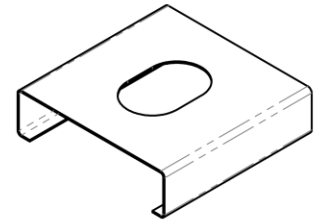
## 1.75 ROUND (WEB) FINISHED STATE

# FIW-18 2.00 ROUND (WEB)



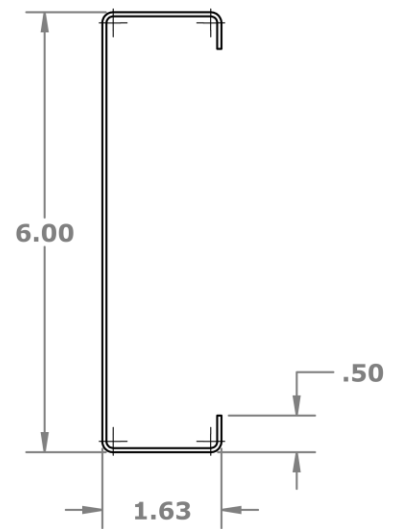
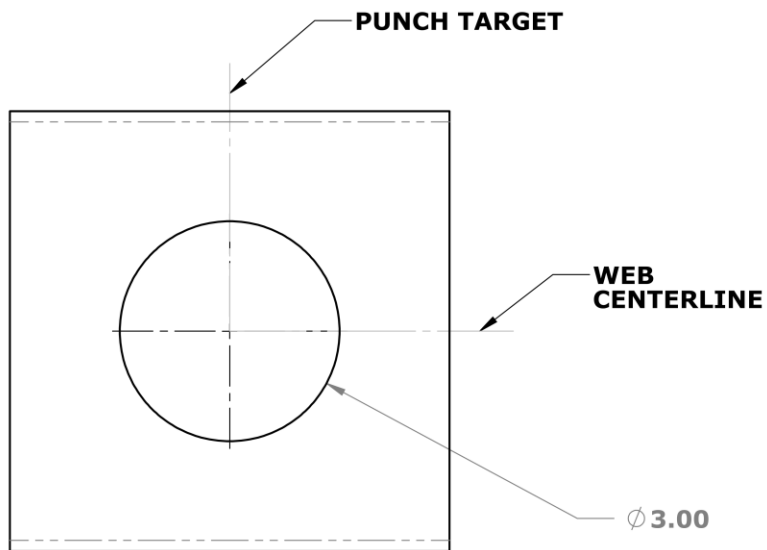
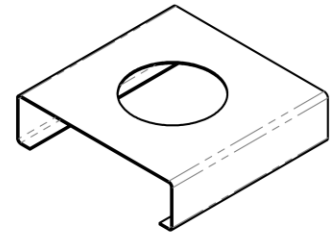
**2.00 ROUND (WEB)**  
**PUNCH TOOL CARTRIDGE**  
**(FLAT/FINISHED STATE)**

# FIW-19 2.00 X 3.00 SLOT (WEB)



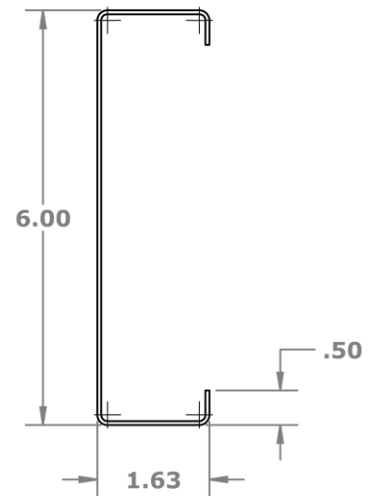
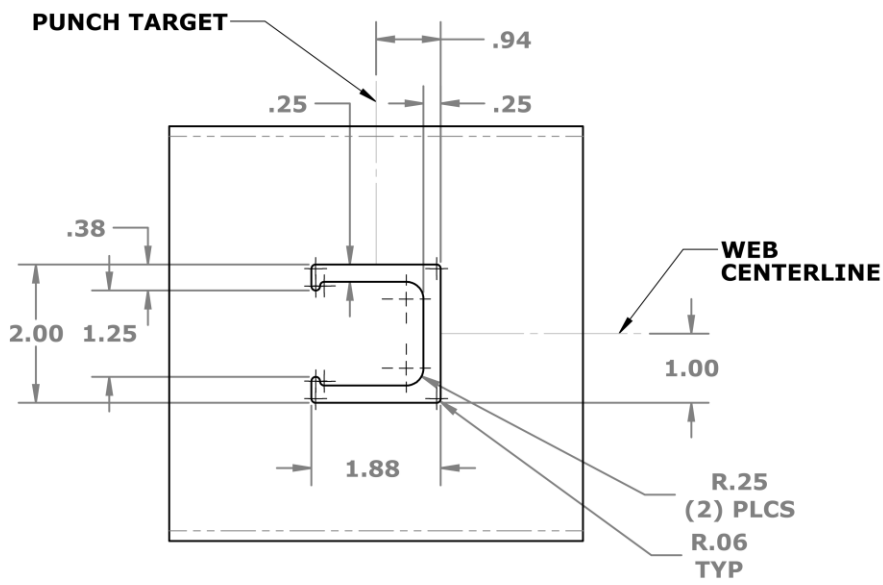
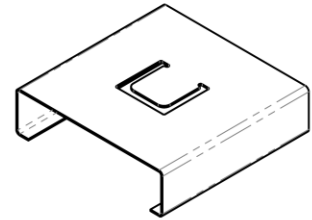
**2.00 X 3.00 SLOT (WEB)**  
PUNCH TOOL CARTRIDGE  
(FINISHED STATE)

# FIW-20 3.00 ROUND (WEB)



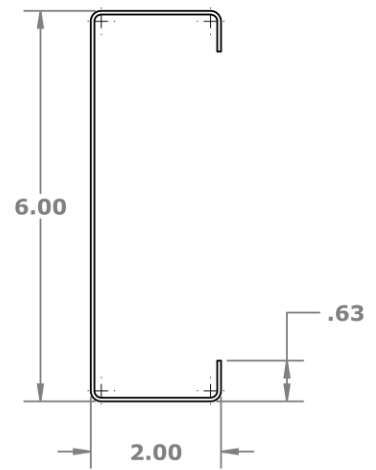
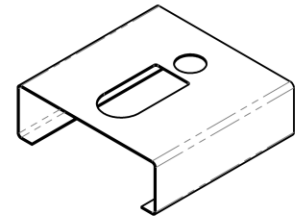
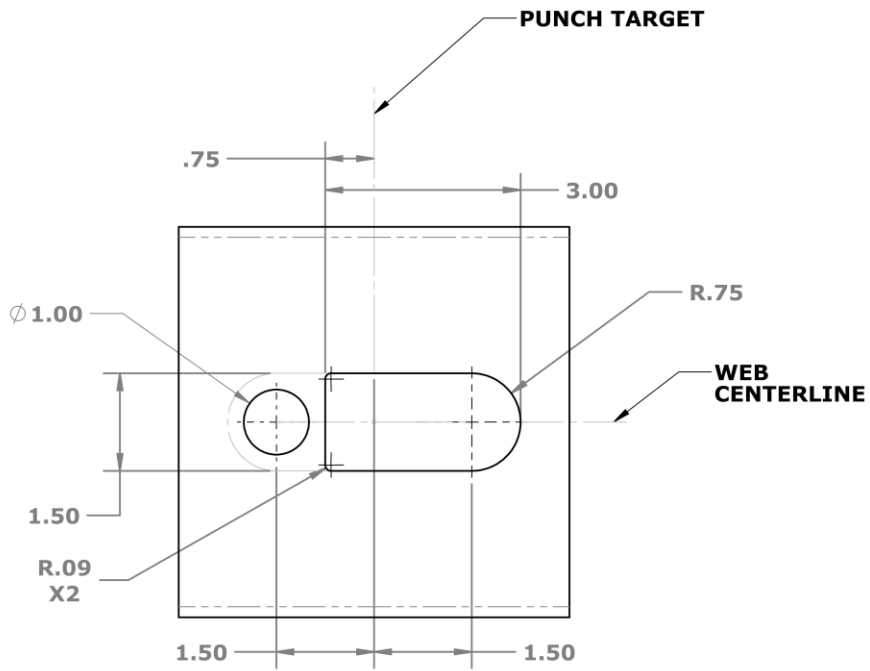
**3.00 ROUND (WEB)  
PUNCH TOOL CARTRIDGE  
(FLAT STATE)**

# FIW-21 CRC 01 (WEB)



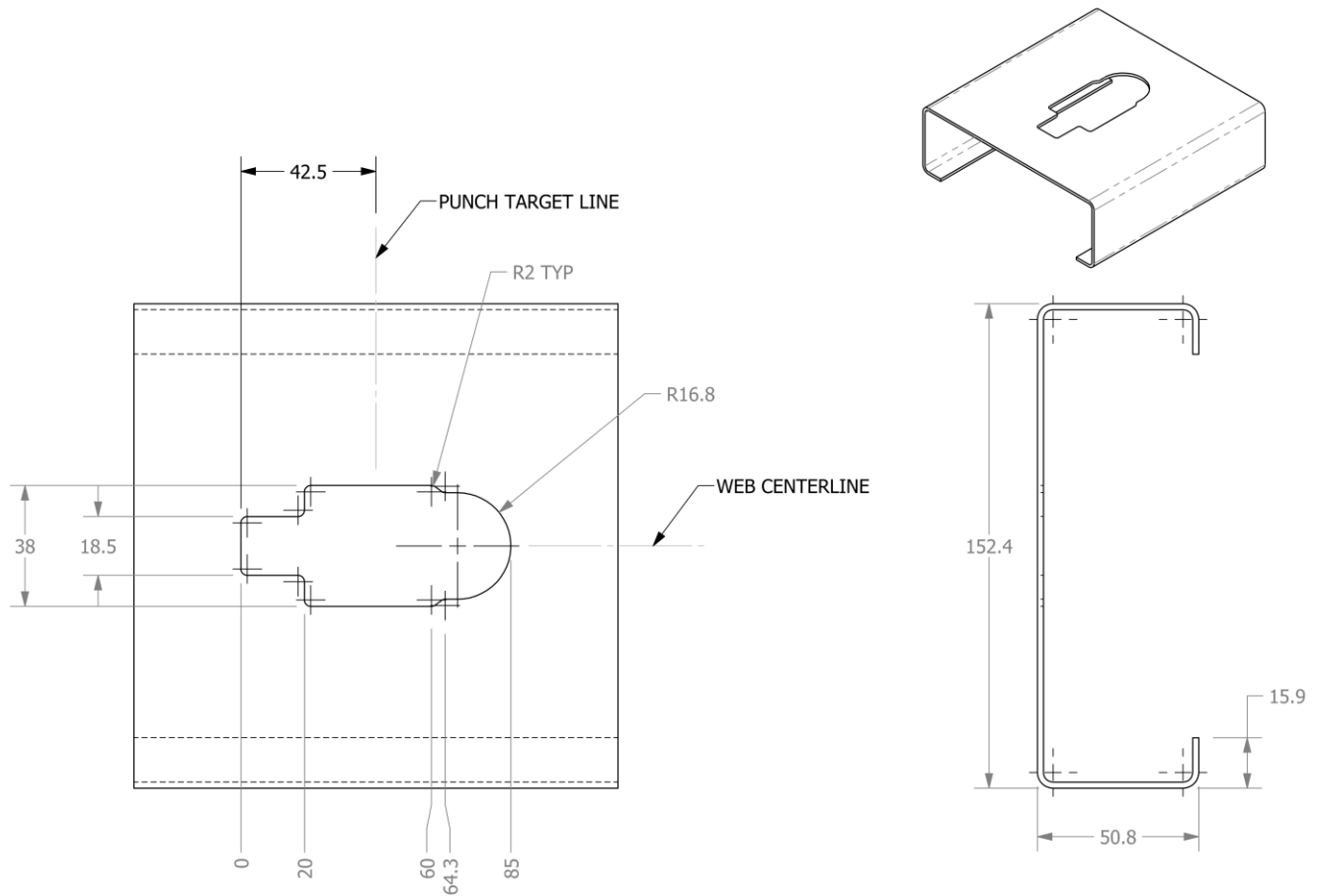
**CRC 01 (WEB)**  
**PUNCH TOOL CARTRIDGE**  
**(FINISHED STATE)**

# FIW-22 CUSTOM 02 (WEB)



**CUSTOM 02 (WEB)**  
**PUNCH TOOL CARTRIDGE**  
**(FINISHED STATE)**

# FIW-23 KEYHOLE SLOT - HFX (WEB)

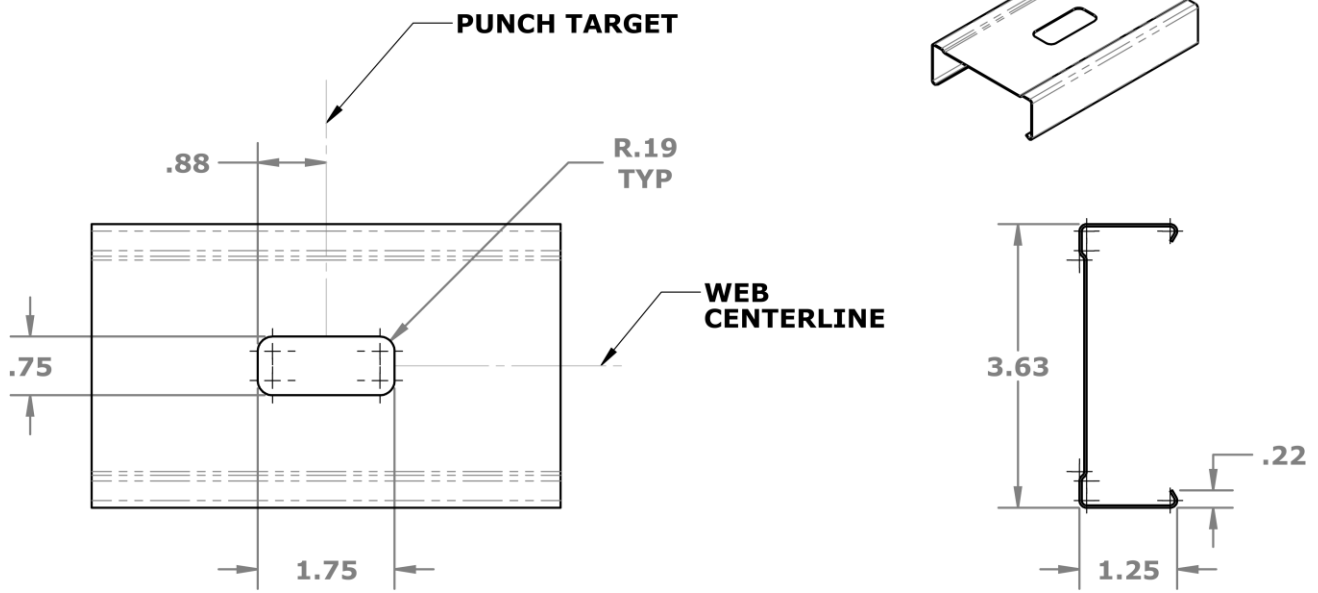


## KEYHOLE SLOT - HFX (WEB)

FINISHED STATE

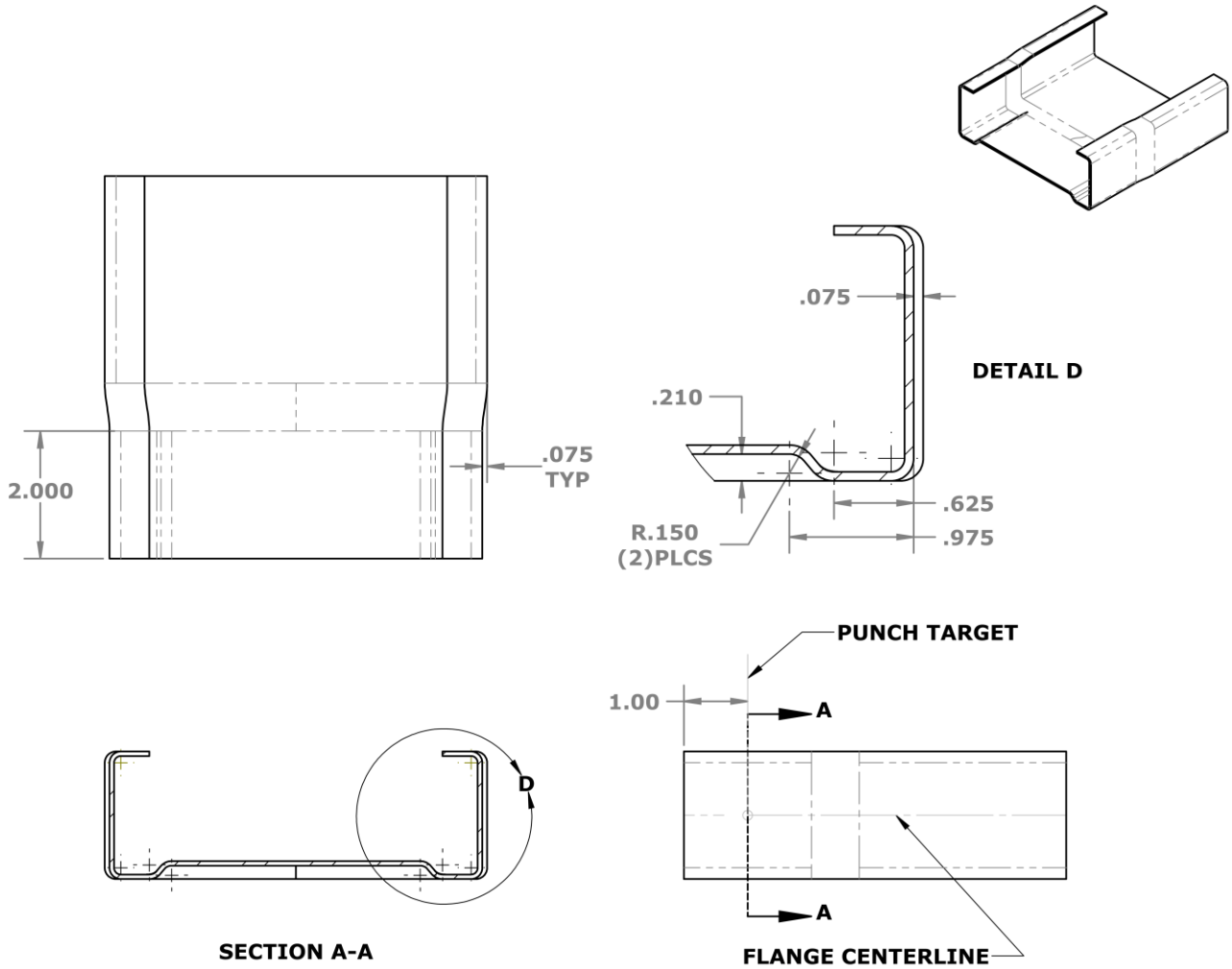


# FIW-24 RECTANGLE - 0.75 X 1.75 (WEB)



**RECTANGLE  
0.75 X 1.75 (WEB)  
PUNCH TOOL CARTRIDGE  
(FINISHED STATE)**

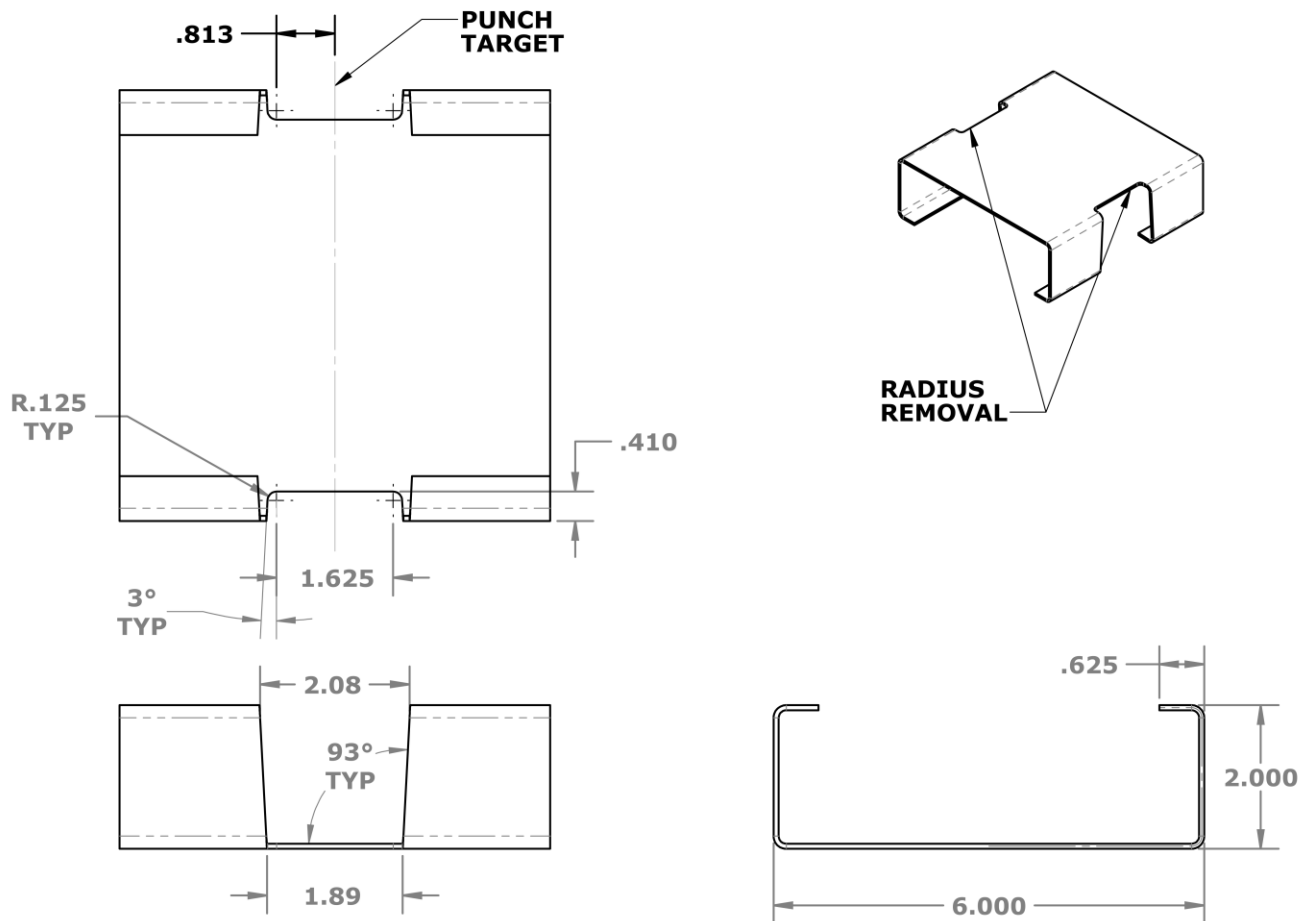
# FIW-25 SWAGE (PART END)



**SWAGE (PART END)**  
PUNCH TOOL  
(FINISHED STATE)

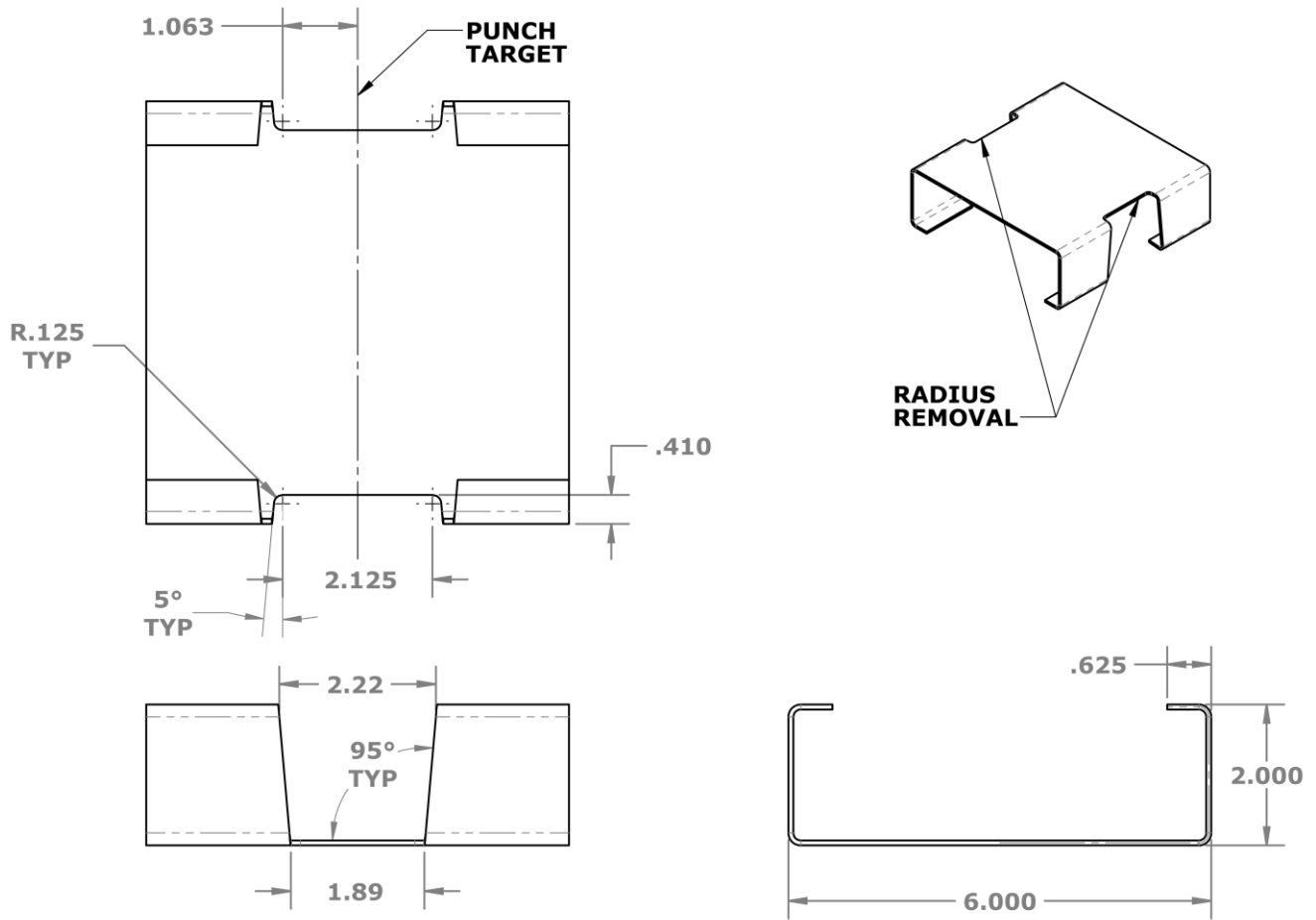
# SECTION IV FLAT STATE – FLANGE (FLF)

## FLF-1 FLANGE PUNCH - 1.63



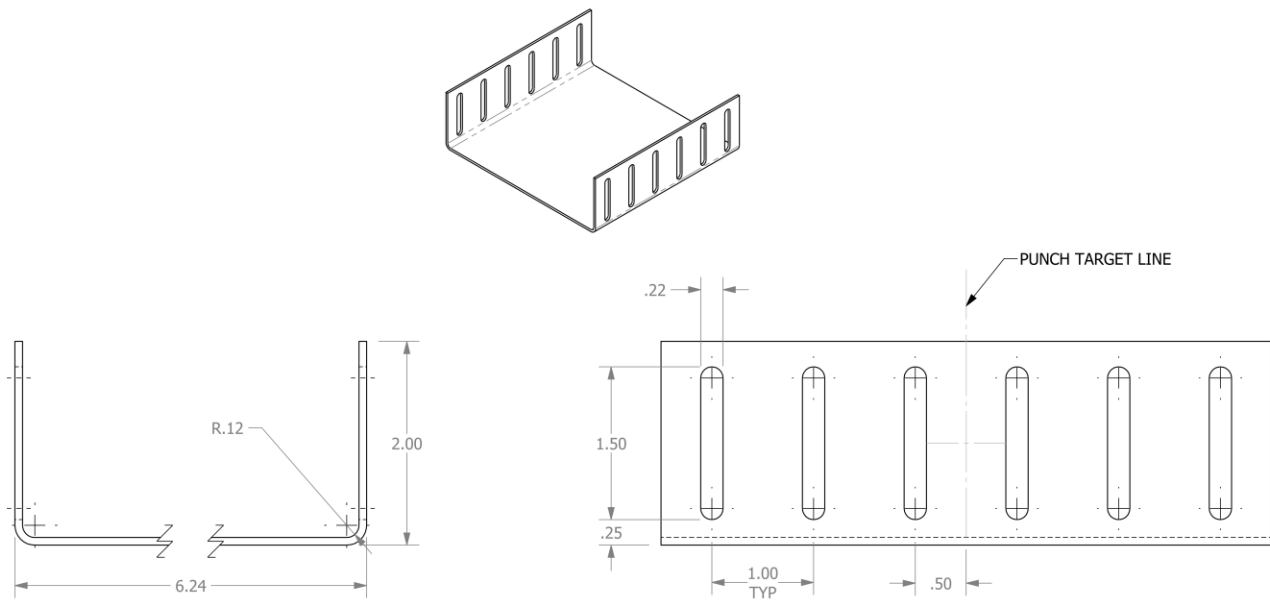
**FLANGE PUNCH - 1.63-IN**  
PUNCH TOOL CARTRIDGE  
(FLAT STATE)

# FLF-2 FLANGE PUNCH - 2.13



**FLANGE PUNCH - 2.13-IN**  
PUNCH TOOL CARTRIDGE  
(FLAT STATE)

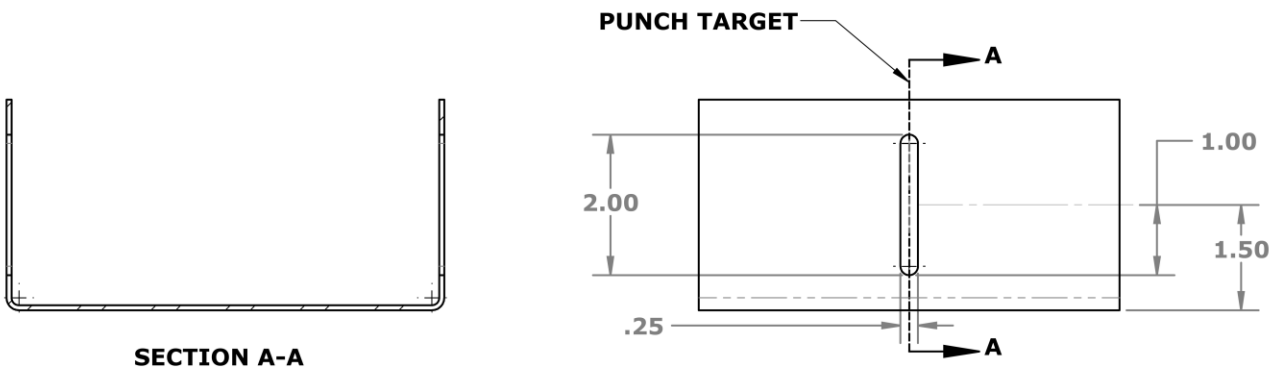
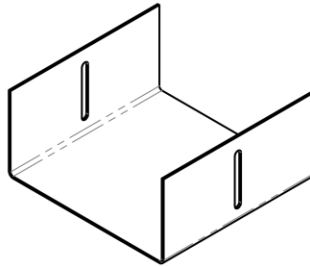
# FLF-3 FLANGE SLOT - 6X (FLANGE)



## FLANGE SLOT - 6X (FLANGE)

FLAT STATE

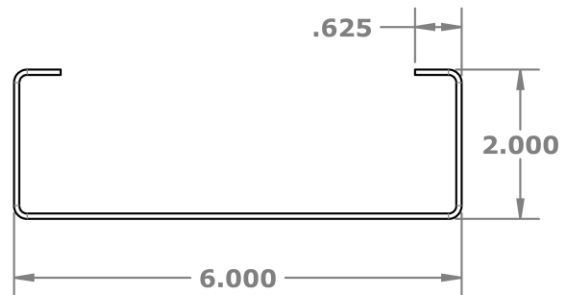
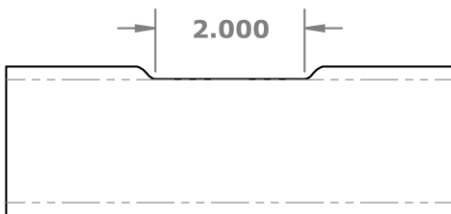
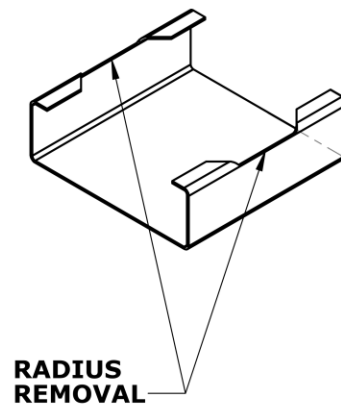
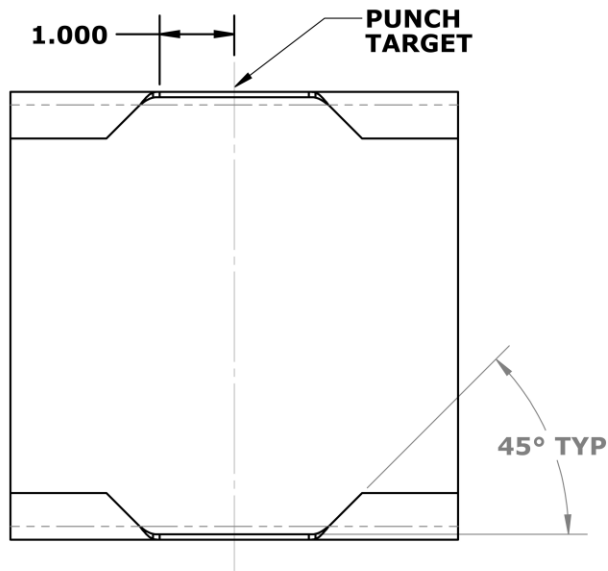
# FLF-4 SLIP TRACK SLOT (FLANGE)



**SLIP TRACK SLOT (FLANGE)**  
PUNCH TOOL  
(FLAT STATE)

# SECTION V FLAT STATE – RETURN (FLR)

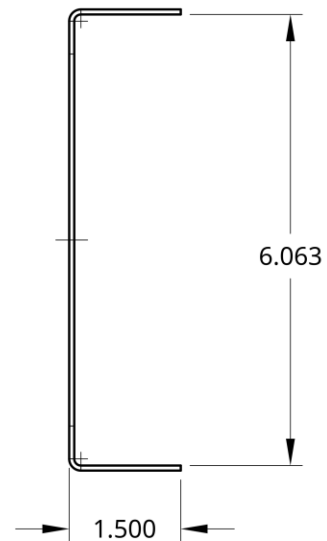
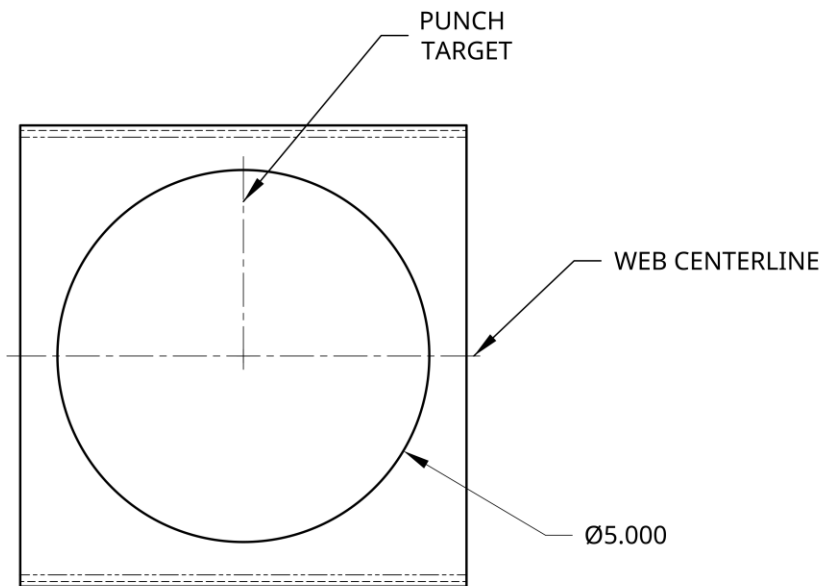
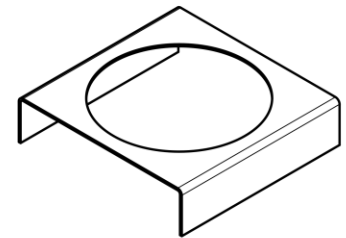
## FLR-1 LIP CUT (RETURN)



**LIP CUT (RETURN)**  
PUNCH TOOL CARTRIDGE  
(FLAT STATE)

# SECTION VI FLAT STATE – WEB (FLW)

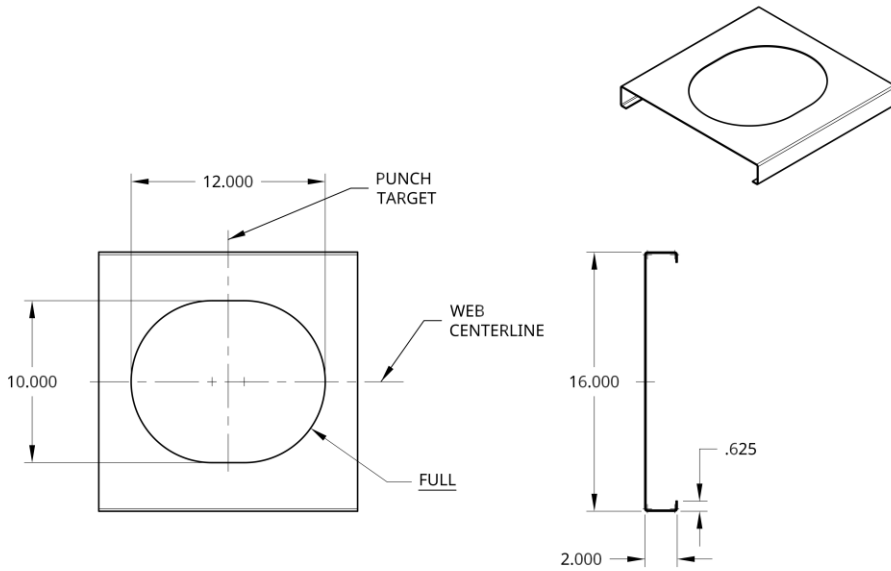
## FLW-1 05.00 ROUND (WEB)



**5.00 ROUND (WEB)**  
PUNCH TOOL CARTRIDGE  
(FLAT STATE)

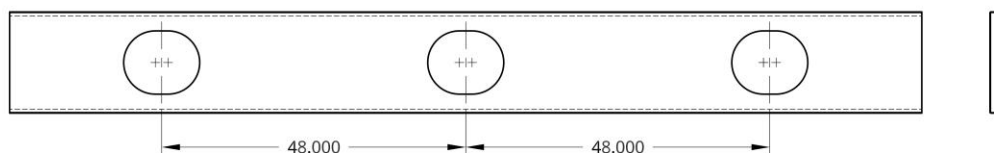
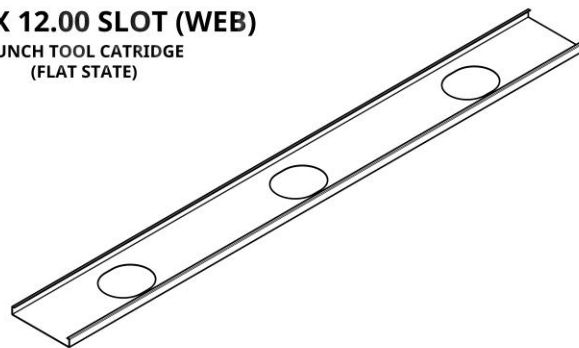


# FLW-2 10.00 X 12.00 SLOT (WEB)

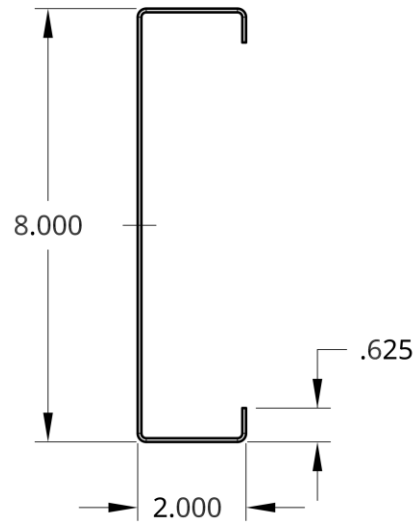
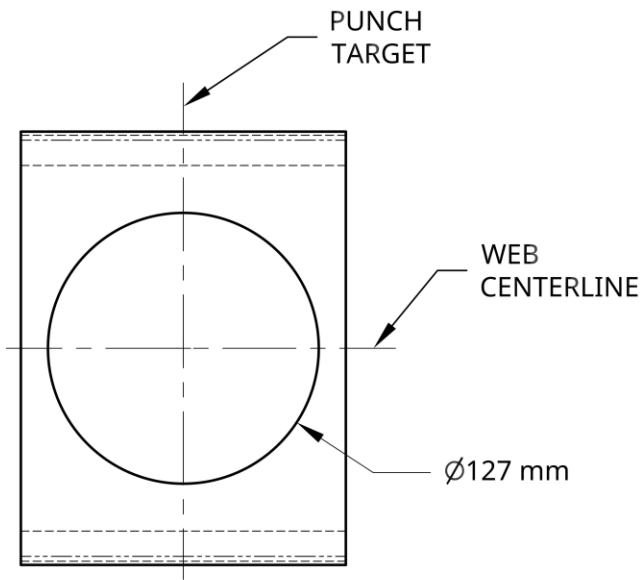
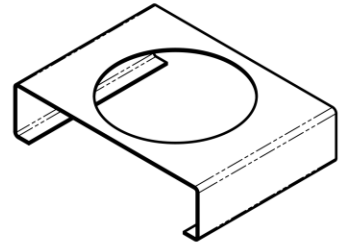


**10.00 X 12.00 SLOT (WEB)**  
PUNCH TOOL CARTRIDGE  
(FLAT STATE)

**10.00 X 12.00 SLOT (WEB)**  
PUNCH TOOL CARTRIDGE  
(FLAT STATE)



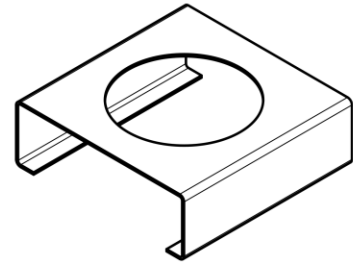
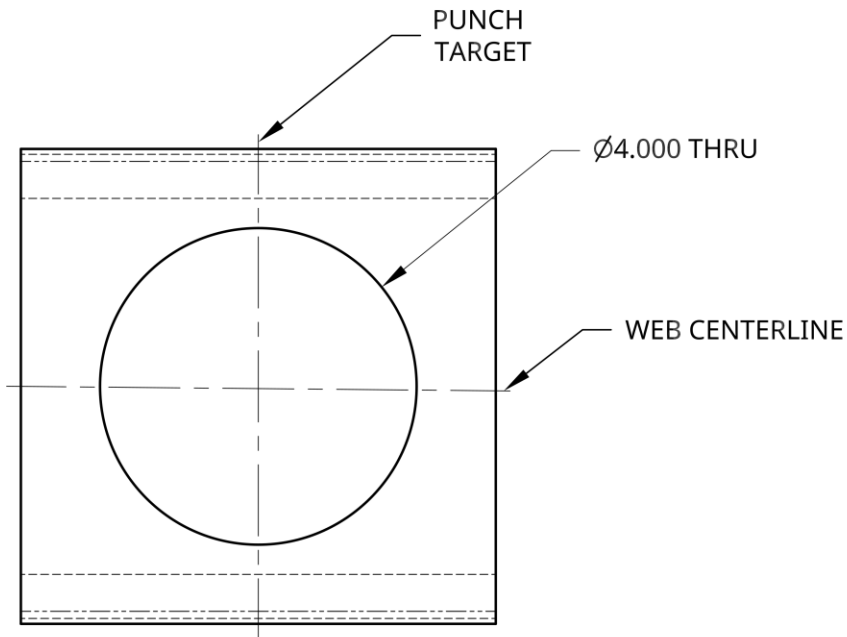
# FLW-3 127MM ROUND (WEB)



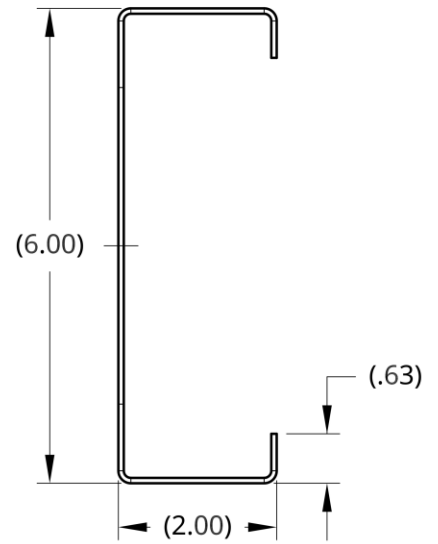
## 127MM ROUND (WEB)

PUNCH TOOL CARTRIDGE  
(FLAT STATE)

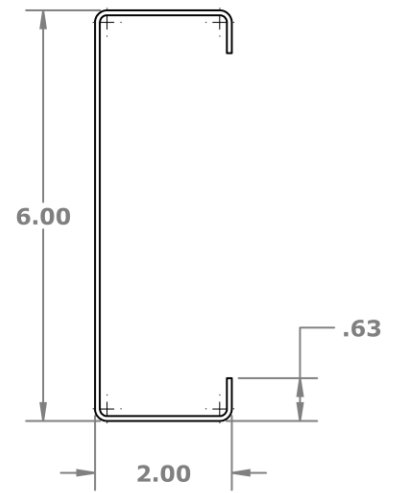
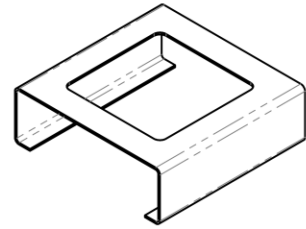
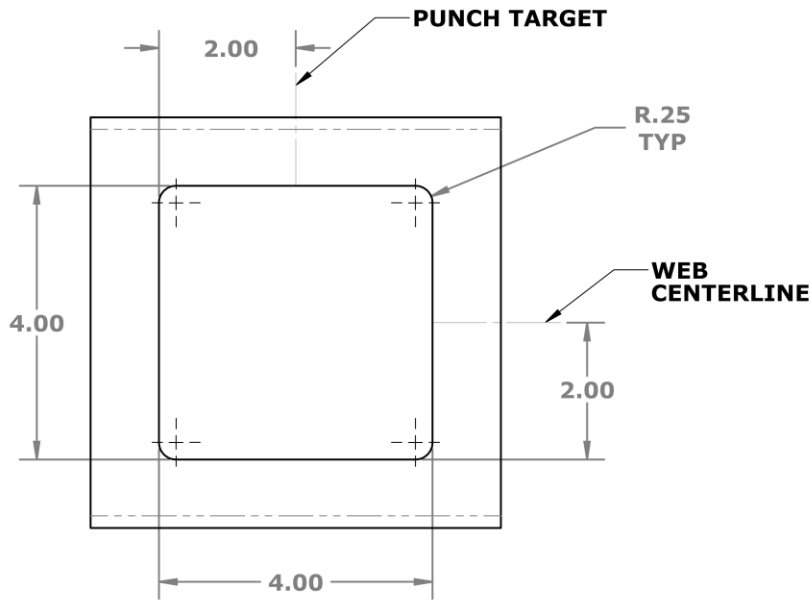
# FLW-4 4.00 ROUND (WEB)



**4.00 ROUND (WEB)**  
**PUNCH TOOL CATRIDGE**  
**(FINISHED STATE)**

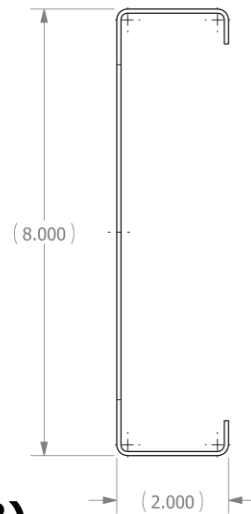
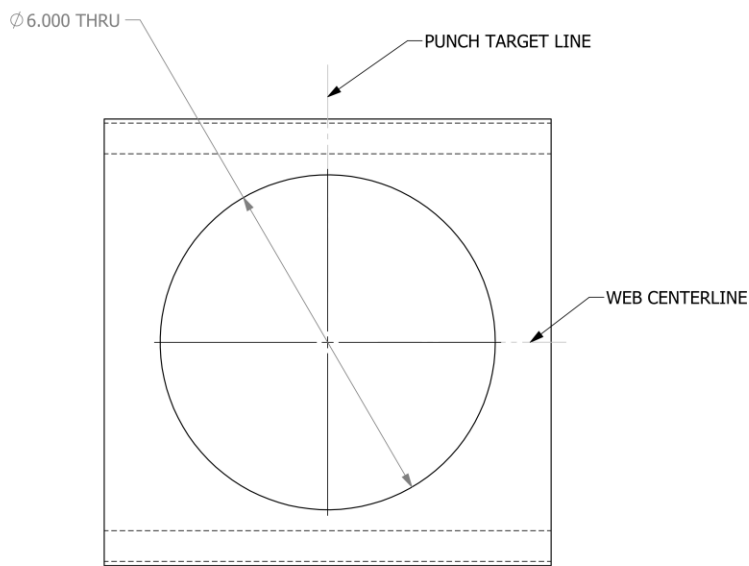
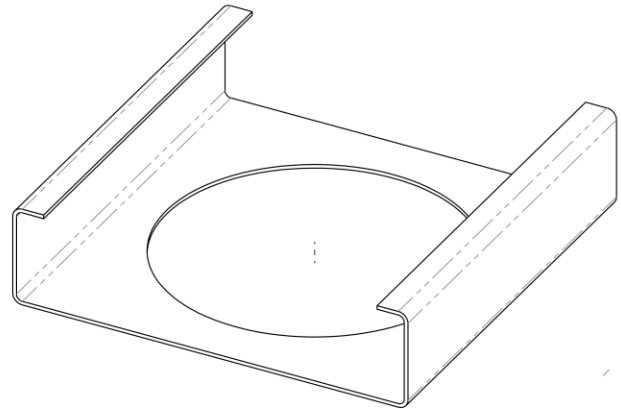


# FLW-5 4.00 X 4.00 SQUARE (WEB)



**4.00 X 4.00 SQUARE (WEB)**  
PUNCH TOOL CARTRIDGE  
(FLAT STATE)

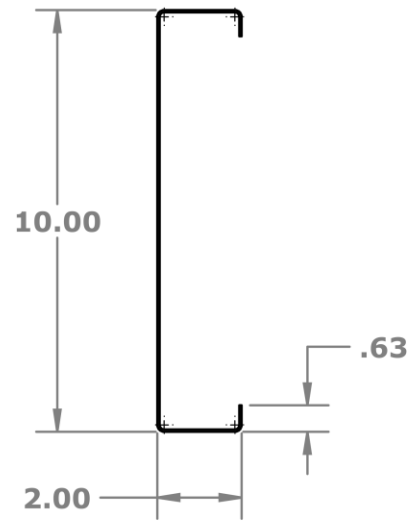
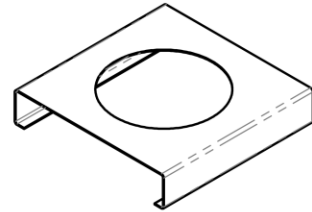
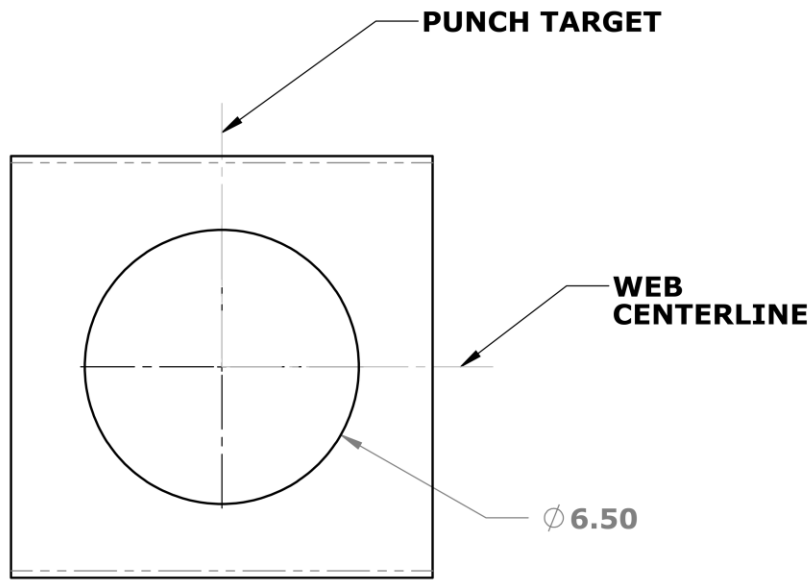
# FLW-6 6.00 ROUND (WEB)



## 6.00 ROUND (WEB)

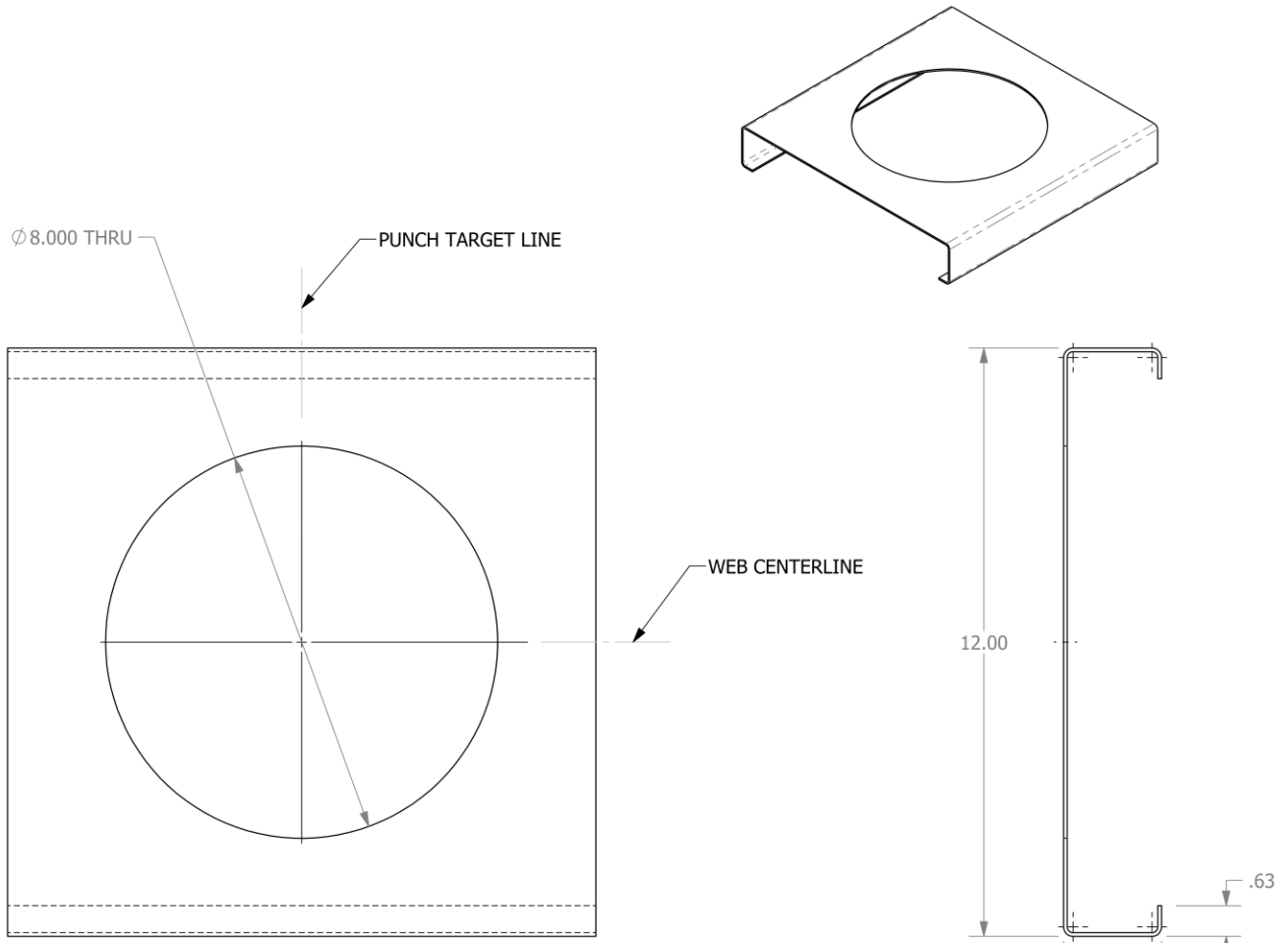
FLAT STATE

# FLW-7 6.50 ROUND (WEB)



**6.50 ROUND (WEB)**  
**PUNCH TOOL CARTRIDGE**  
**(FLAT STATE)**

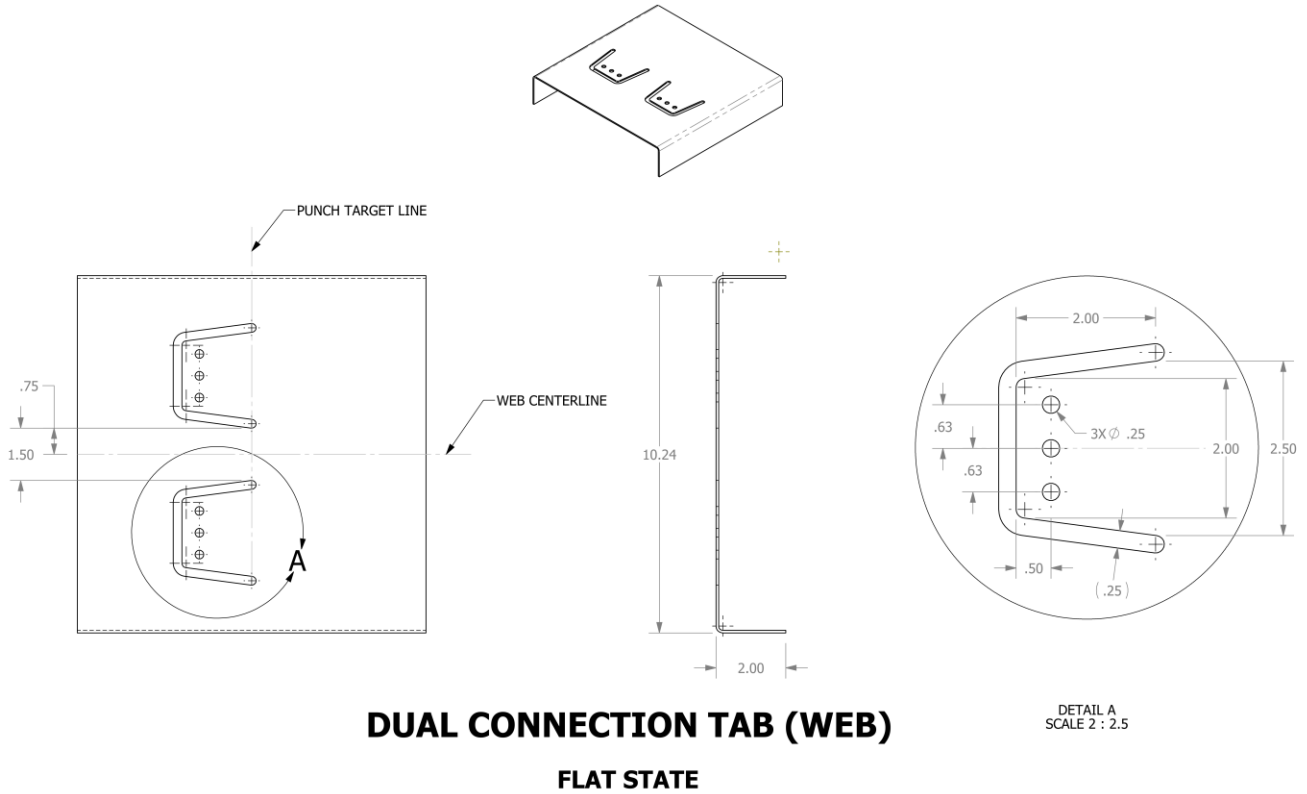
# FLW-8 8.00 ROUND (WEB)



## 8.00 ROUND (WEB)

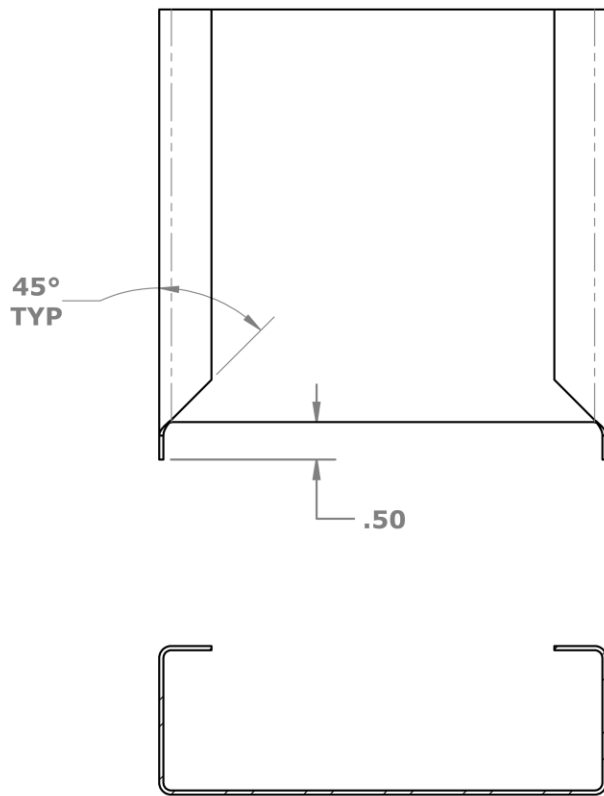
FLAT STATE

# FLW-9 DUAL CONNECTION TAB (WEB)

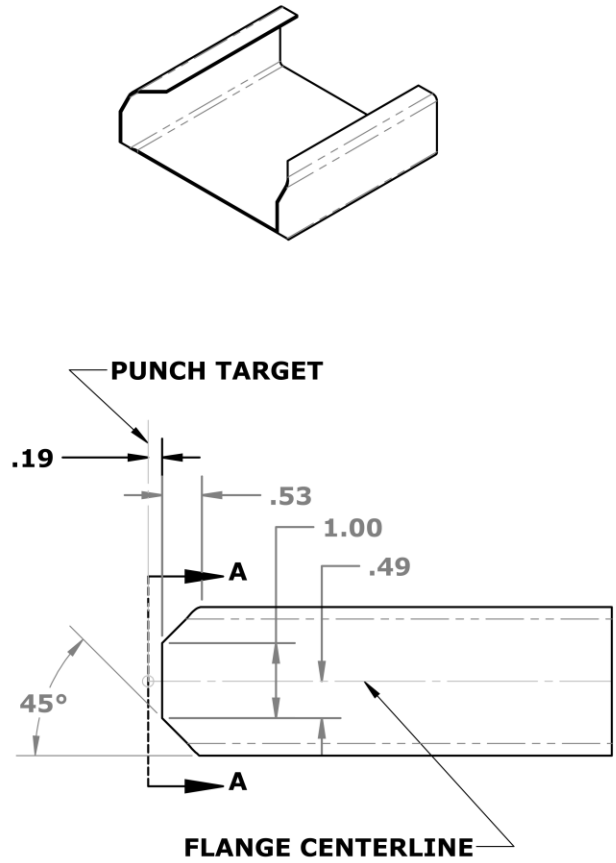




# FLW-10 FS4-S - END-ANGLE CUT (PART END)

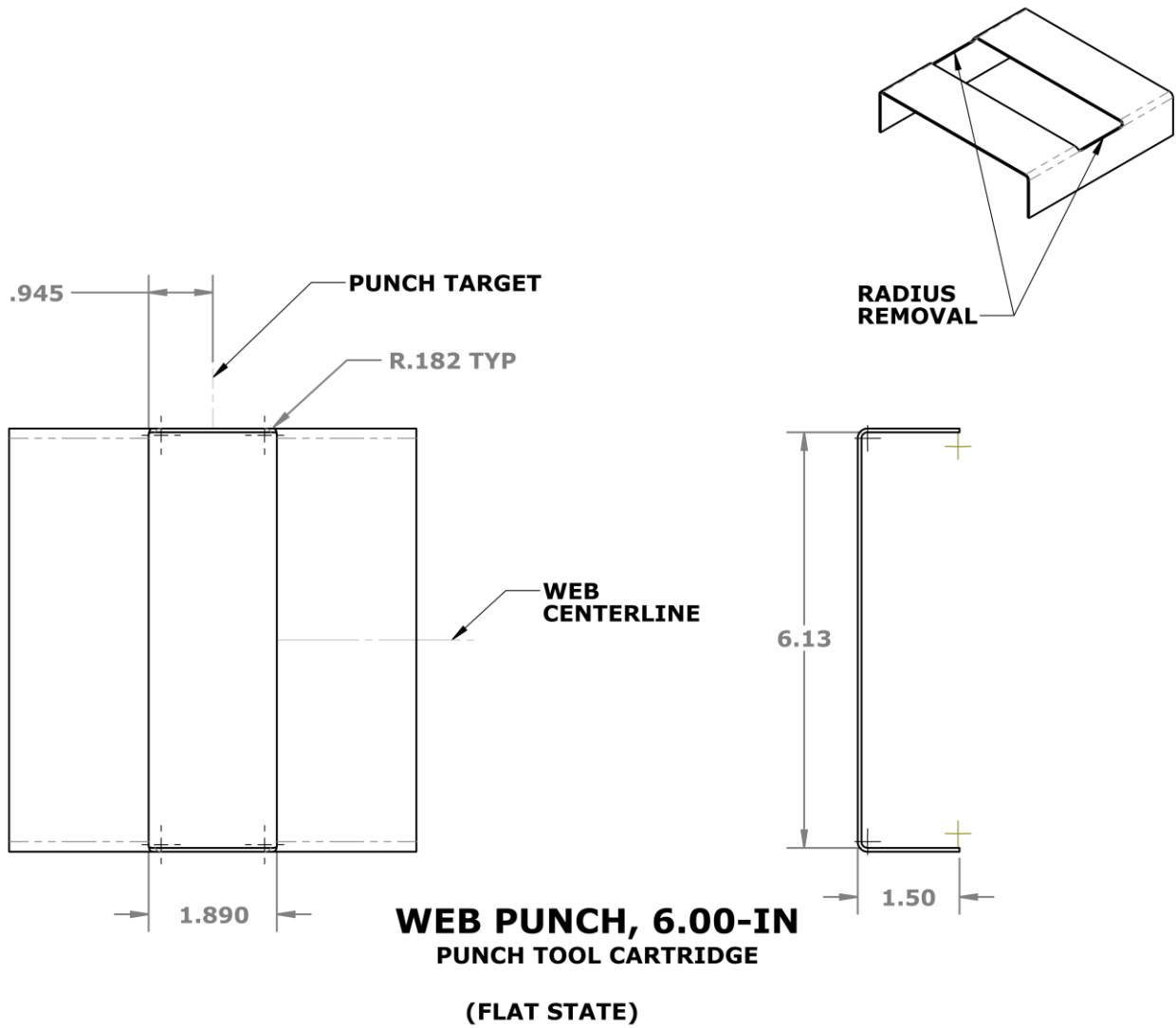


SECTION A-A



## END-ANGLE CUT (PART END) FS4-S - PUNCH TOOL (FLAT STATE)

# FLW-11 WEB PUNCH (WEB)



# SCOTTSDALE

THE TRUSTED STEEL-FRAMING PARTNER



10401 West 120th Avenue  
Broomfield, CO 80021  
USA



Unit 4, 5 Henry Street  
Loganholme, Queensland 4129  
Australia



17 Cadbury Road  
Onekawa, Napier 4110  
New Zealand

 **+1 (888) 406-2080 | +61 1300 671 345**

[sales@scottsdalesteelframes.com](mailto:sales@scottsdalesteelframes.com)  
[www.scottsdalesteelframes.com](http://www.scottsdalesteelframes.com)