

Readme for Scratchbuilt AR-15 Receiver Blueprints

by elmgrove1765@yahoo.com

1. Release Dates

June 2002: scratch-built AR15 receiver project completed and test fired

October 2002: Initial release of first 7 of 11 parts blueprints:

bufferstop_rev_A.pdf - buffer retainer rod

fcwell_rev_A.pdf - fire control well bottom

magleft_rev_A.pdf - magazine well left sideplate

magright_rev_A.pdf - magazine well right sideplate

sideleft_rev_A.pdf - receiver fire control well, receiver left sideplate

sideright_rev_A.pdf - receiver fire control well, receiver right sideplate

tguard_rev_A.pdf - trigger guard

December 2002: Released two more parts blueprints:

buffer_rev_A.pdf - buffer tube part

magfront_rev_A.pdf - magazine well front

March 2003: Last two parts blueprints released (all done!):

grip_rev_A.pdf - grip part

magback_rev_A.pdf - magazine well back

Note:** "left" and "right" refer to the user's point of view when the rifle is held in the normal firing position.

2. Links

For more information or photos please see:

Webpage: <http://www.geocities.com/elmgrove1765> (See link for "P6: AR15 receiver")

Photo albums: http://community.webshots.com/user/user_556

3. Decimal inch cross reference

The blueprint dimensions are in decimal inches. Listed below are some of the less common fractional inch equivalents that were used during machining (for drill sizes, end mill diameters, etc.)

0.0890" -> use #43 (drill size)

0.1065" -> use #36 (drill size)

0.1094" -> use 7/64"

0.1360" -> use #29 (drill size)

0.1563" -> use 5/32" (radius of 5/16" diameter)

0.2031" -> use 13/64"

0.2130" -> use #3 (drill size)

4. Notes

1) Every effort has been made to ensure the plans are correct, but in the unlikely event there is an error or if you have any suggestions, please email the author. Note that the author assumes no liability for any adverse consequences resulting from the construction or use of this AR15 receiver. Please obey all laws.

2) If you use 1/8" plate stock for the sideplates, note that the actual thickness of the plate may have a tolerance of +/- .005" or more. The actual thickness is not critical as long as the flats machined at the end of the fire control well sideplates has a thickness of 0.104" (see Sheet 3 of Receiver - Left Side and Sheet 5 of Receiver - Right Side)

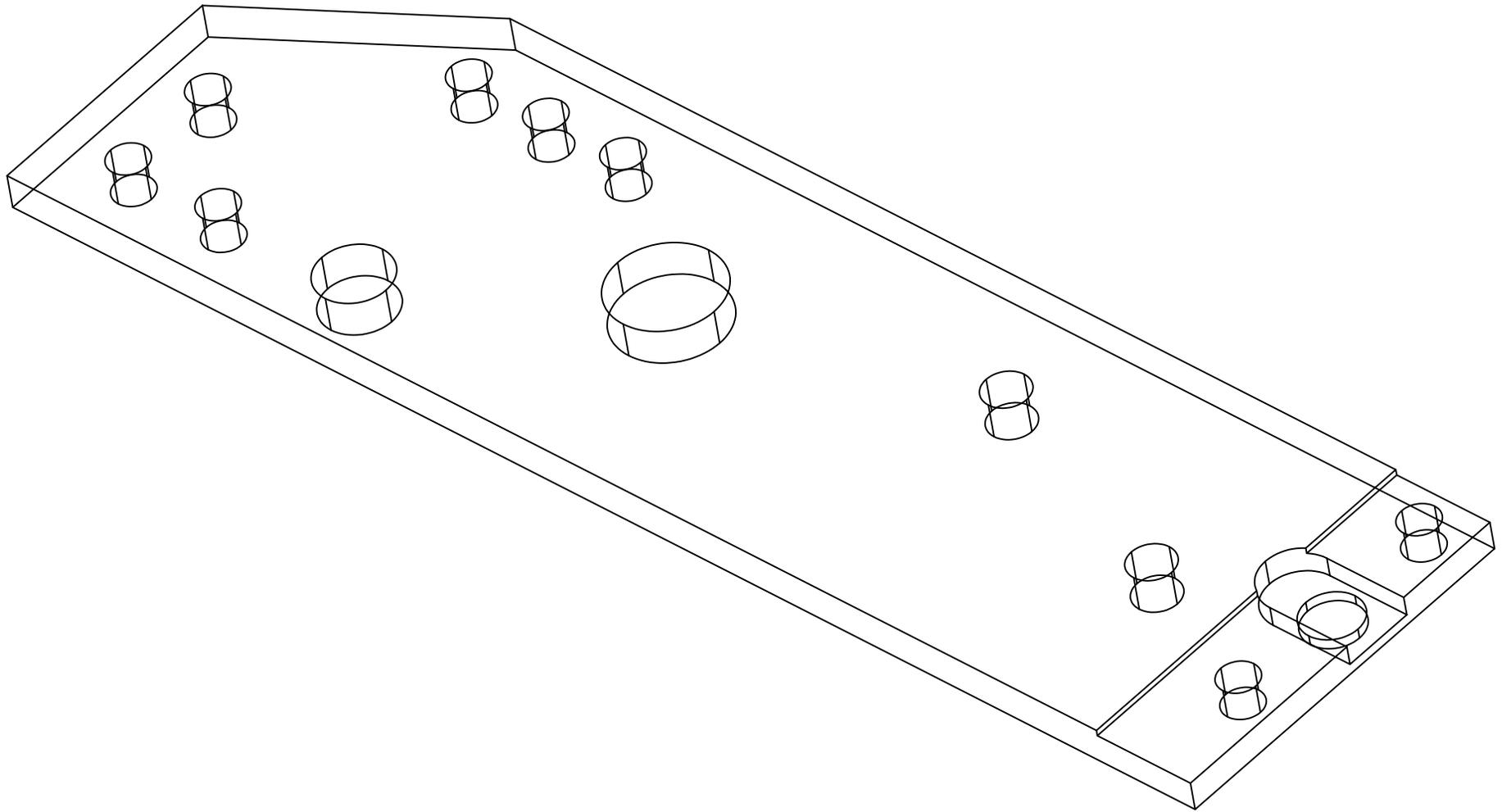
3) The only holes that should be reamed to the final diameter are the trigger and hammer pin holes - the other holes can be drilled normally. The "Colt Redraw Blueprints" by D. Snider (the most common one available on WWW) show the hammer and trigger pin holes as .1560 +/- .0015. The blueprints and the scratchbuilt were built using hammer/trigger pin holes of .15625" (5/32") which is a standard reamer size.

4) The "Colt Redraw Blueprints" by D. Snider show the magazine release button hole with a width (narrower dimension) of .318". I measured several magazine release buttons, and the maximum size I found was 0.3" wide. Since I don't have a .318" endmill, these blueprints reflect that the receiver was built using a magazine release button width of 5/16" (.3125") - a standard end mill diameter.

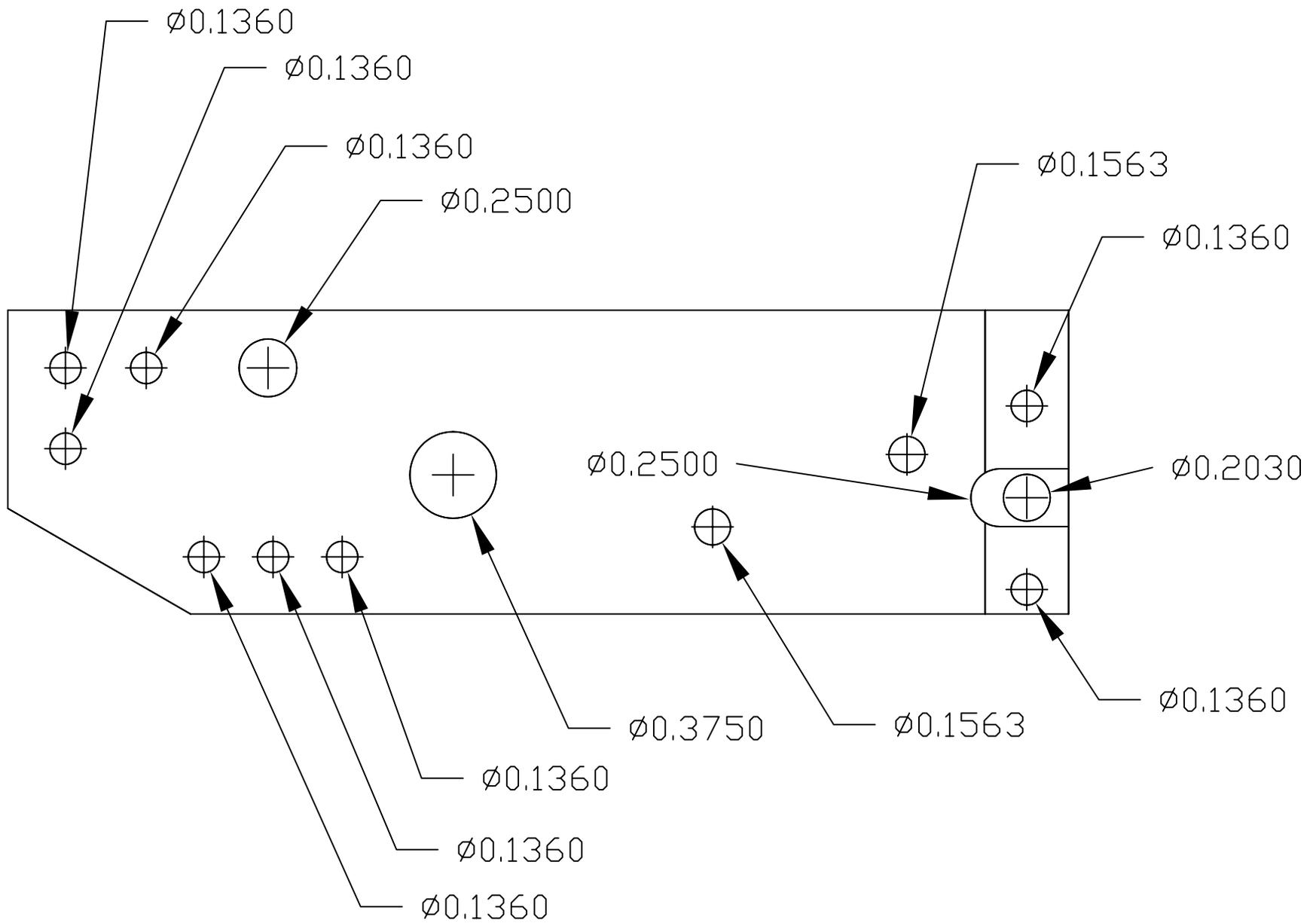
5) The fire control well bottom has a thickness of 0.125" (see Fire Control Well) I got a bit lazy and used 1/8" aluminum plate as is without machining it to the correct thickness. The thickness of the part turned out to be 0.120" - a bit off, but still acceptable since the depth of the fire control well has a tolerance of +/- .010" (as shown in D. Snider's print)

6) Although I put a copyright on the blueprints, everyone has the right to download or distribute as many copies as they want. I put the notice on the blueprints just to claim authorship. ;) I am not claiming any rights to the design, so free to build it (subject to local laws, of course).

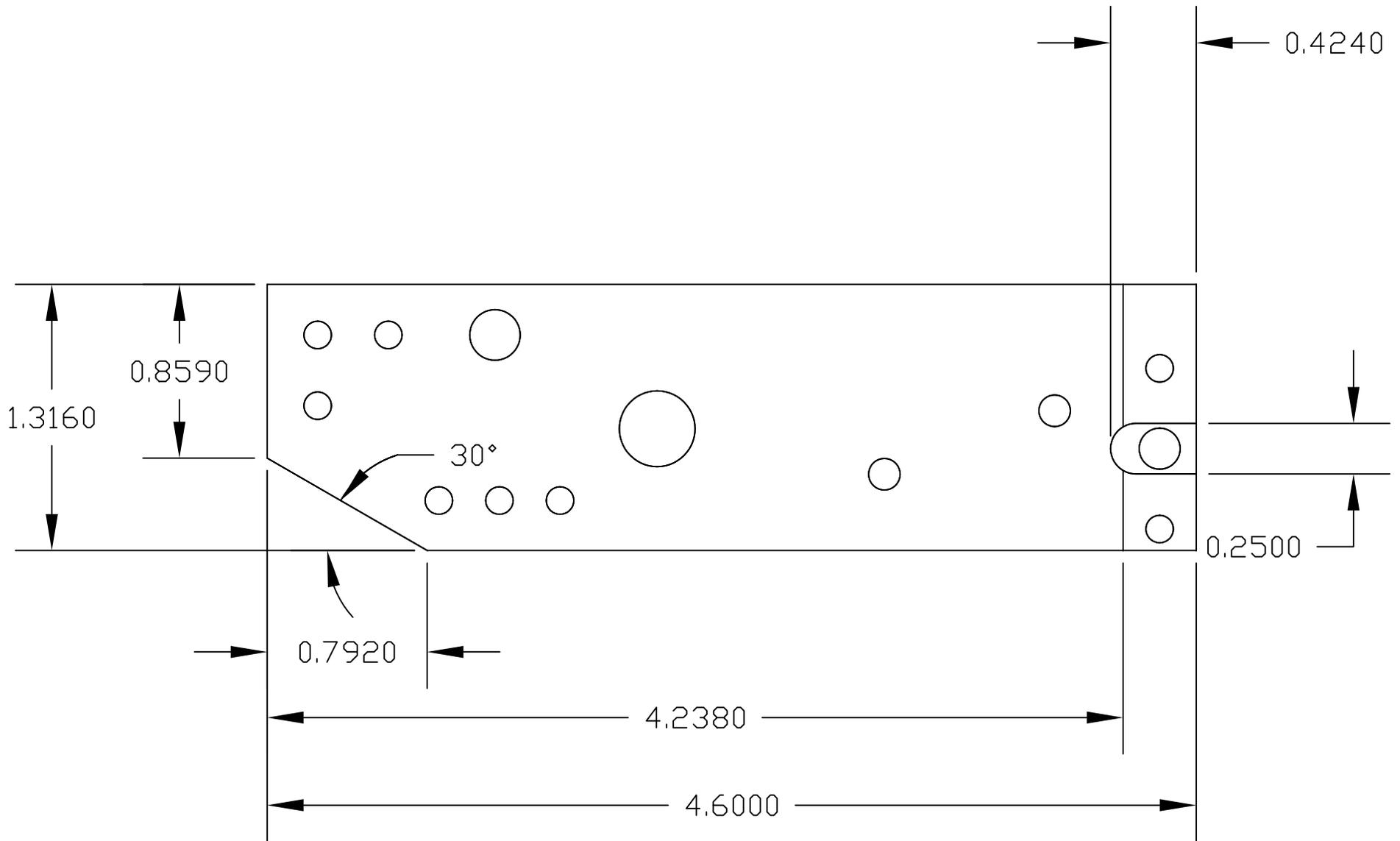
7) Have fun and be safe!



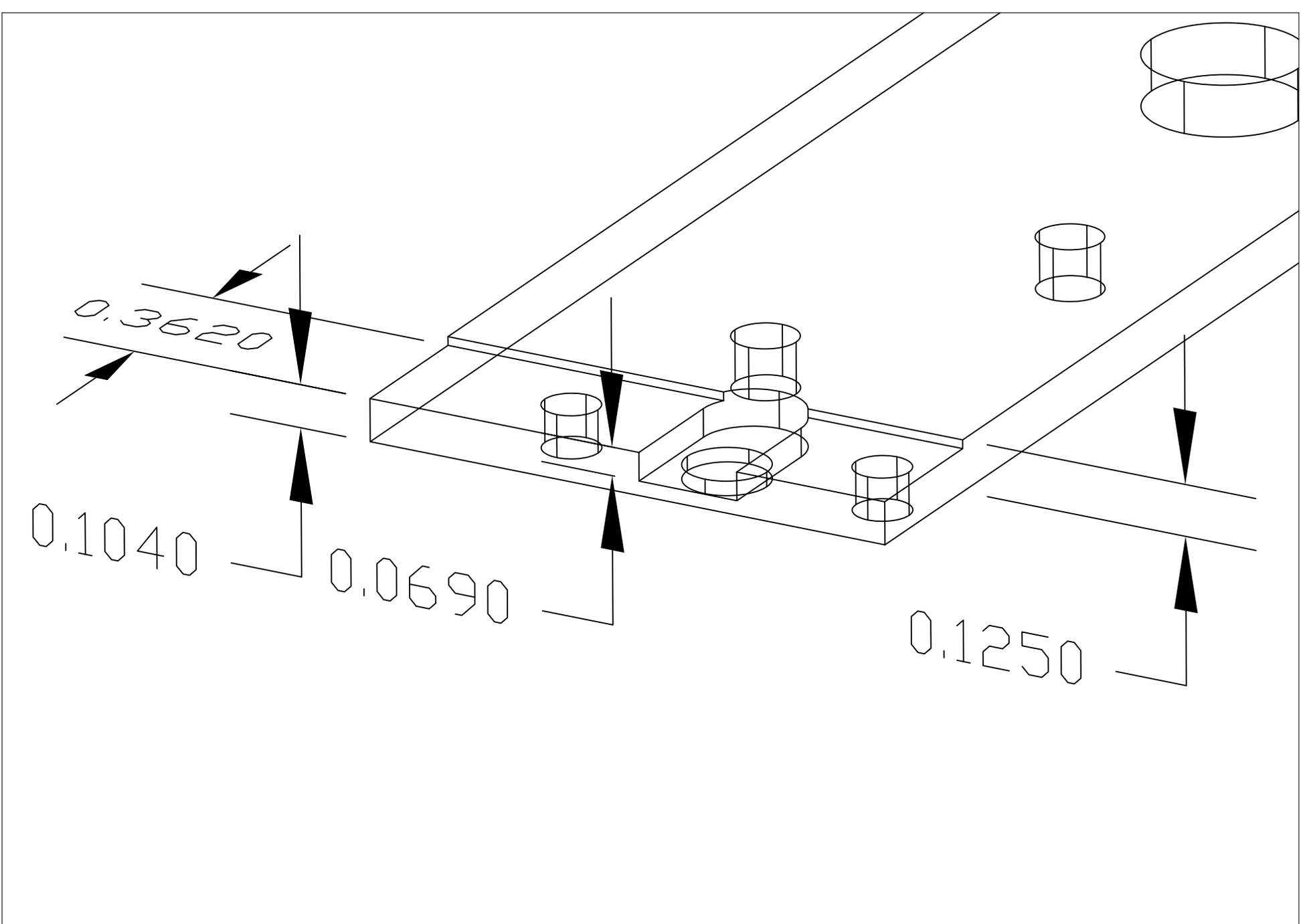
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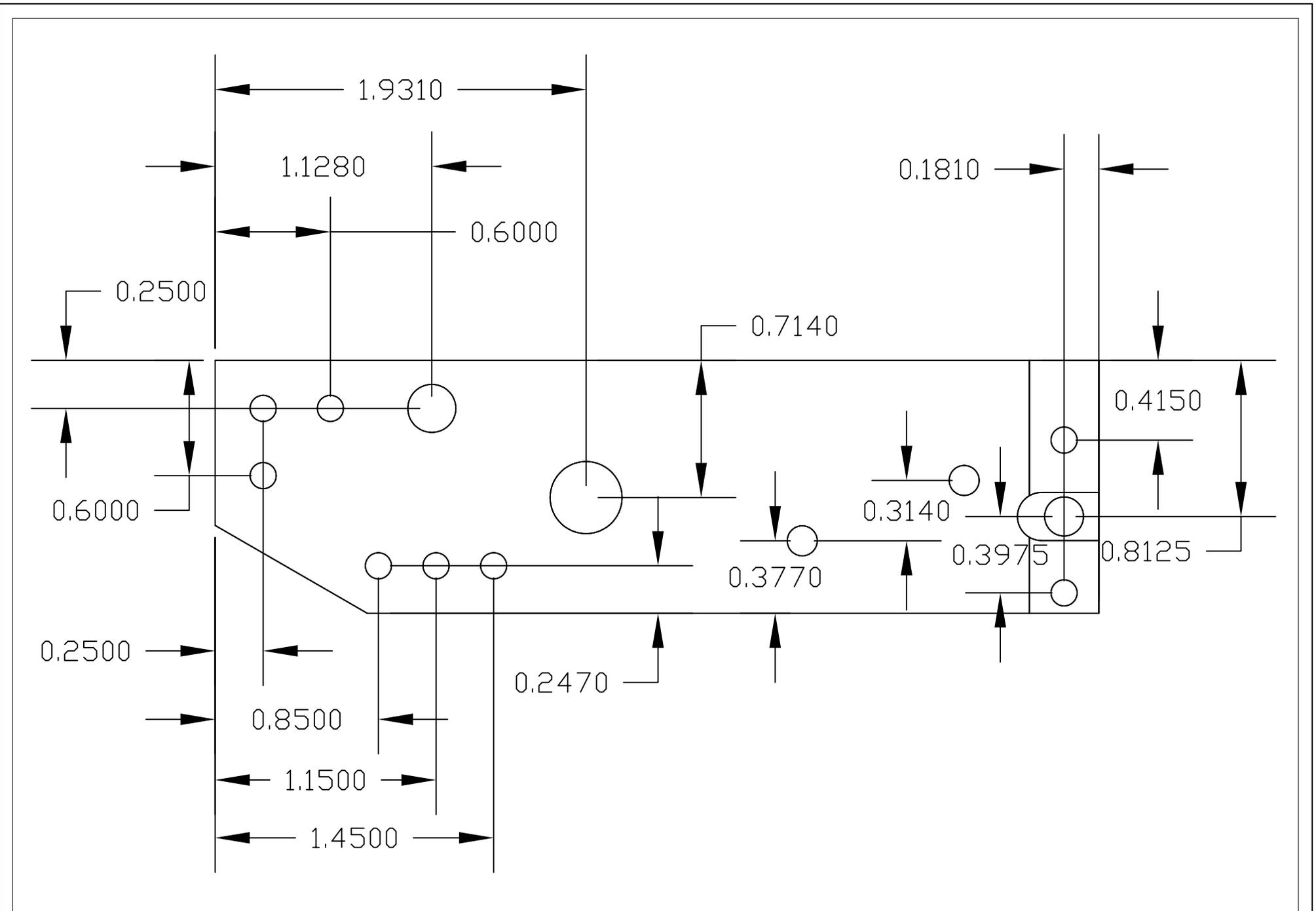
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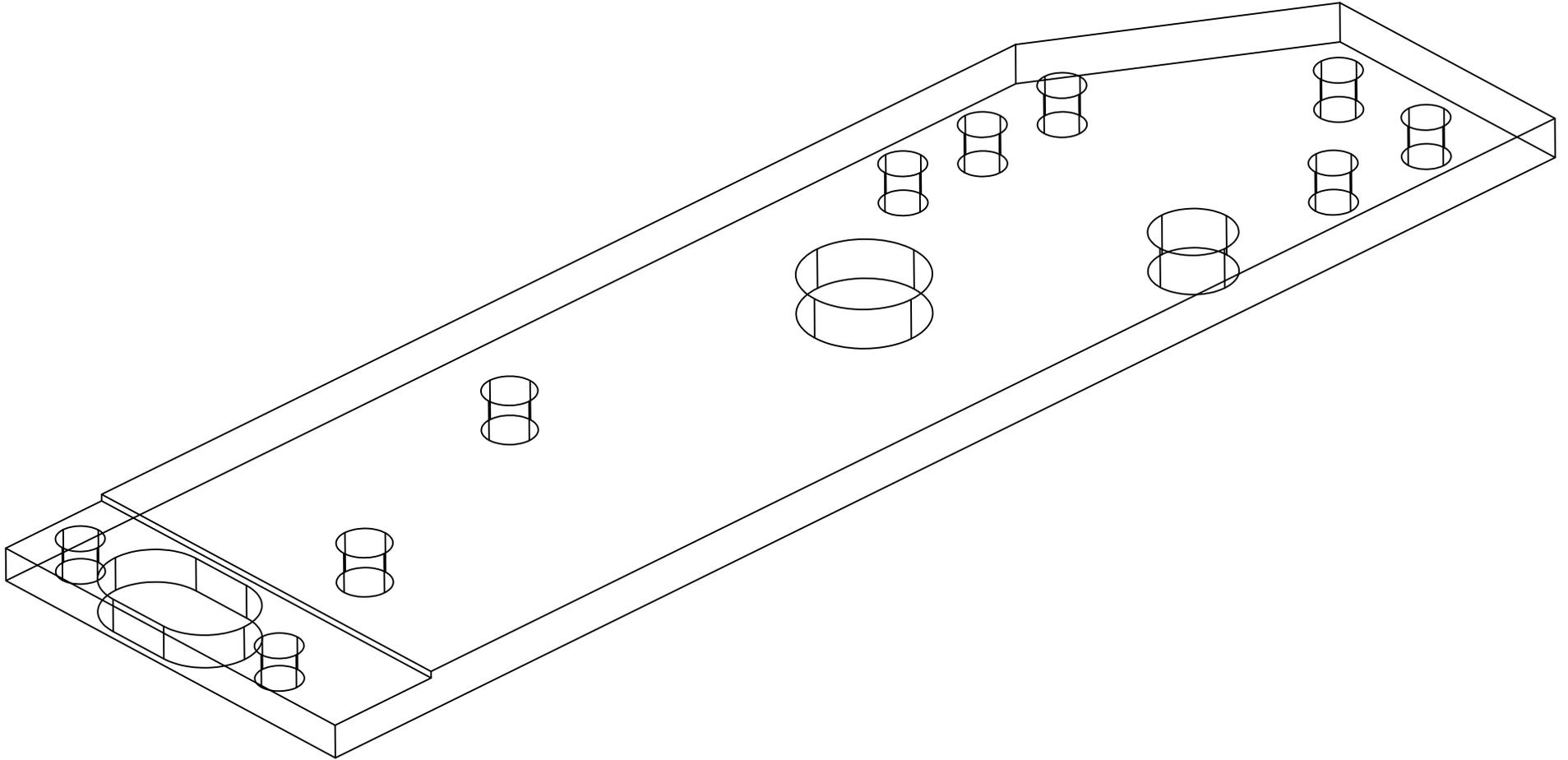
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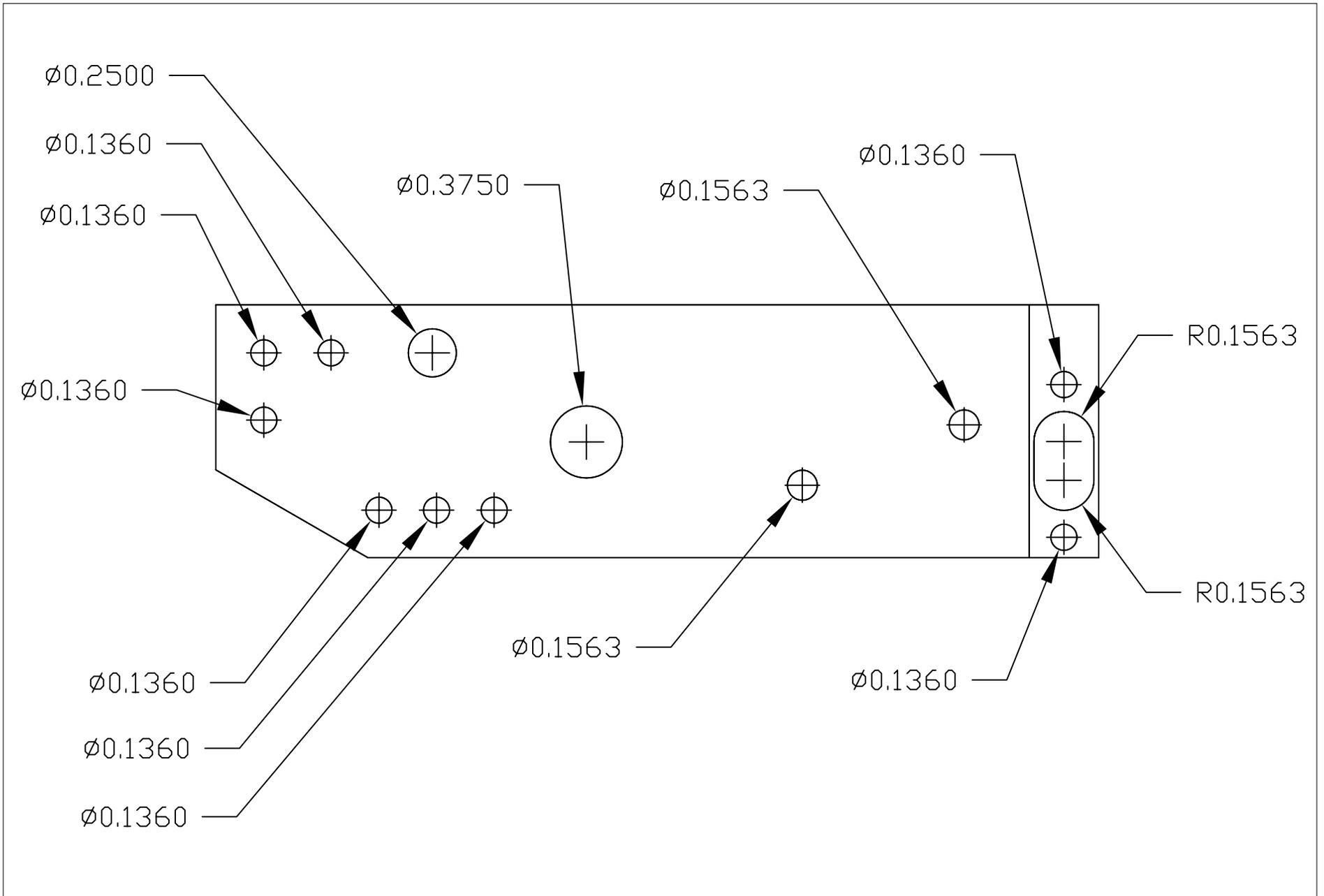
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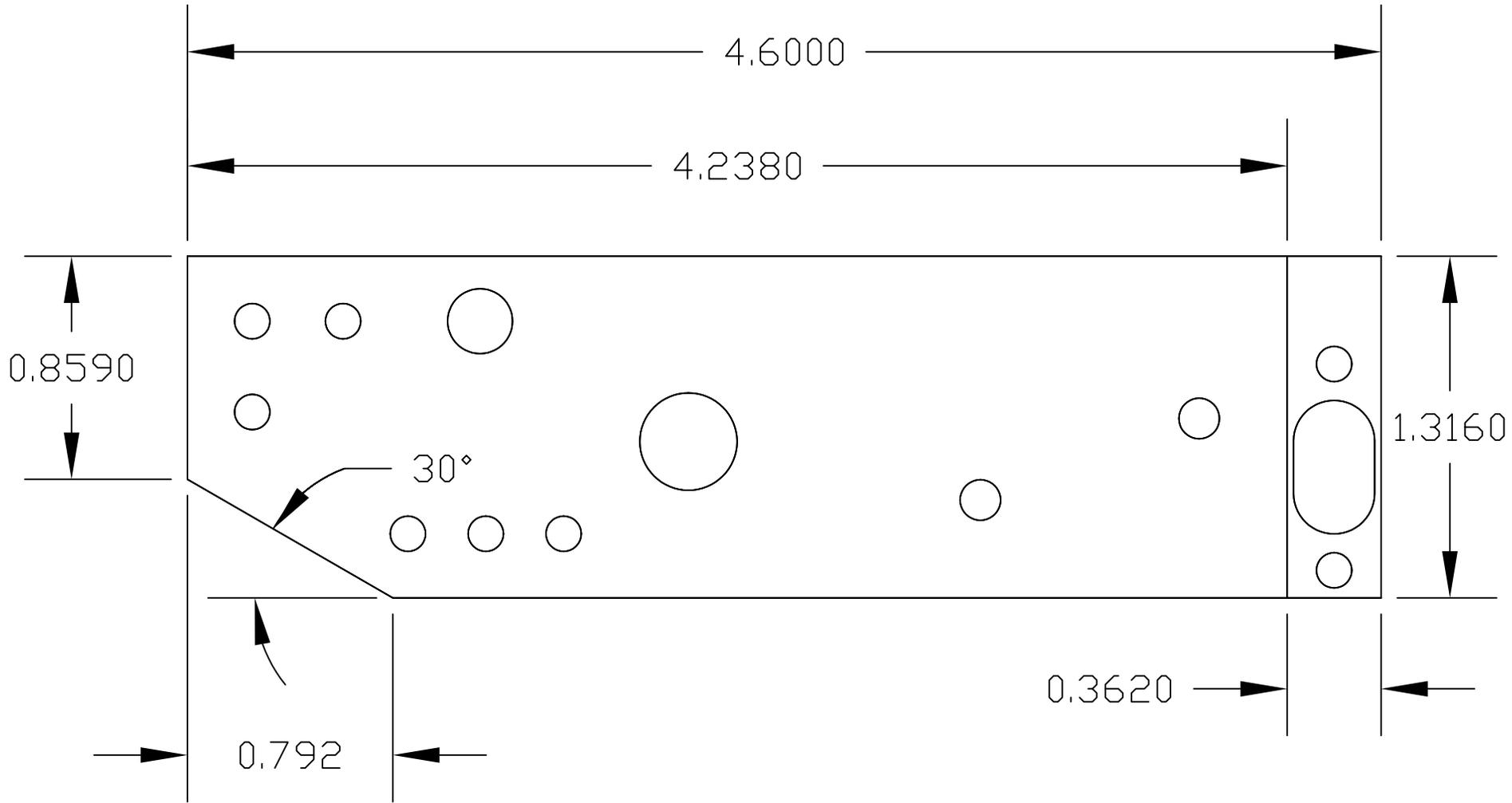
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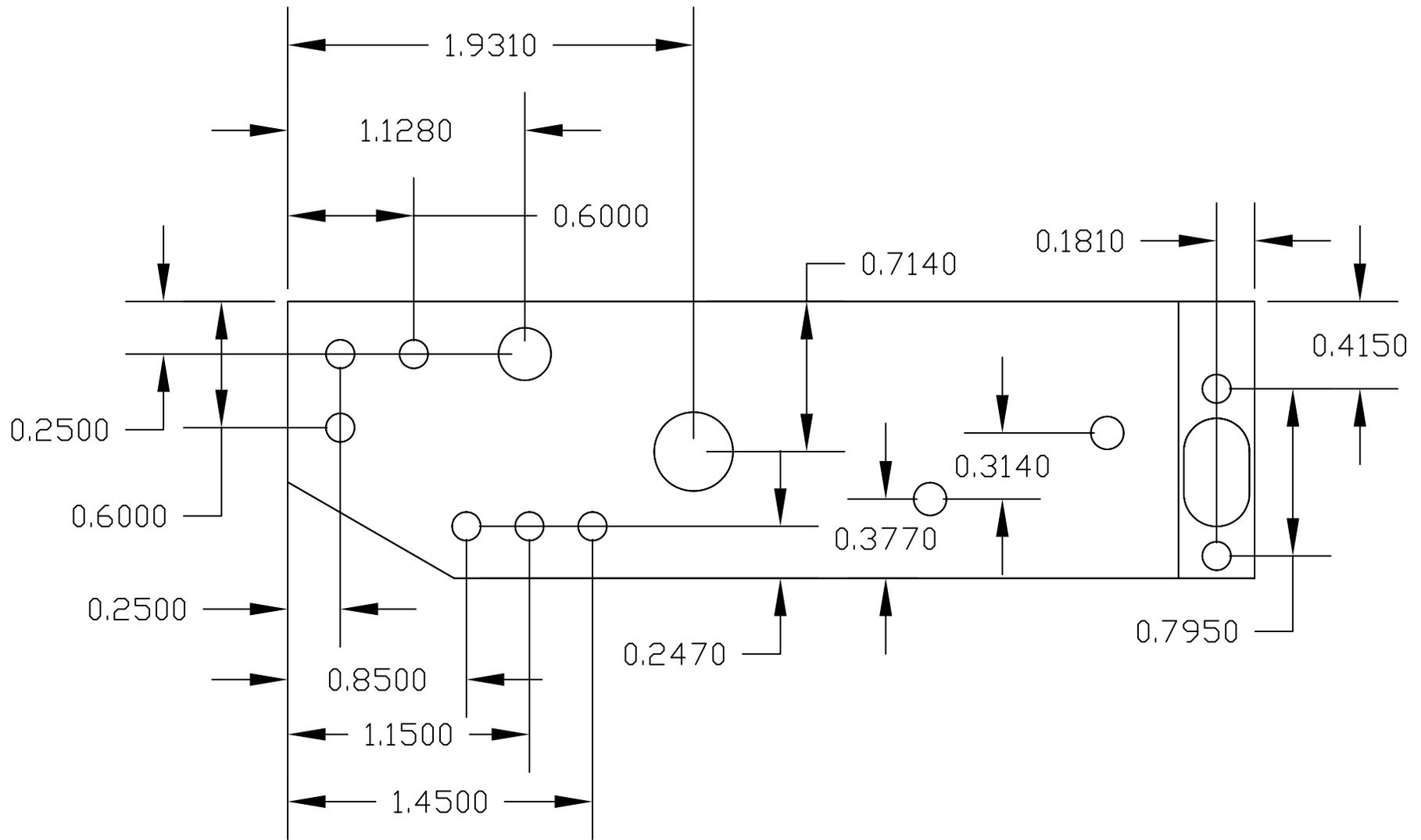
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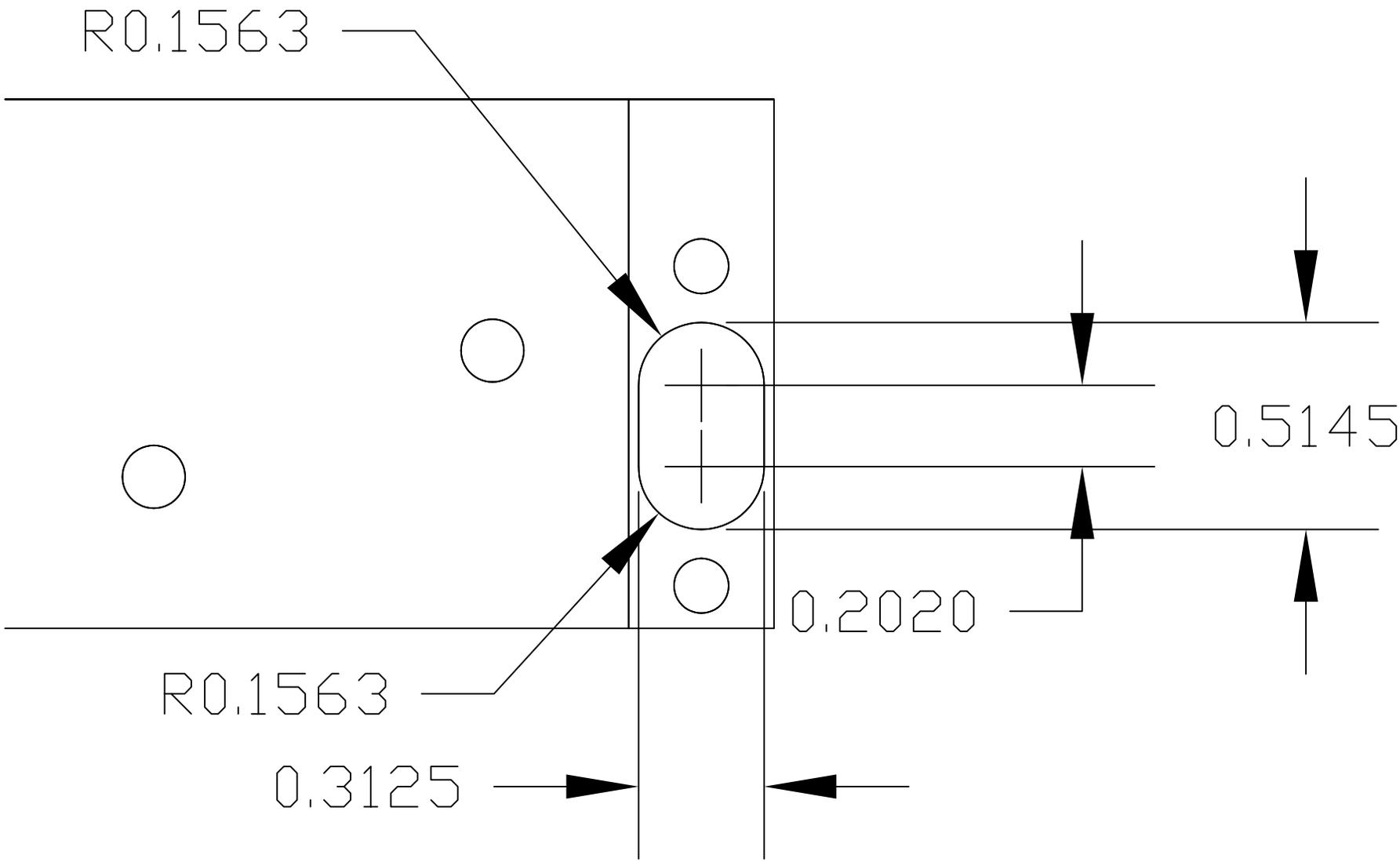
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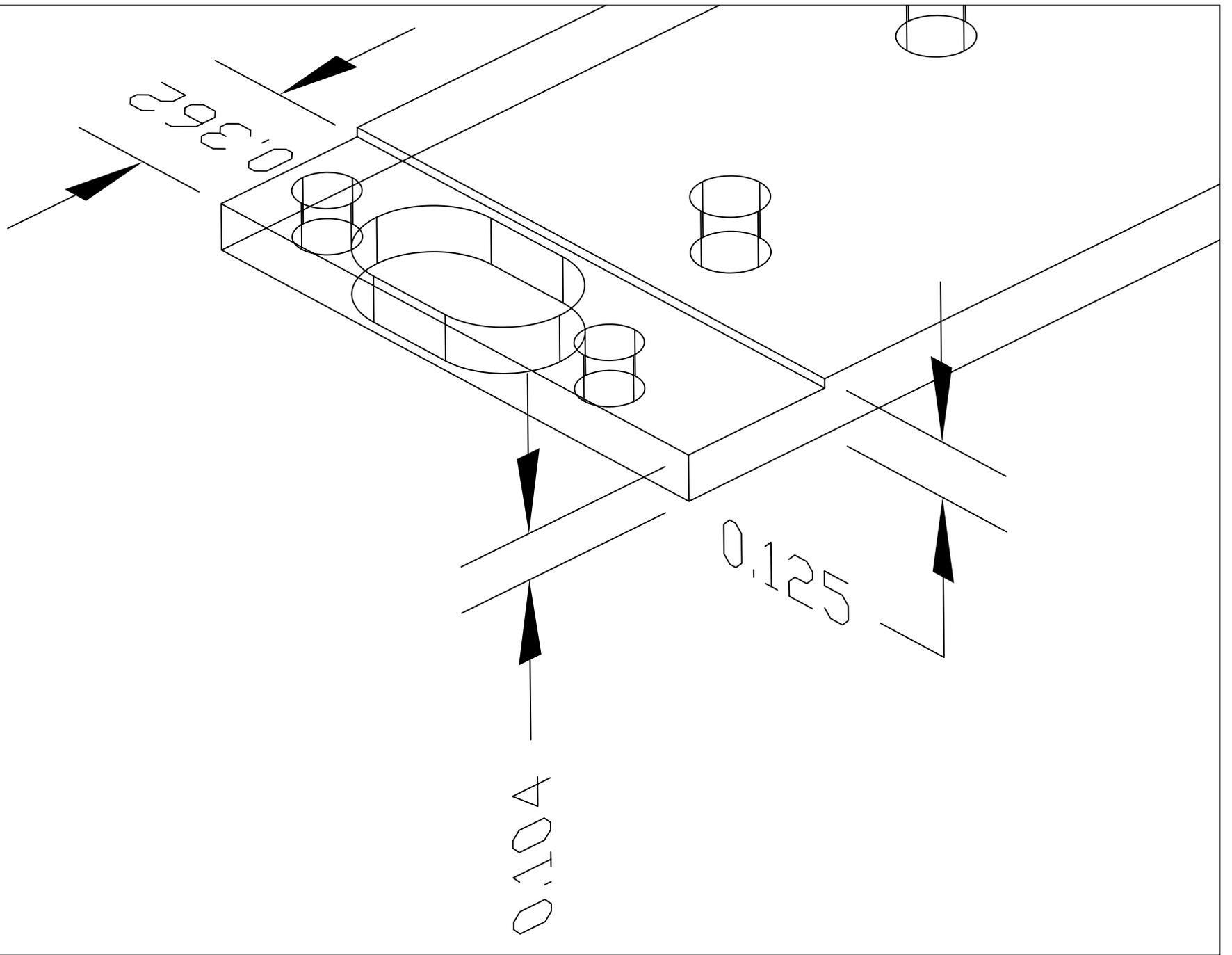
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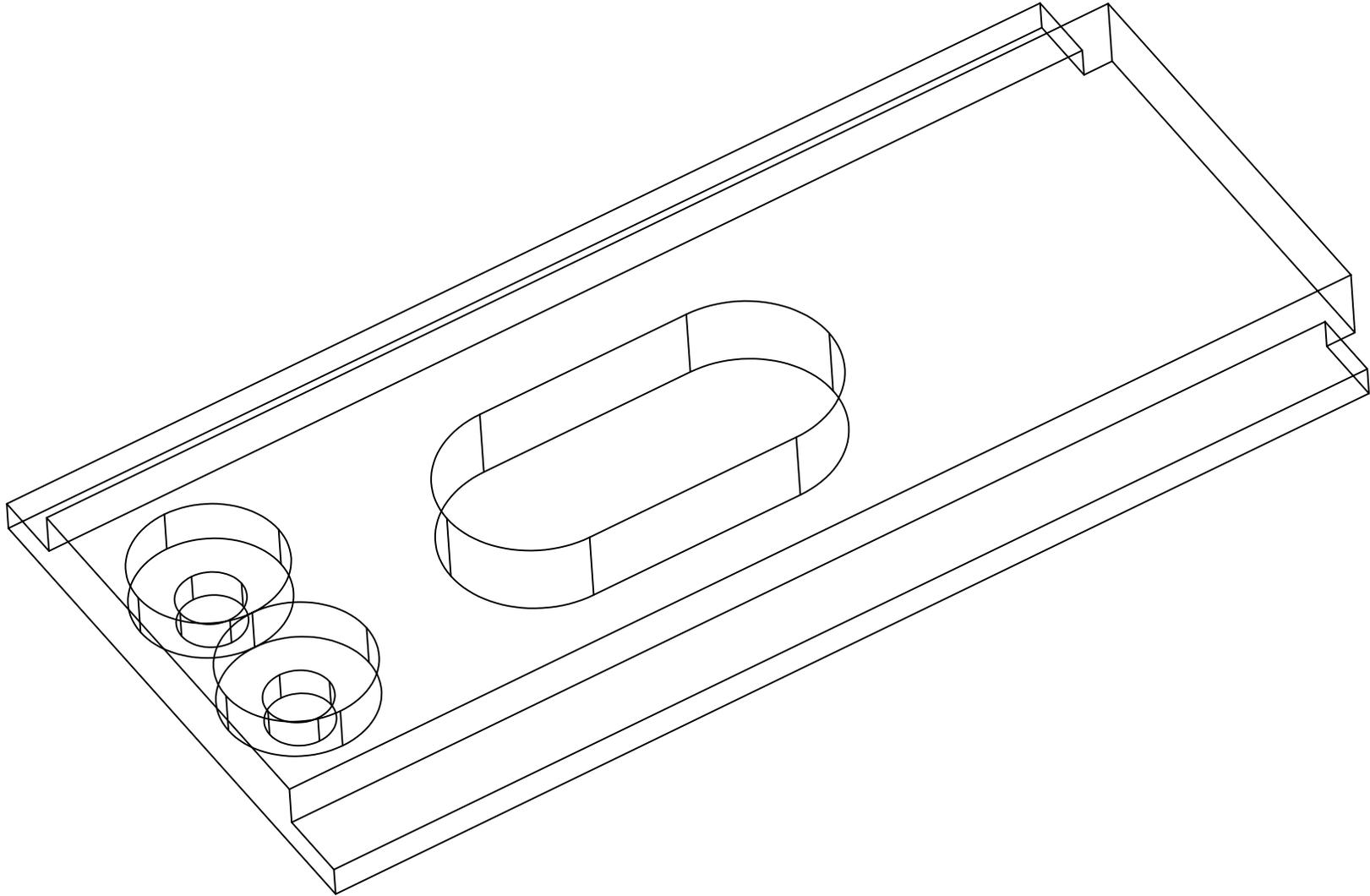
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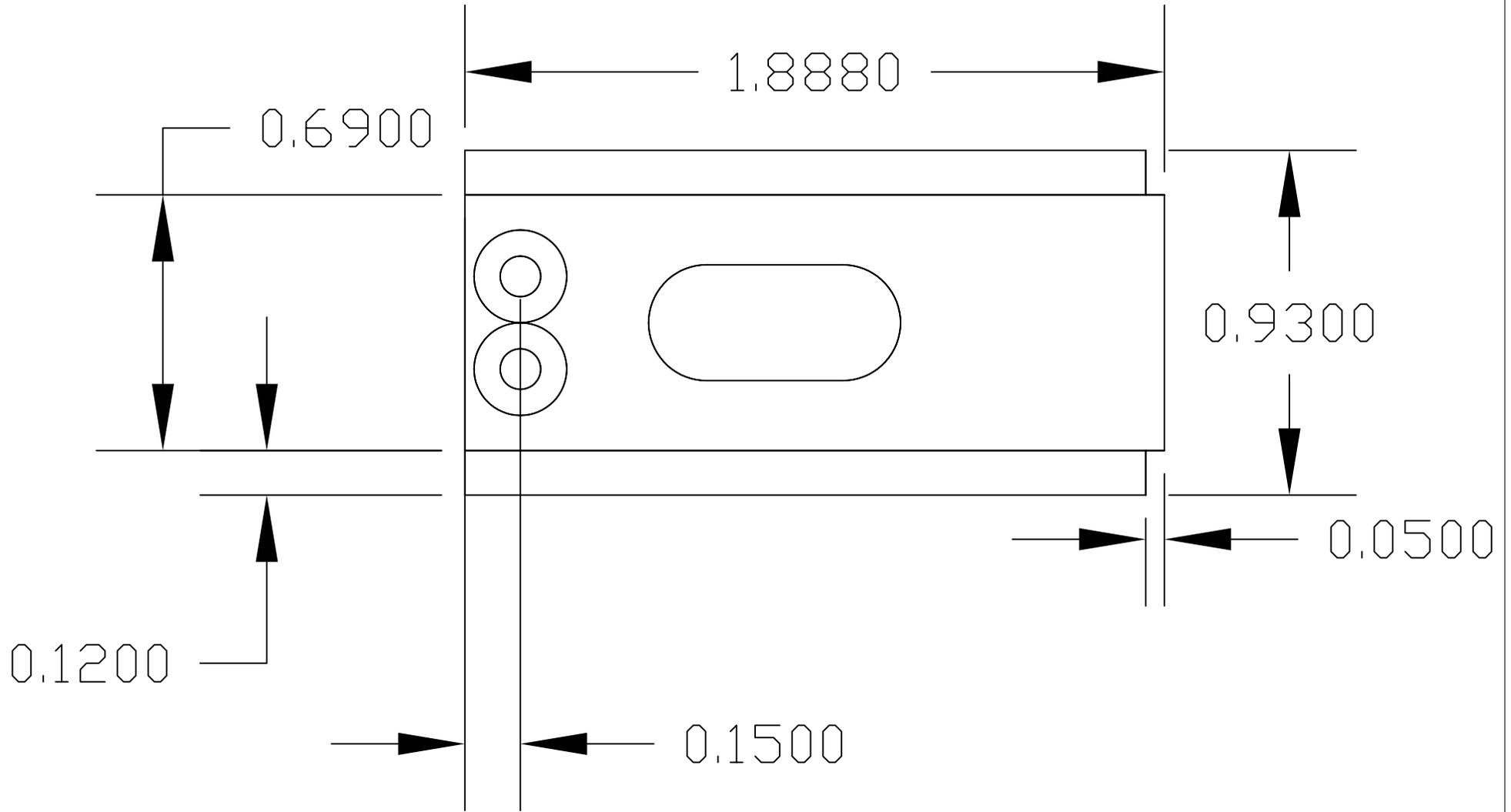
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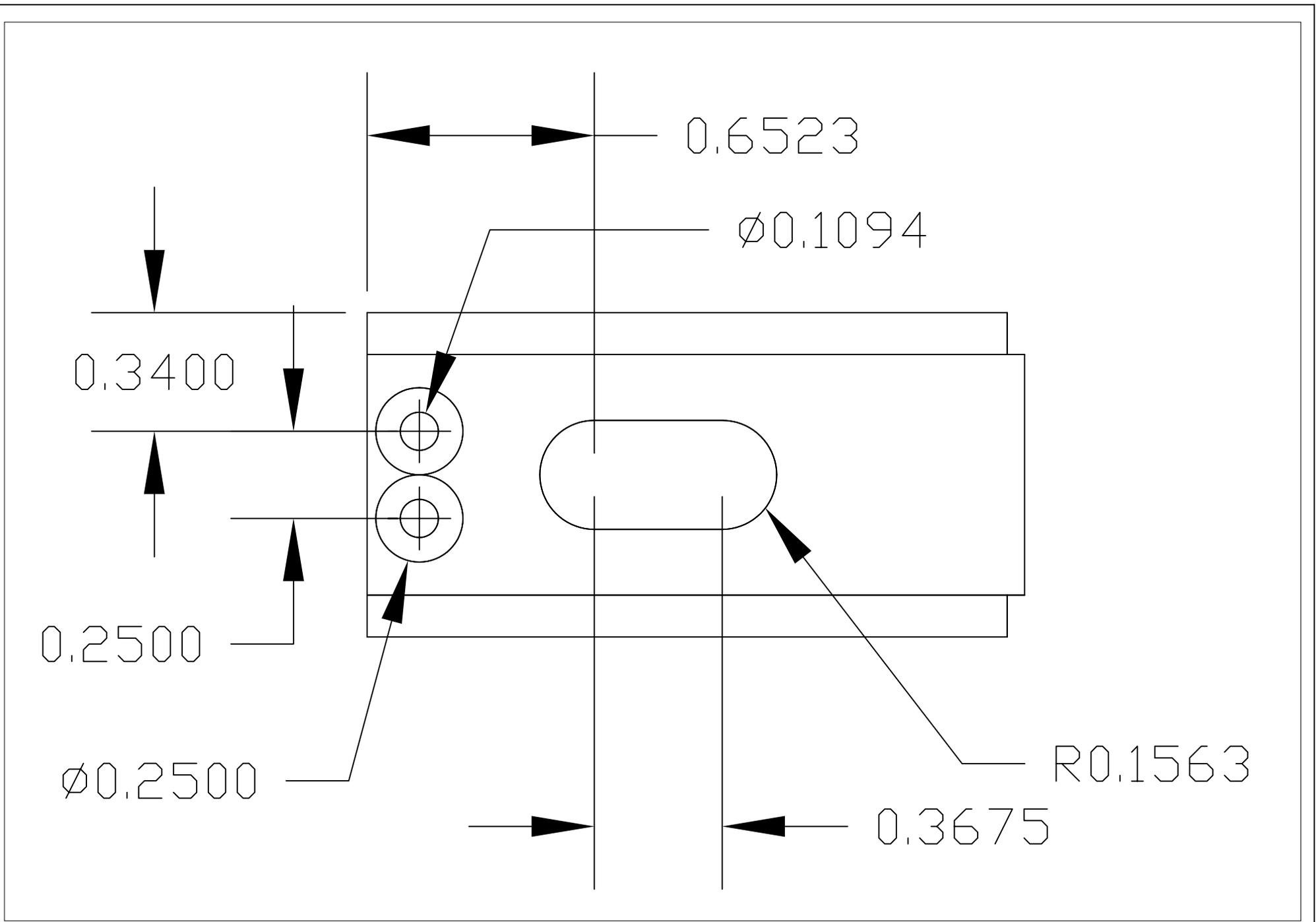
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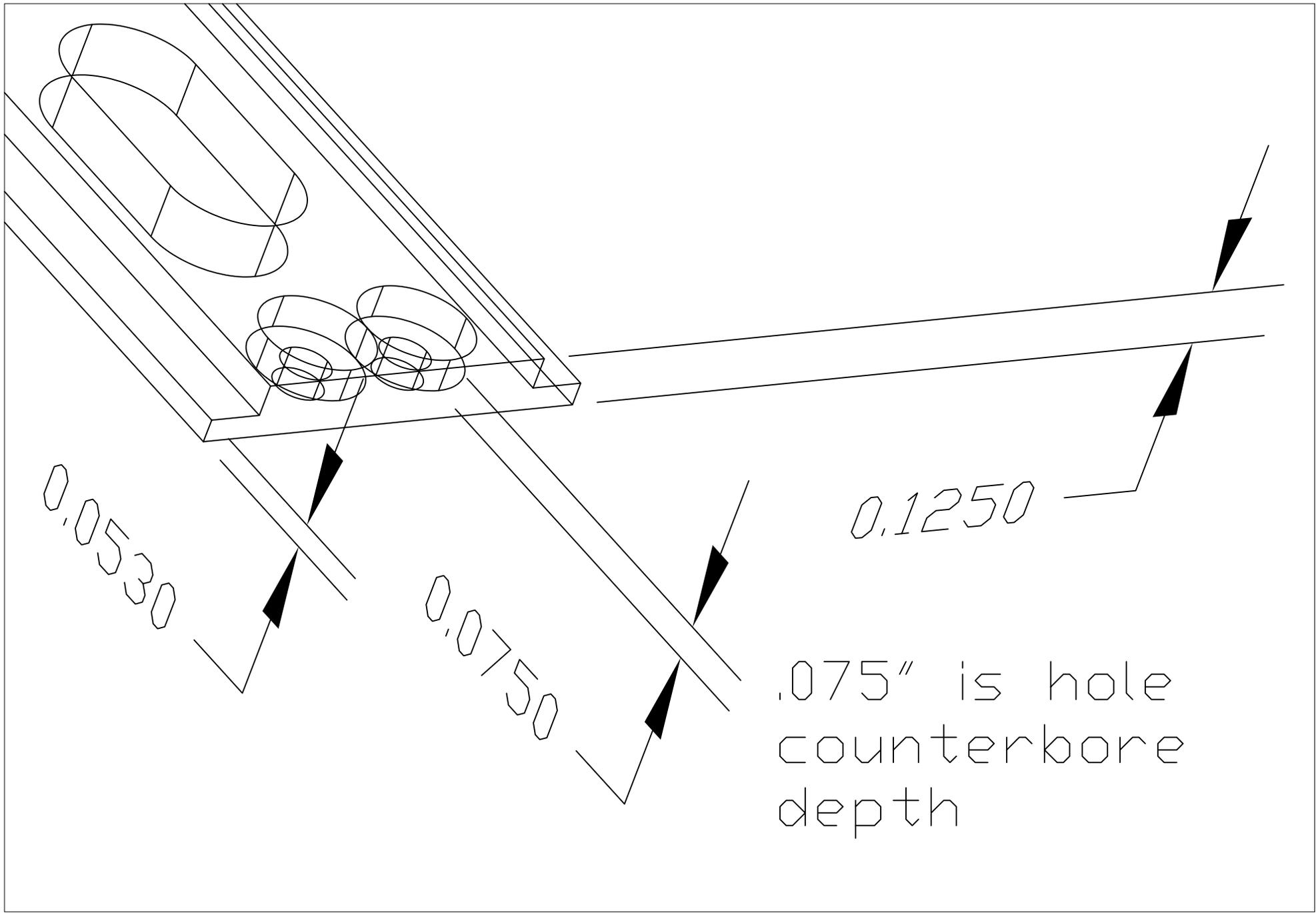
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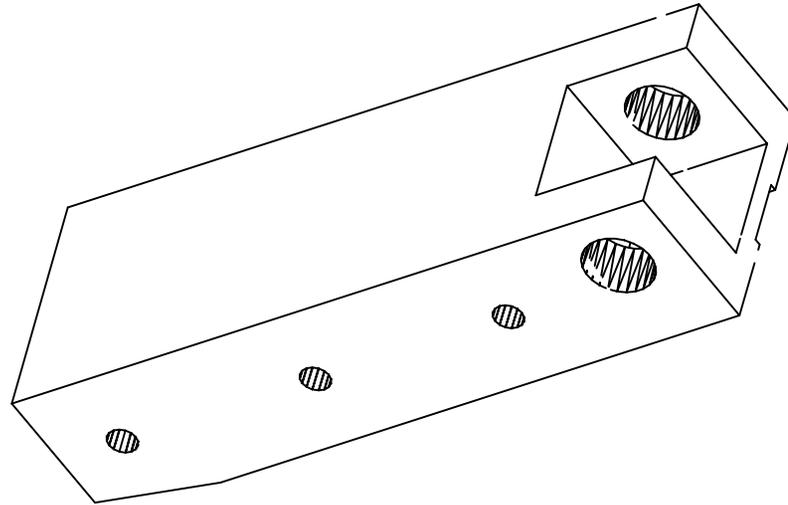
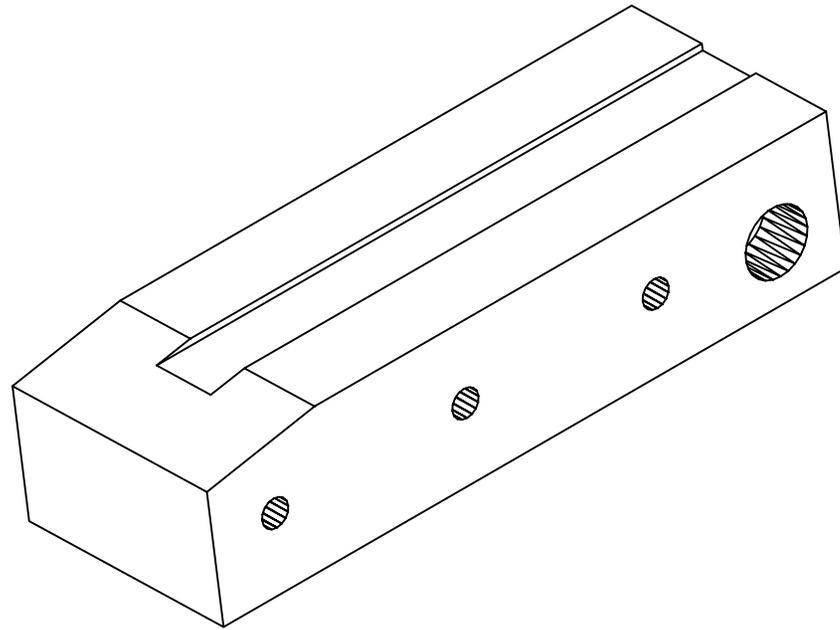


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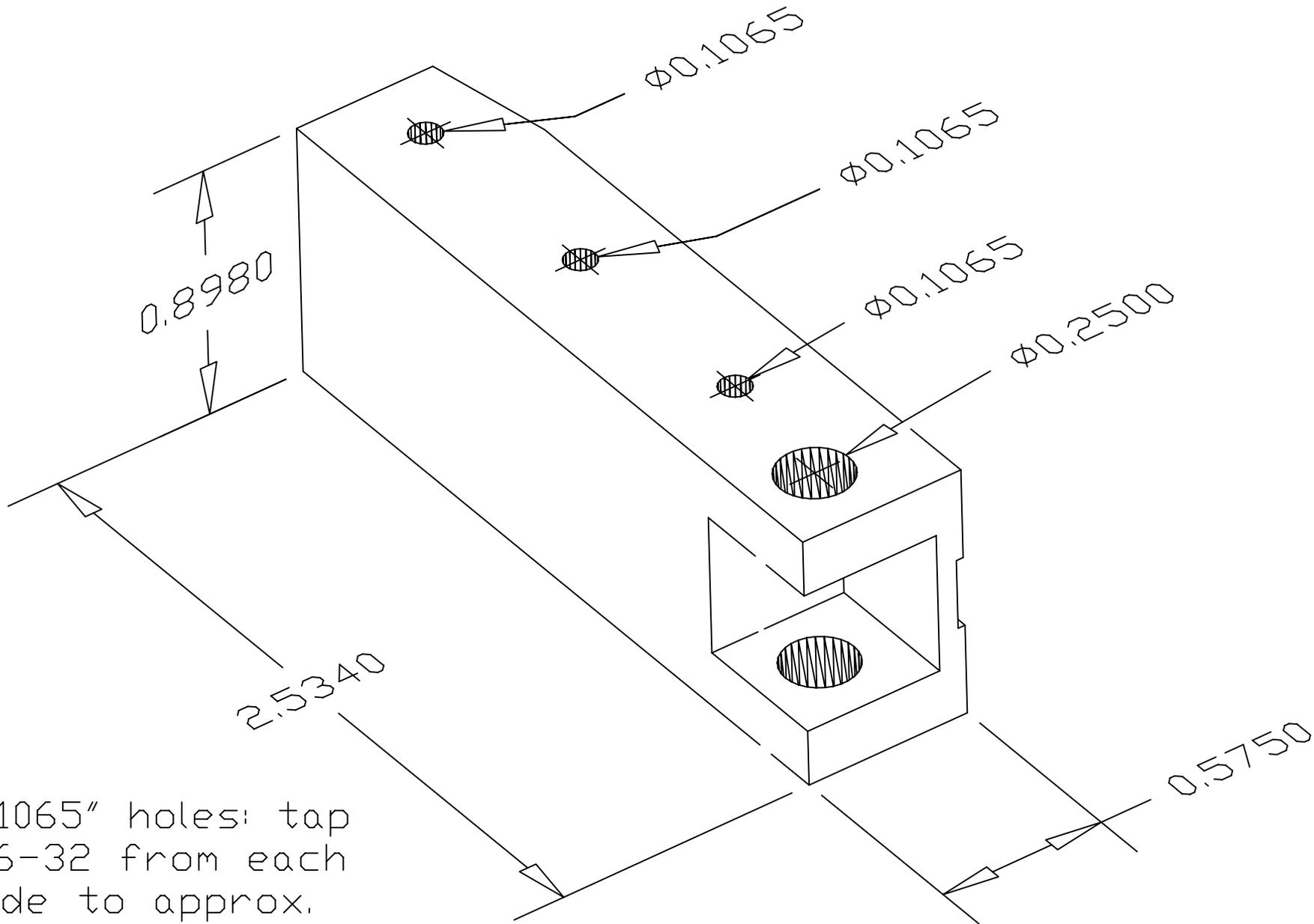
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SHEET 3

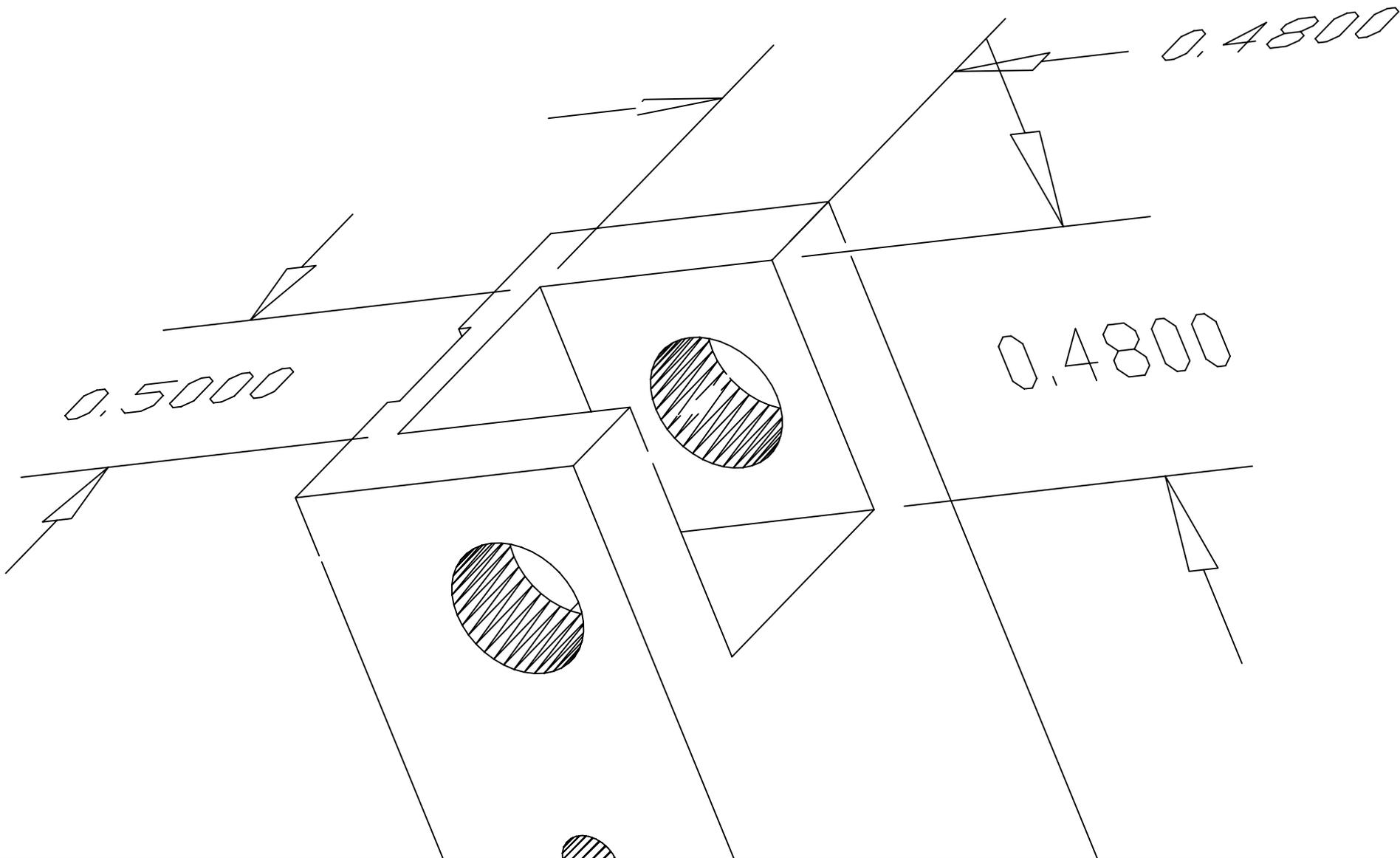


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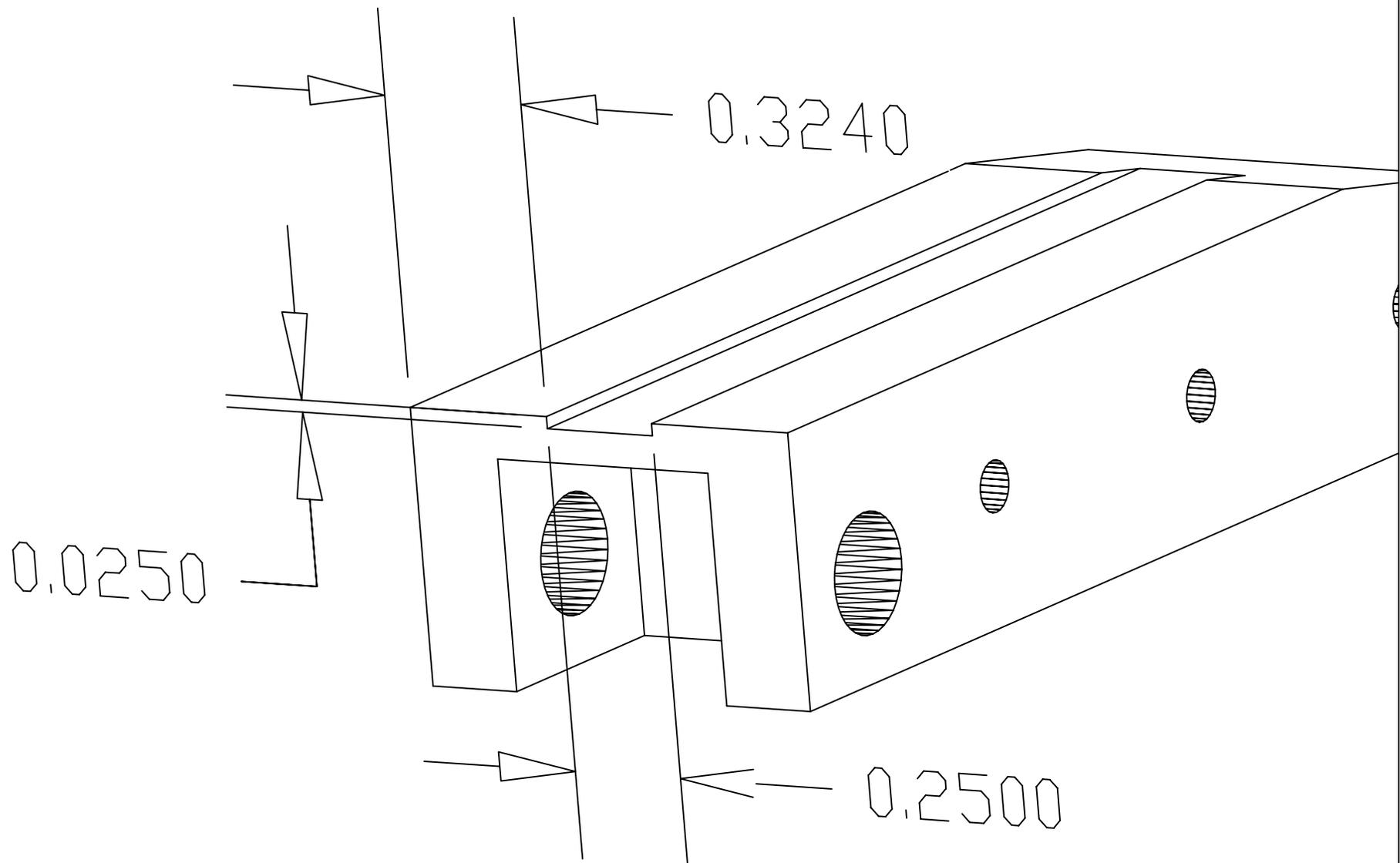


0.1065" holes: tap
 #6-32 from each
 side to approx.
 0.4" depth

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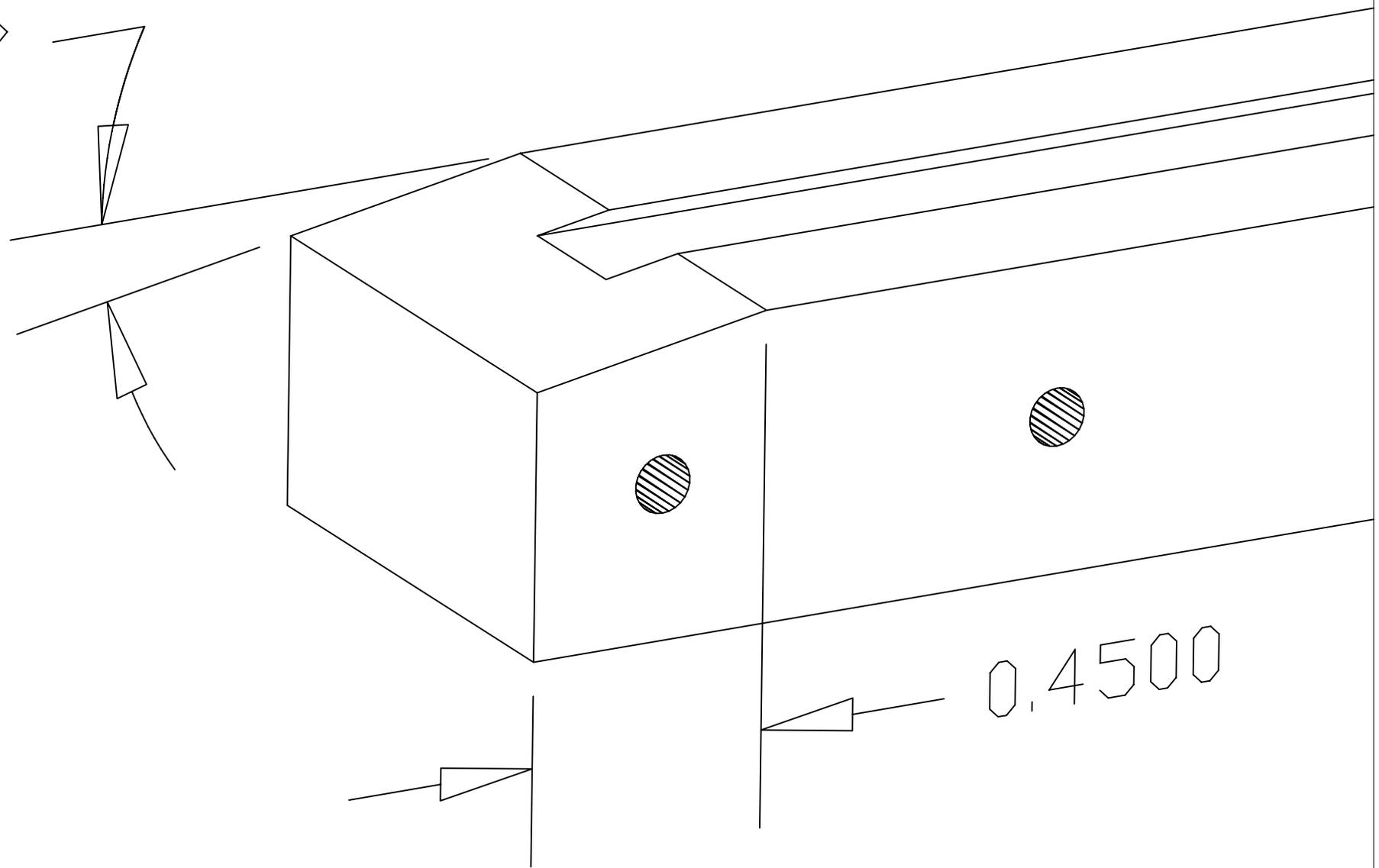


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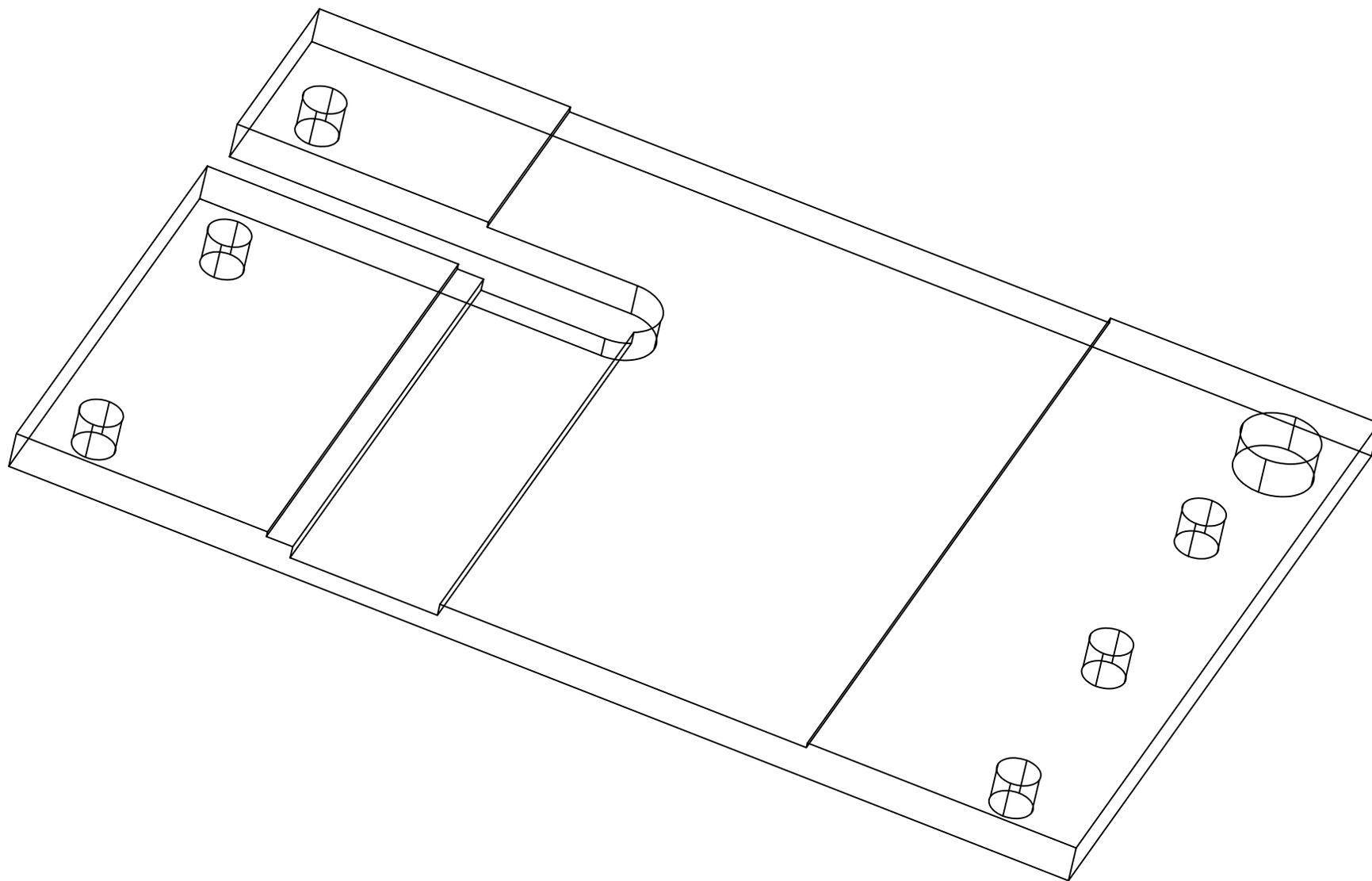
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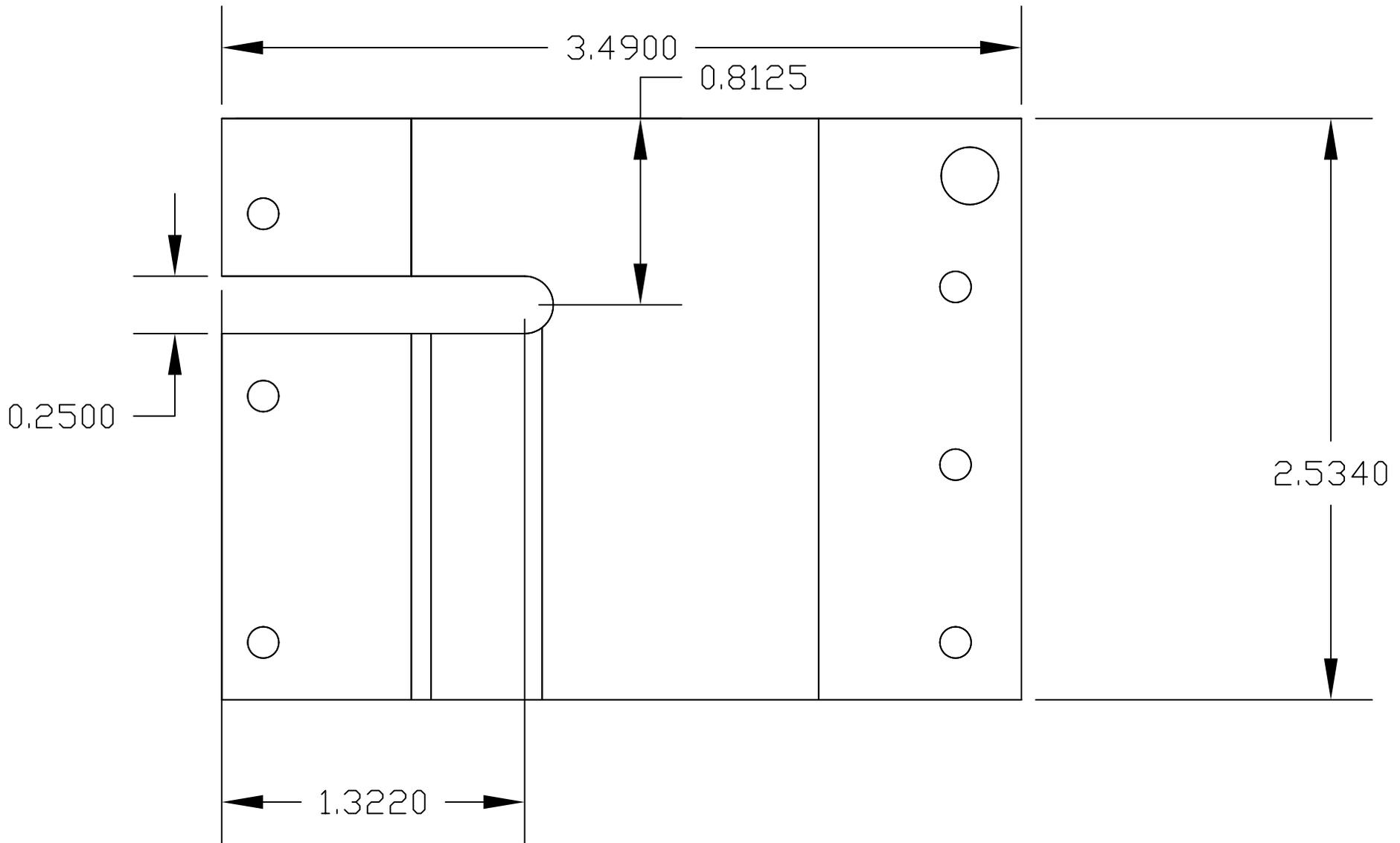


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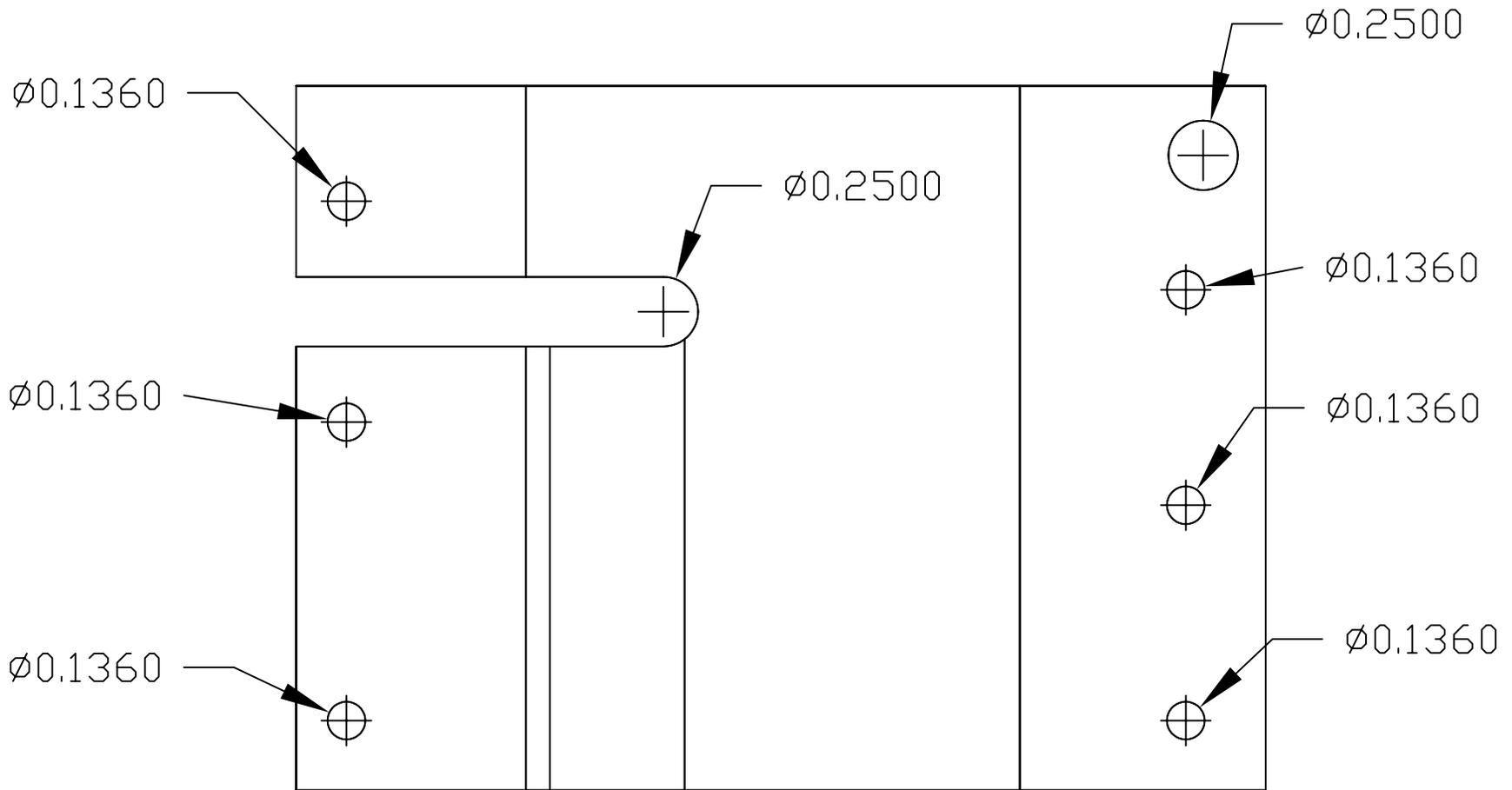
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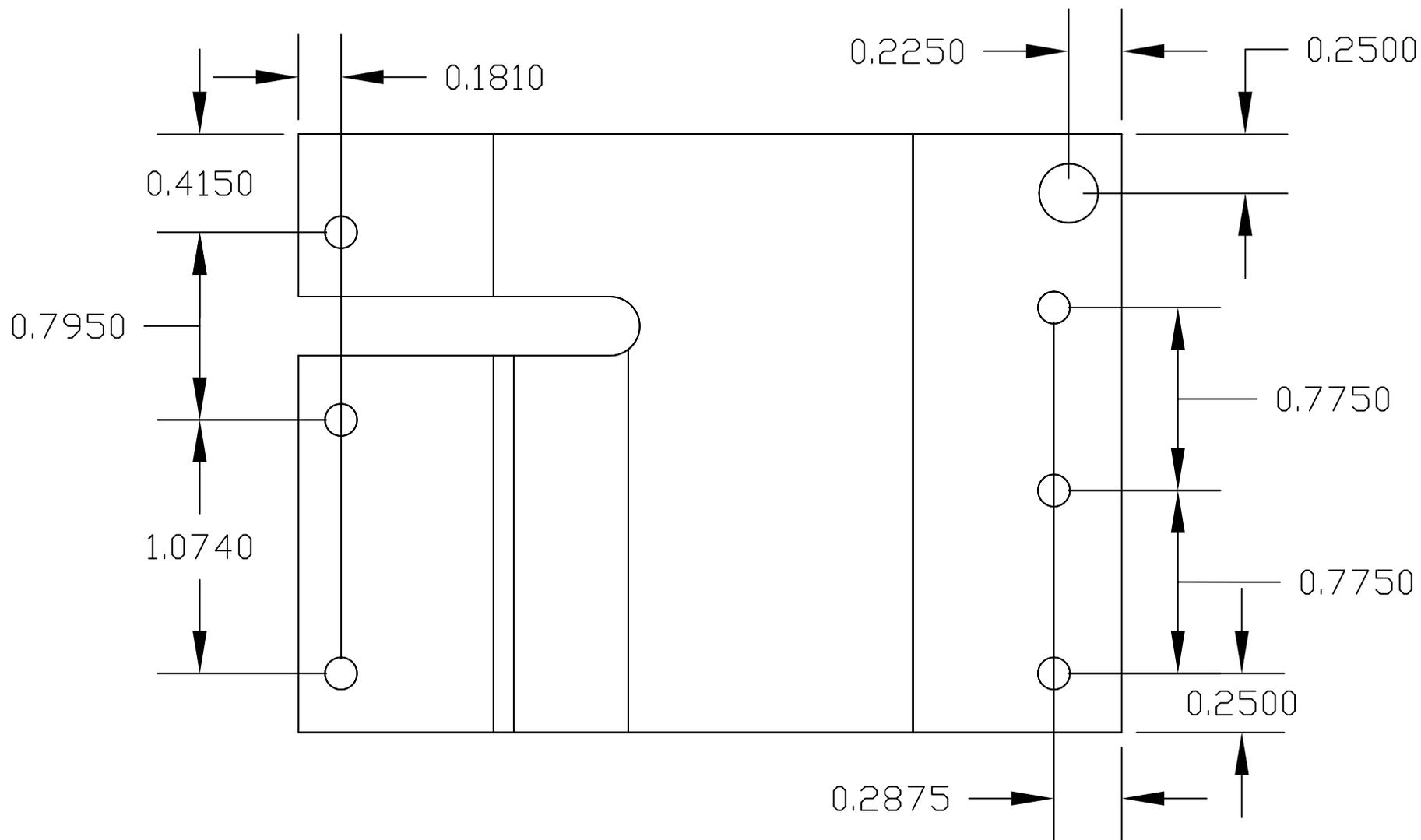
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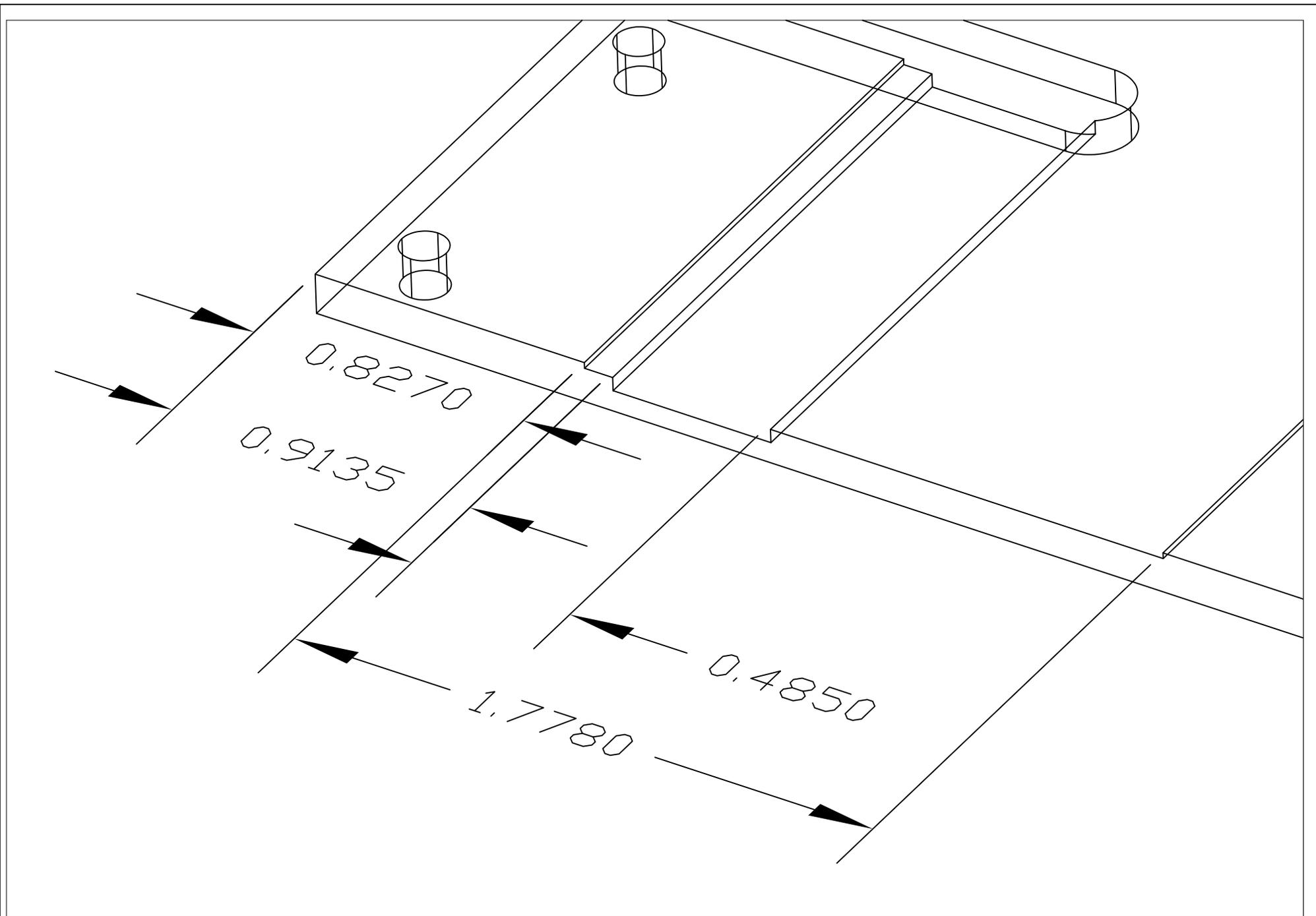
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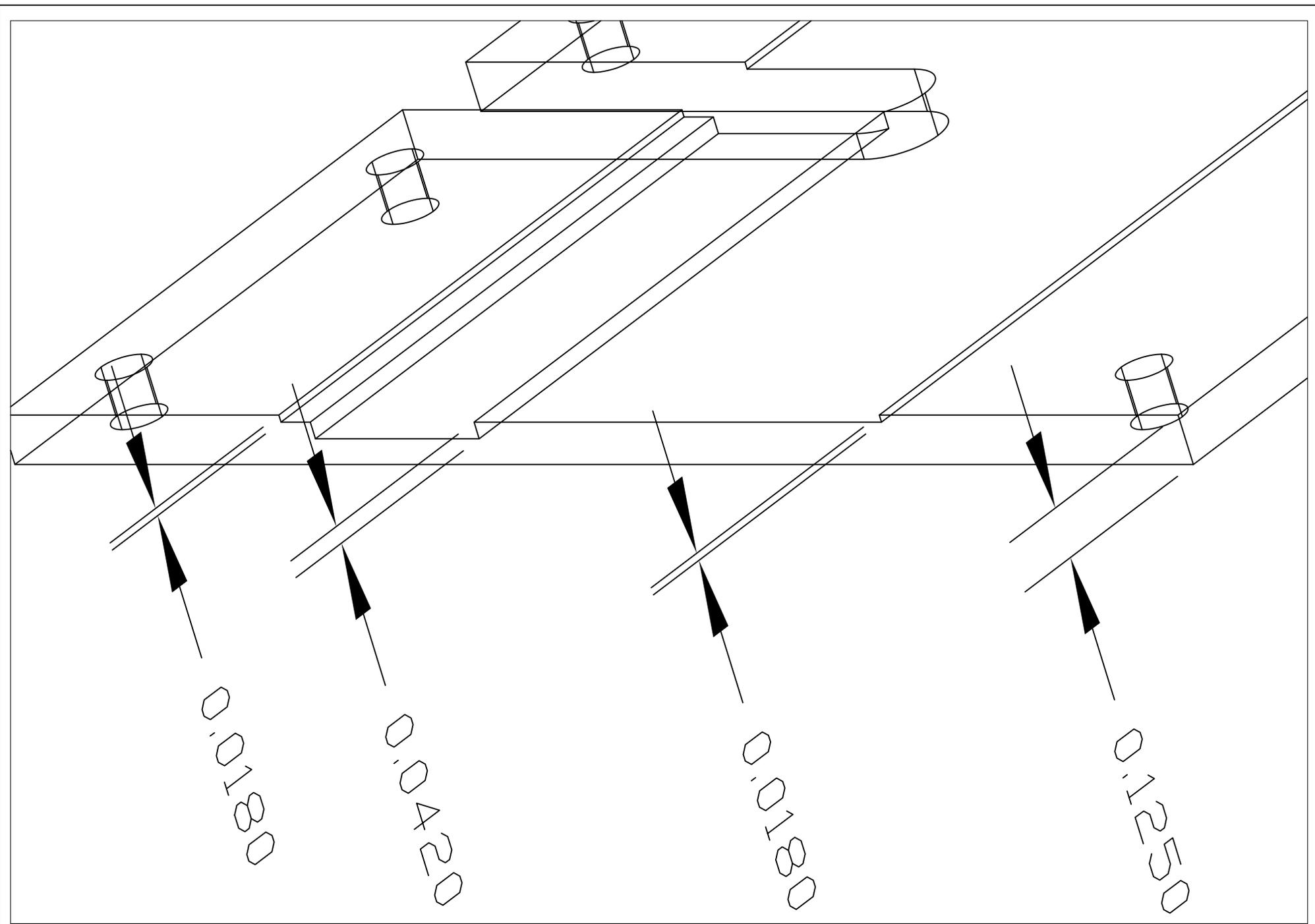
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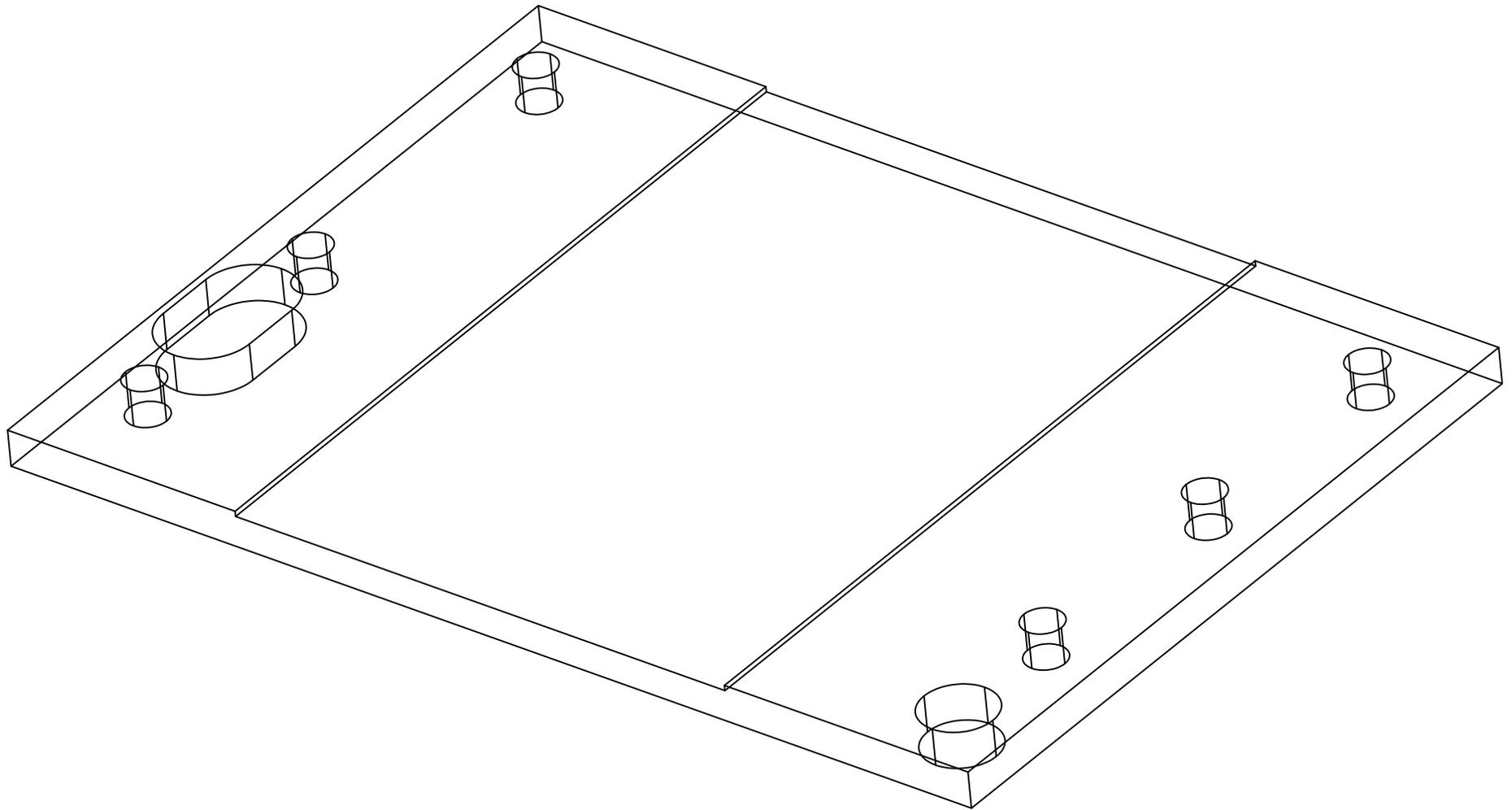
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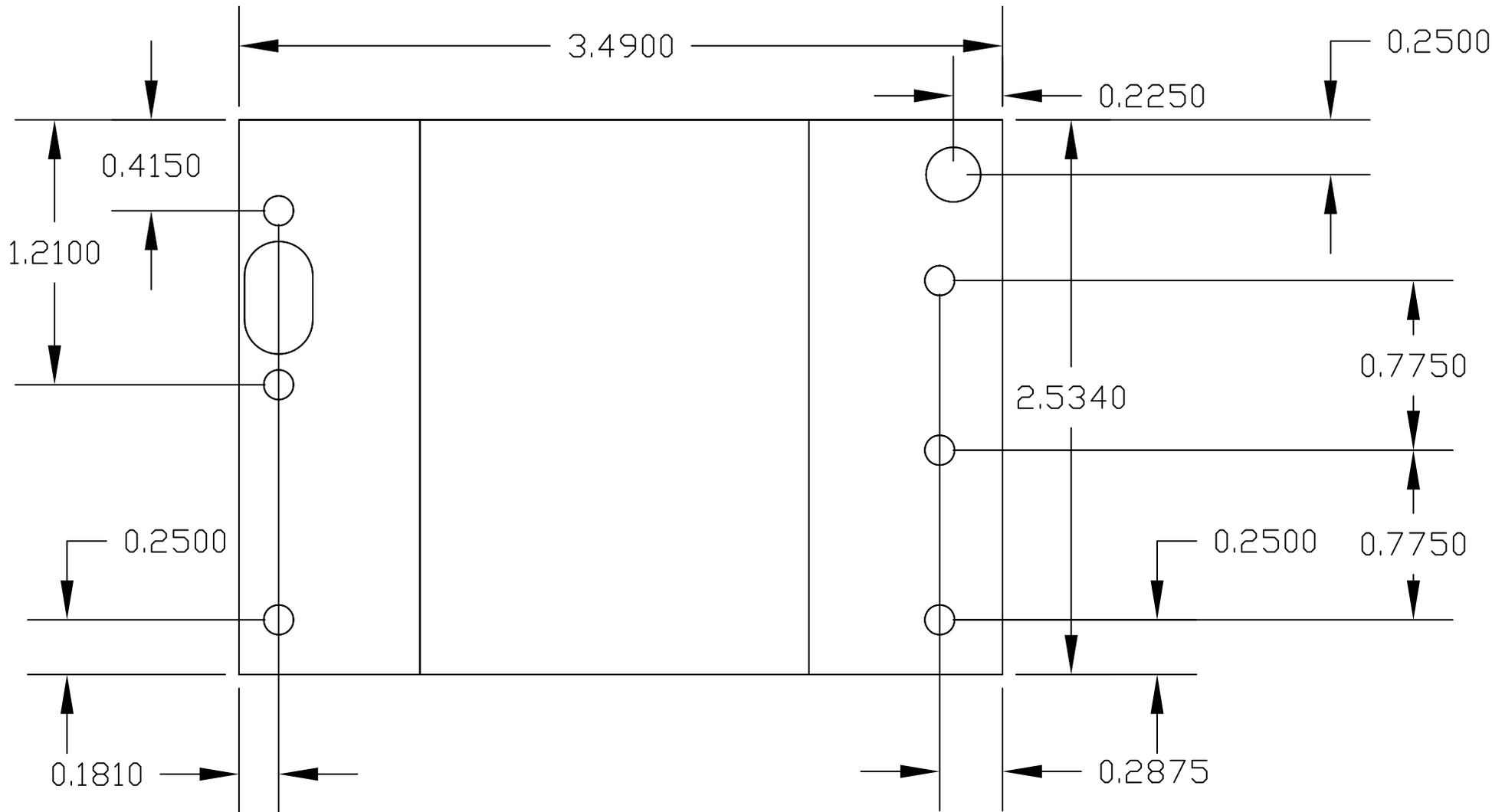
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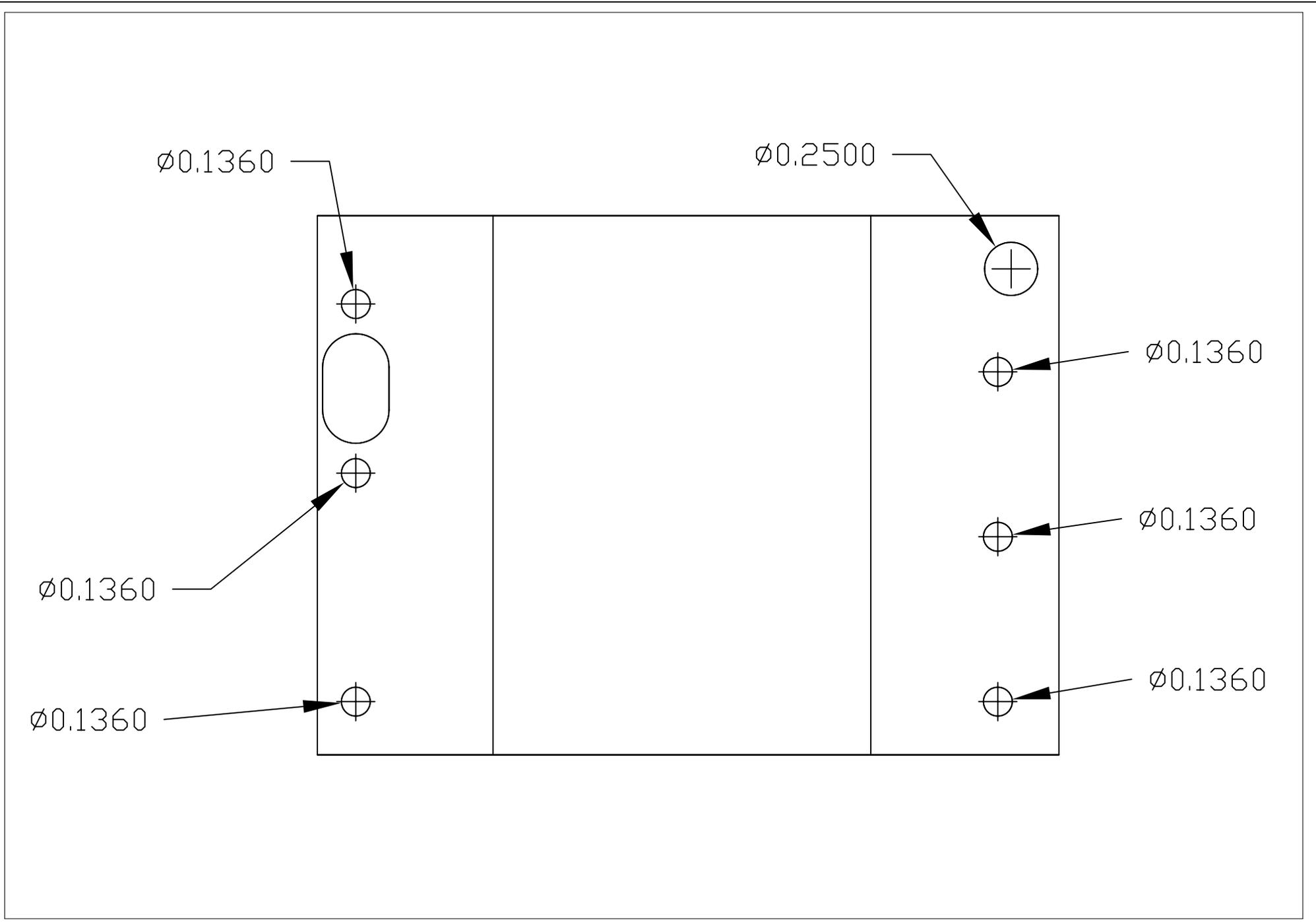
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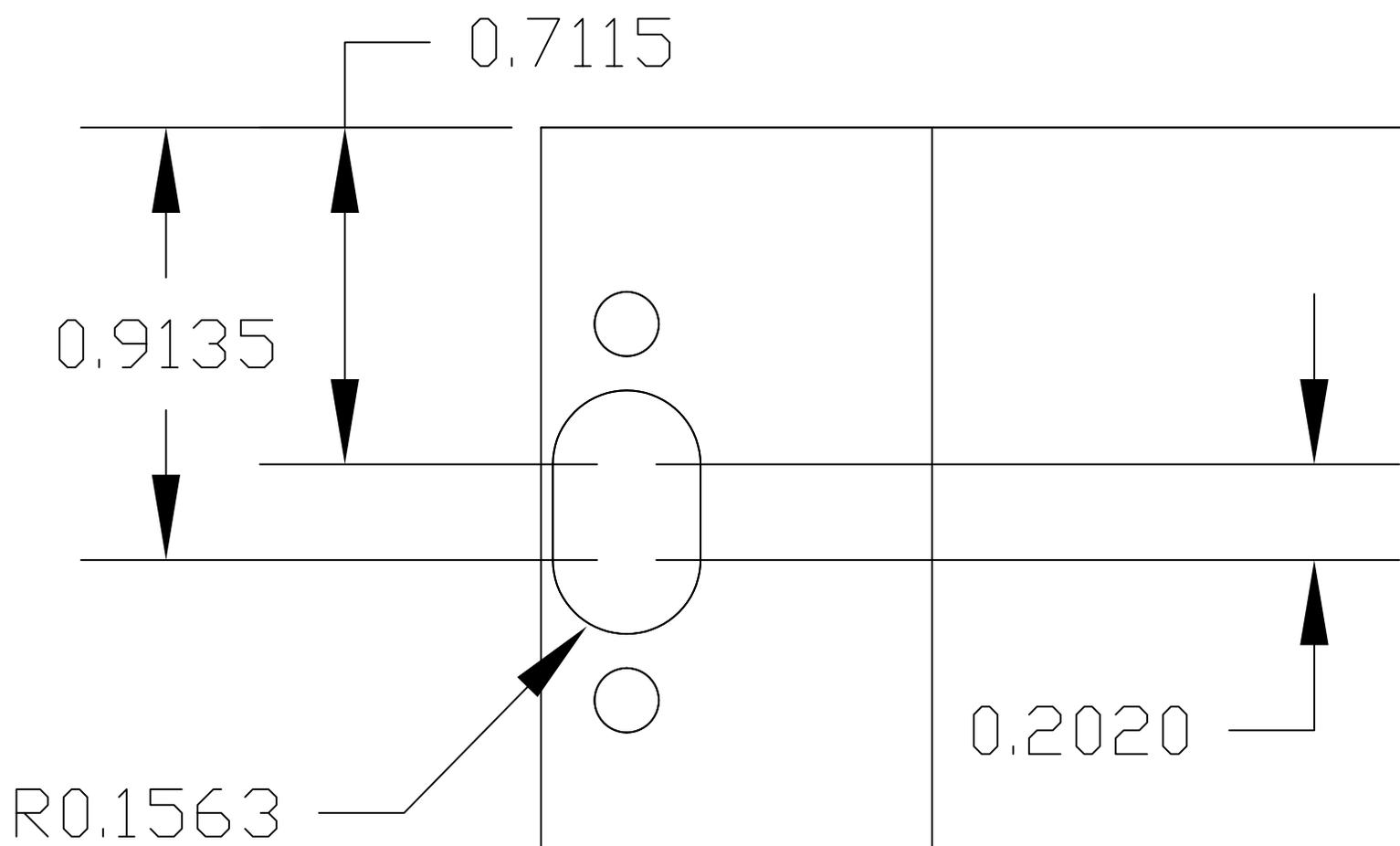
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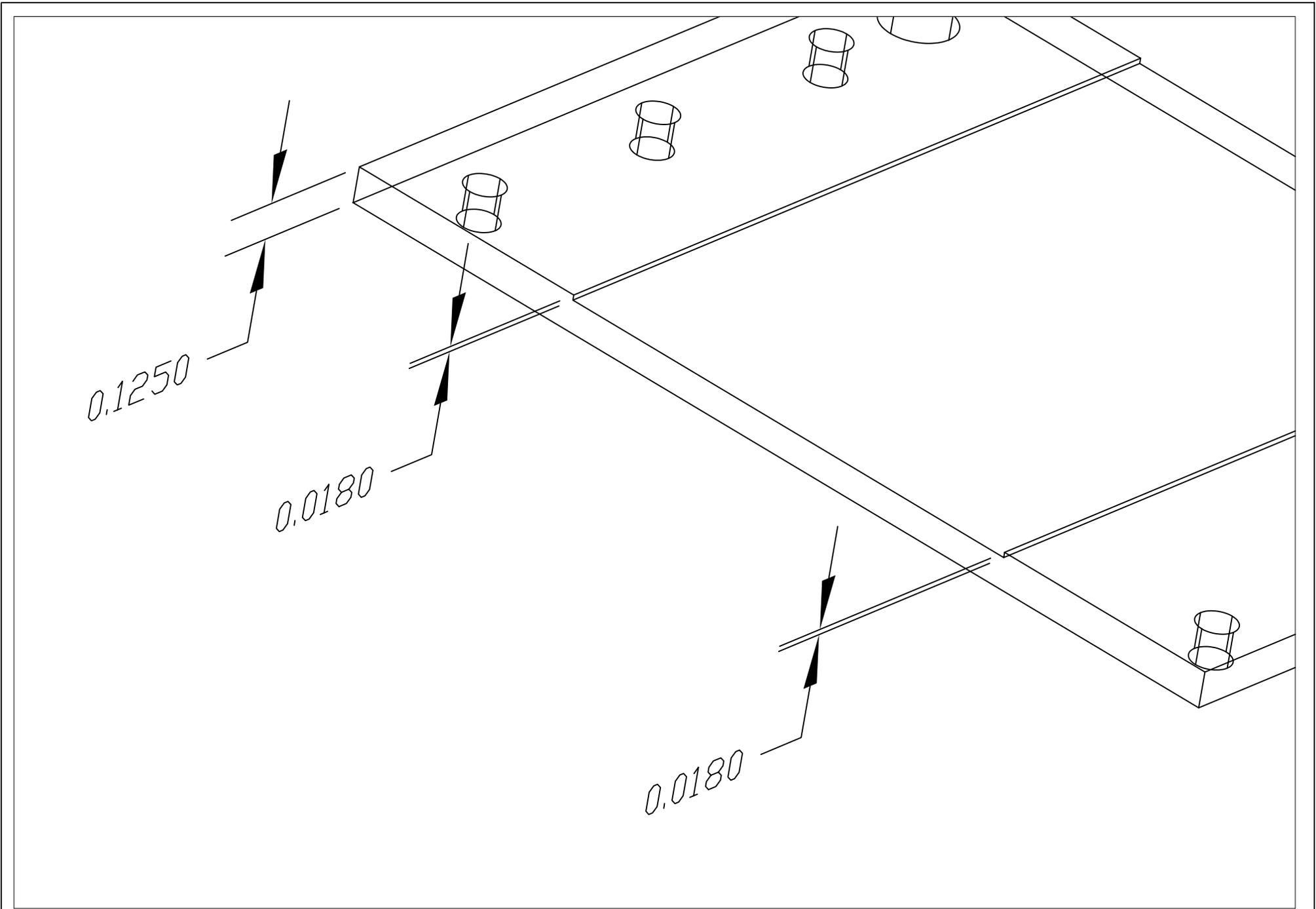
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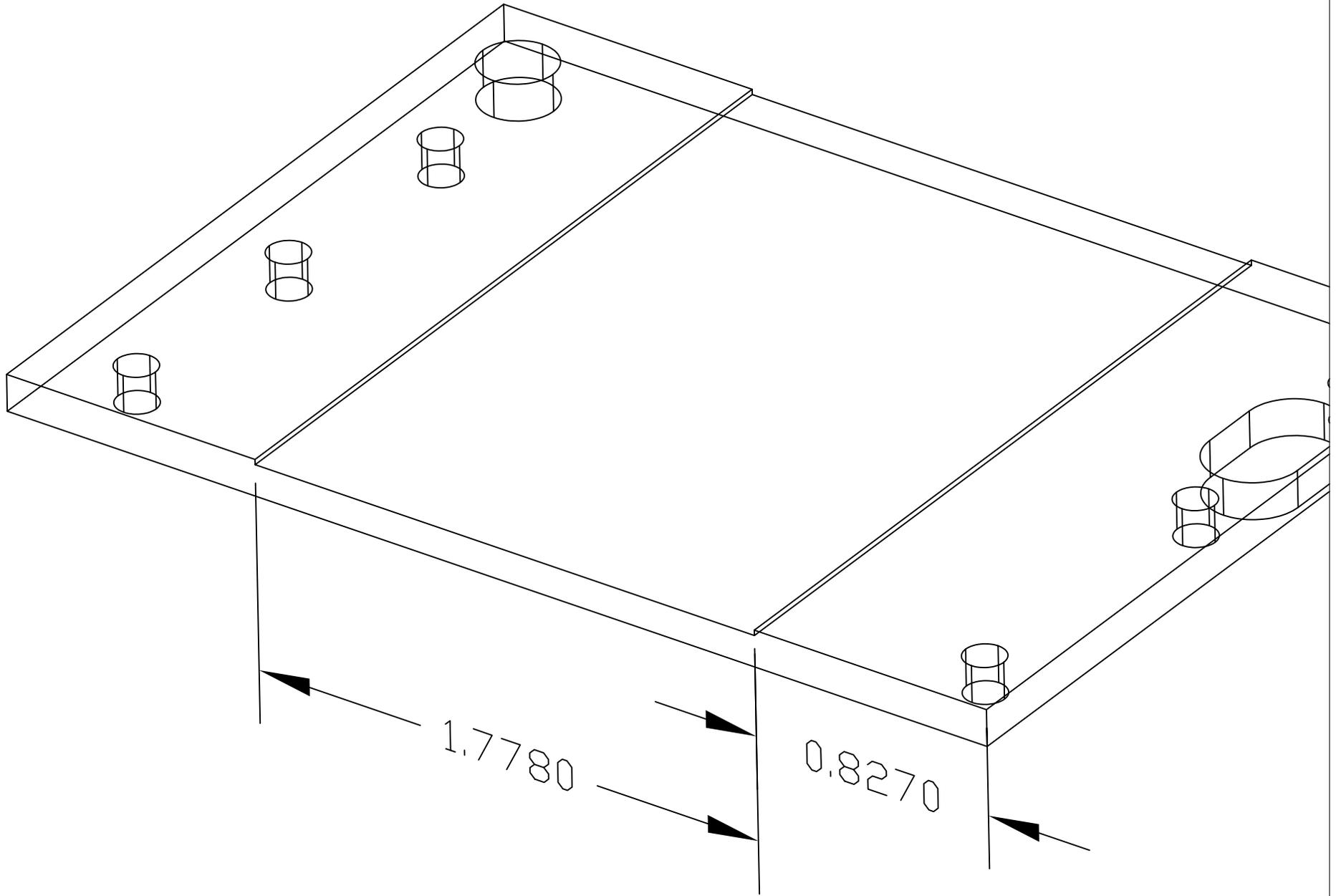
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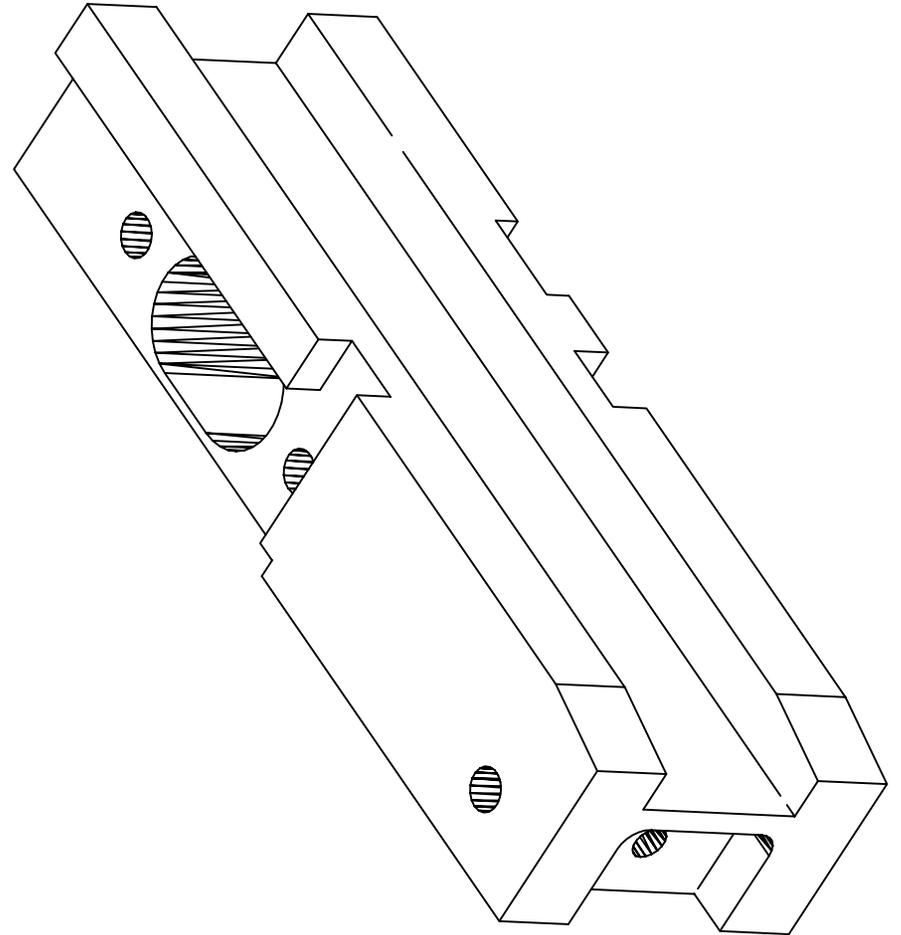
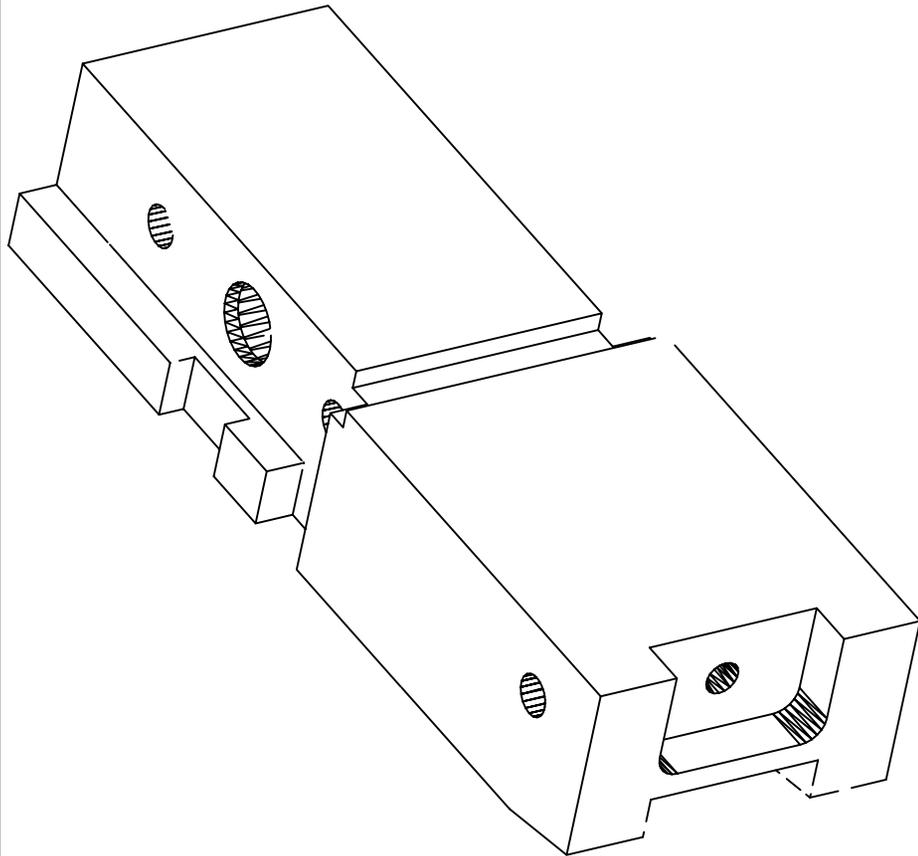
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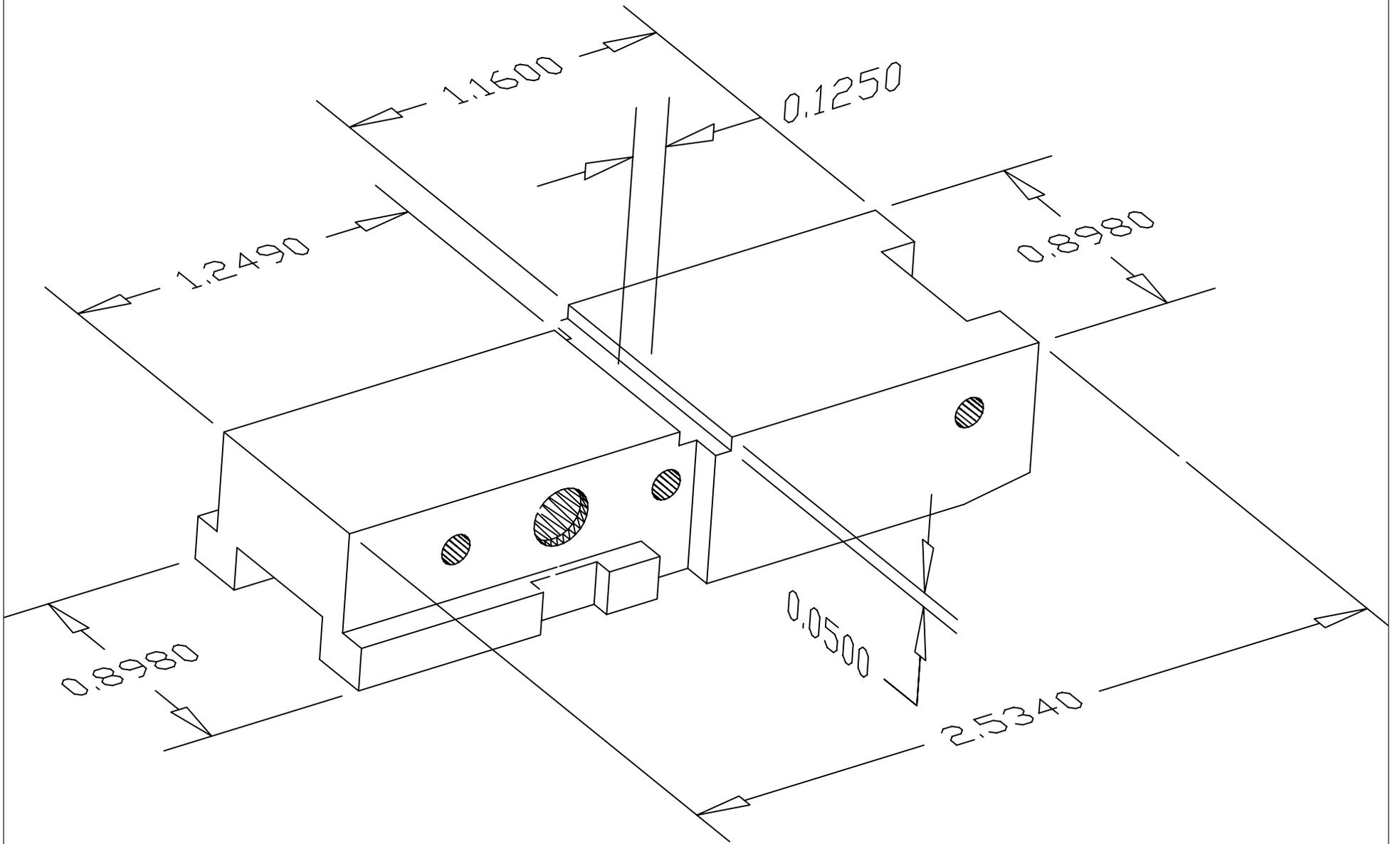
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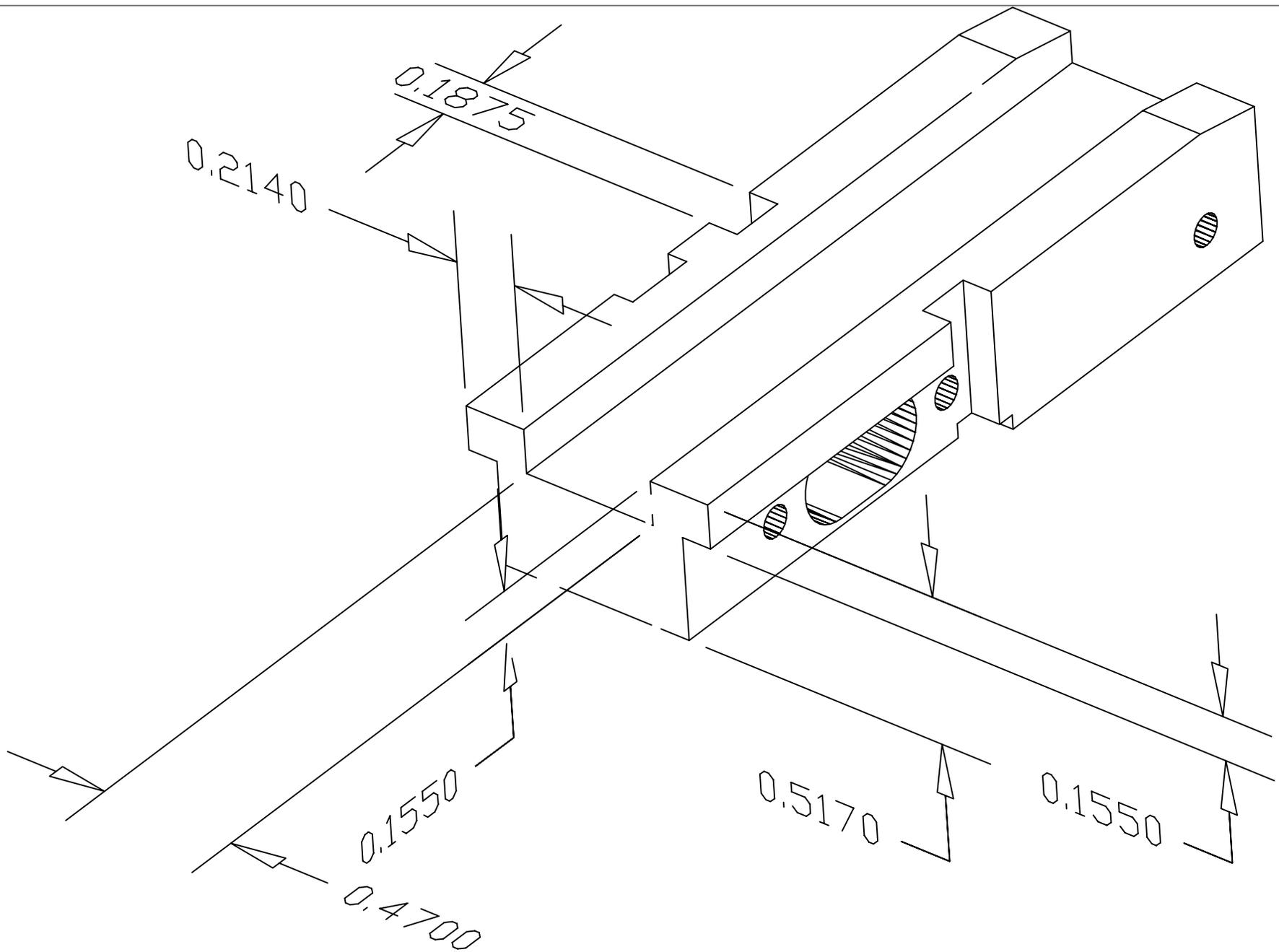
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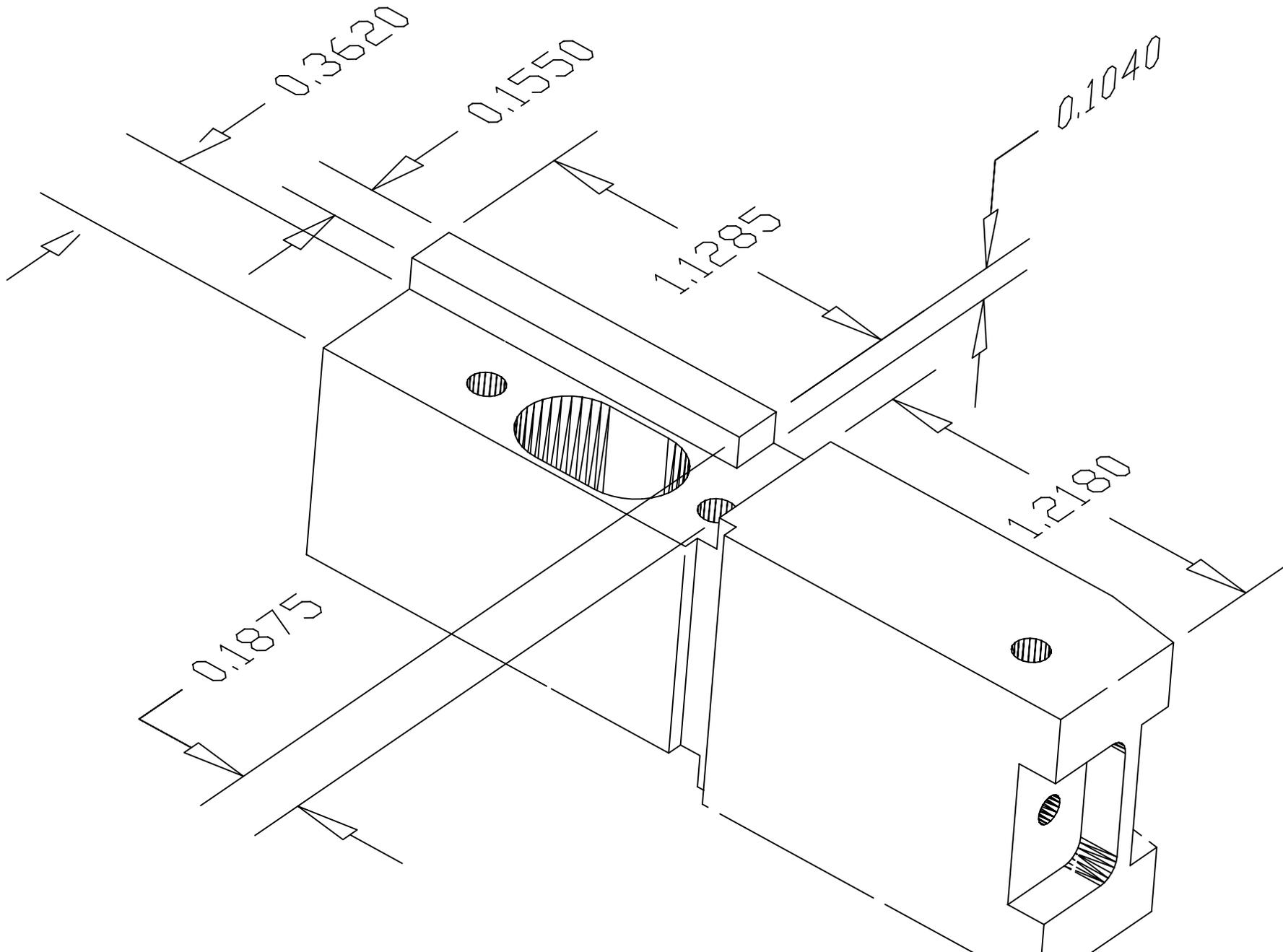
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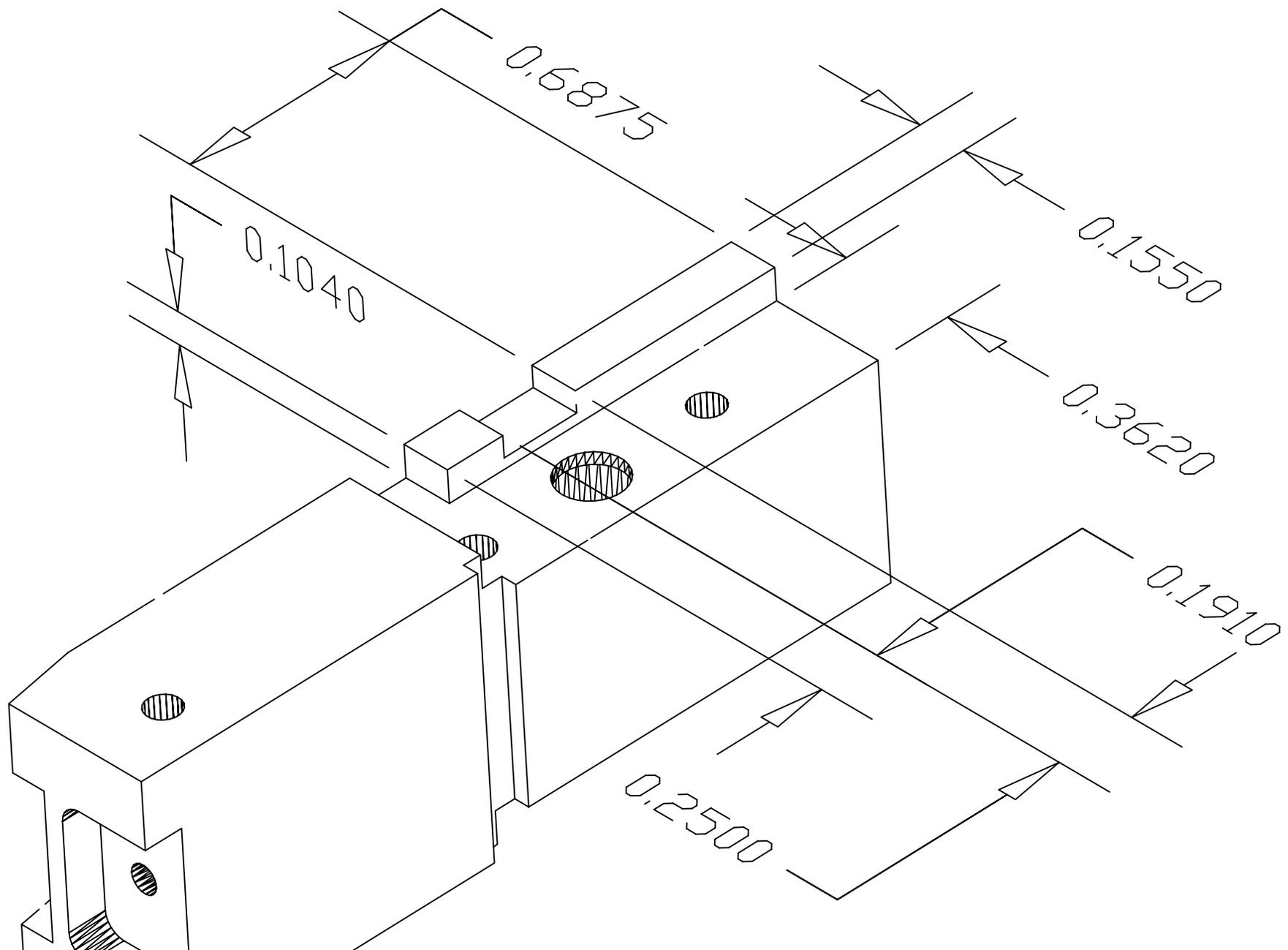
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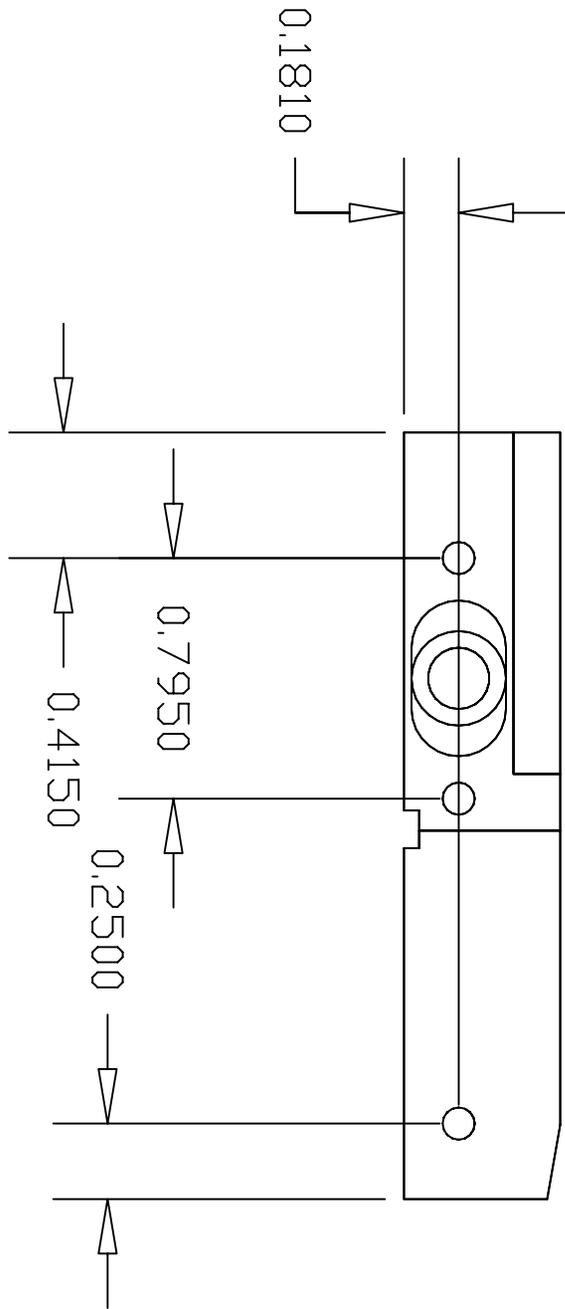
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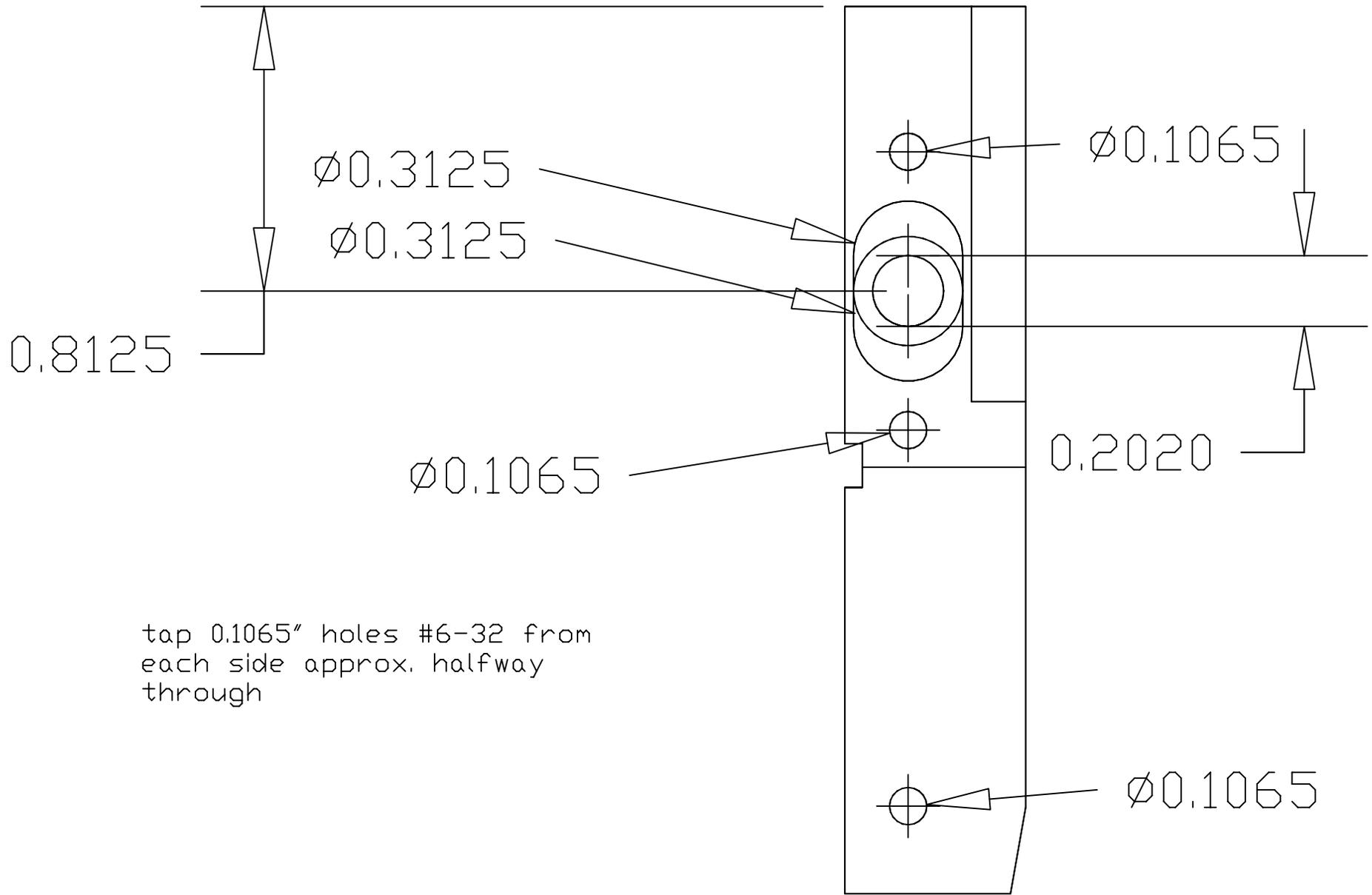
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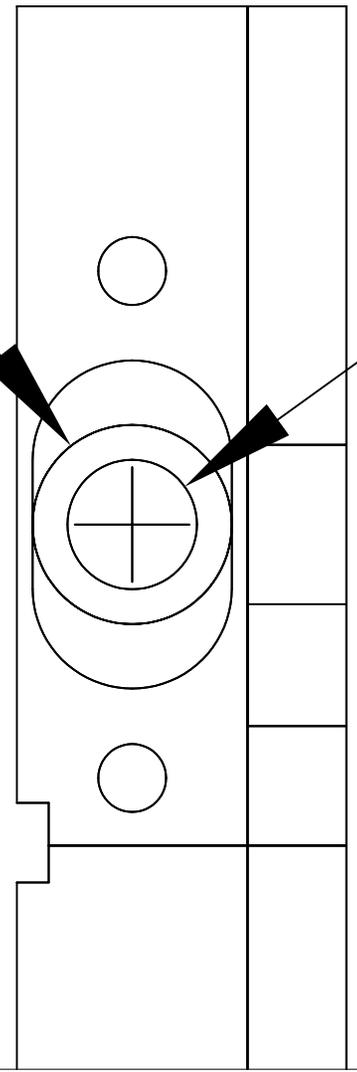


tap 0.1065" holes #6-32 from each side approx. halfway through

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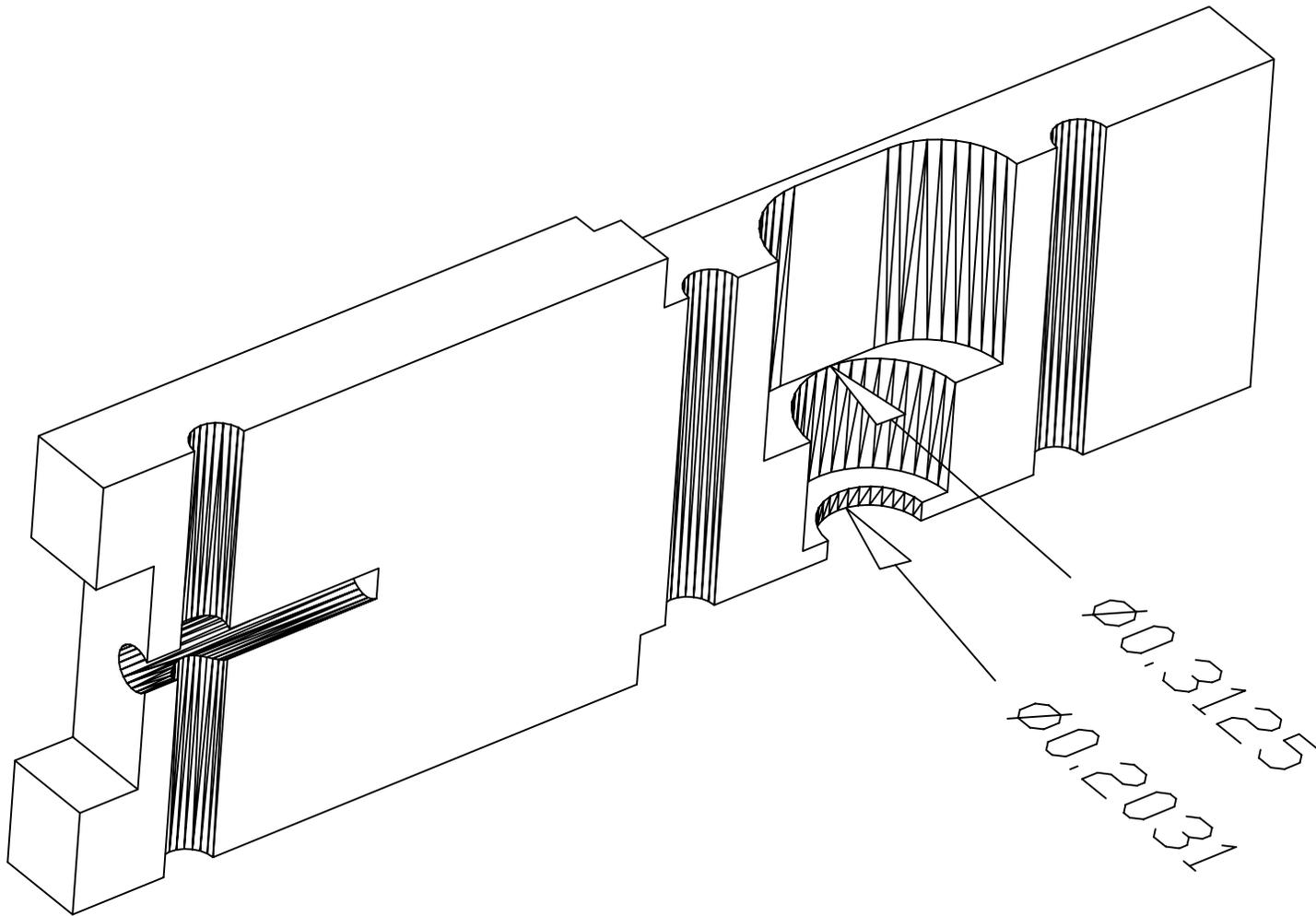
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Ø0.2031

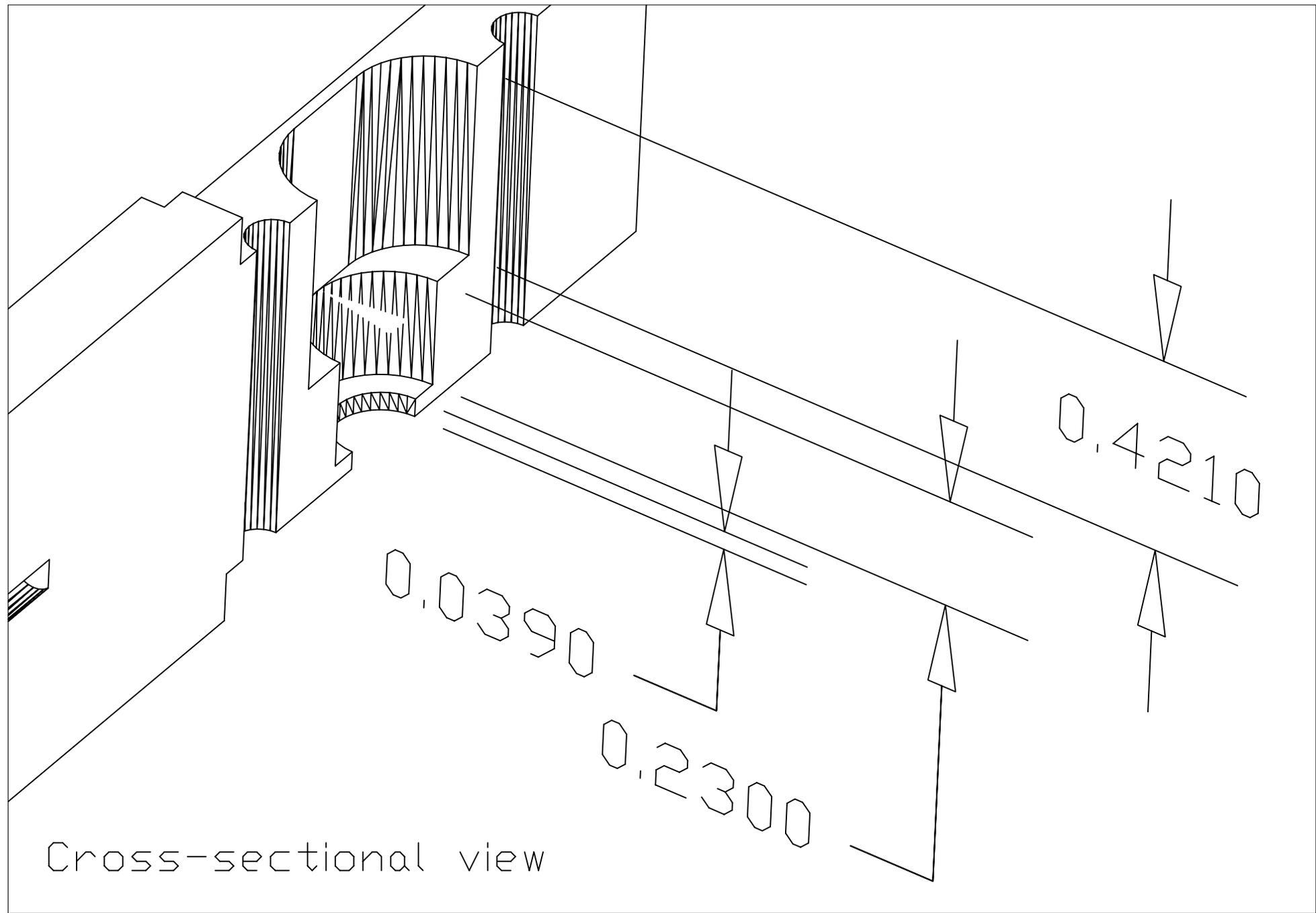


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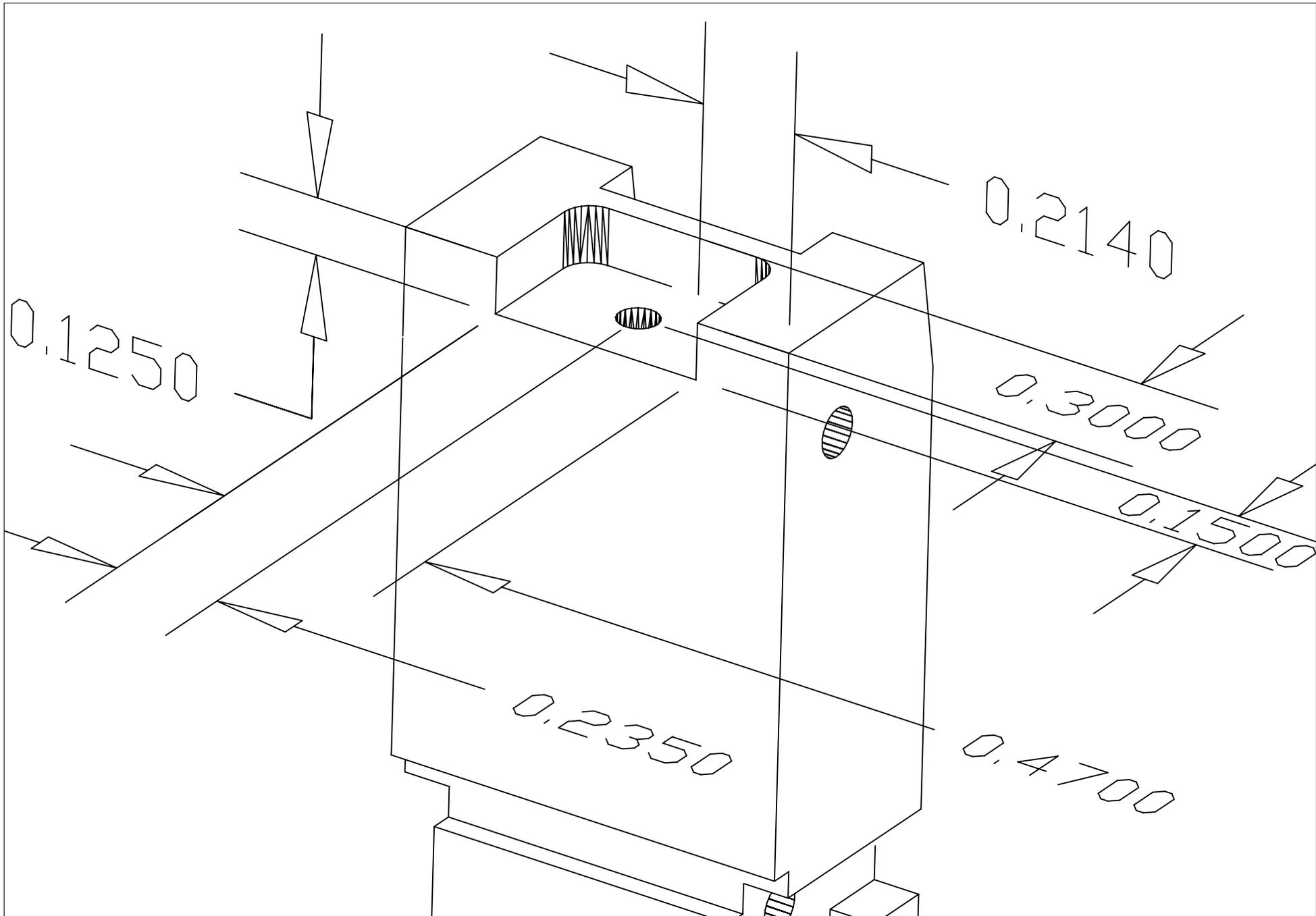
Cross-sectional view



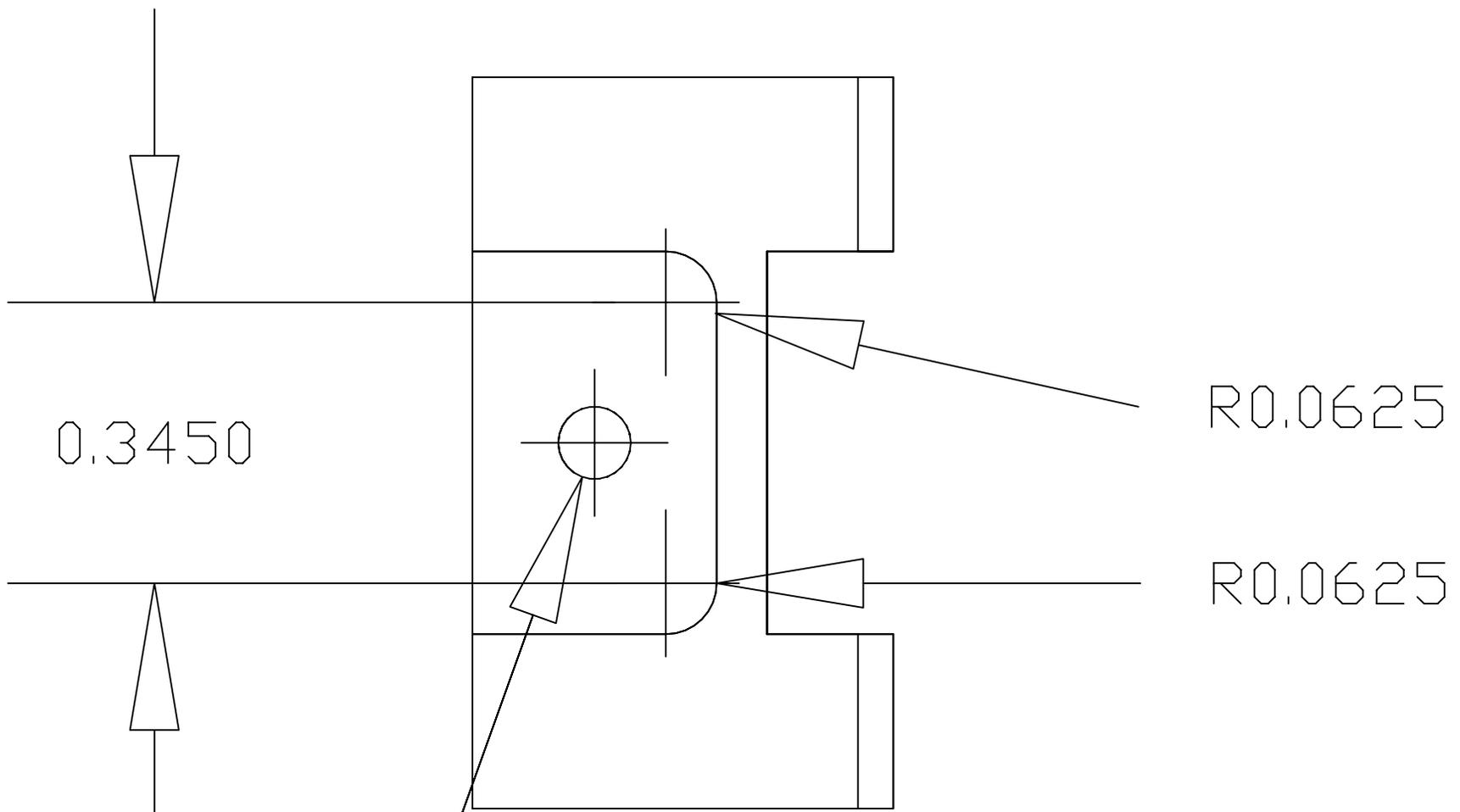
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0.3450

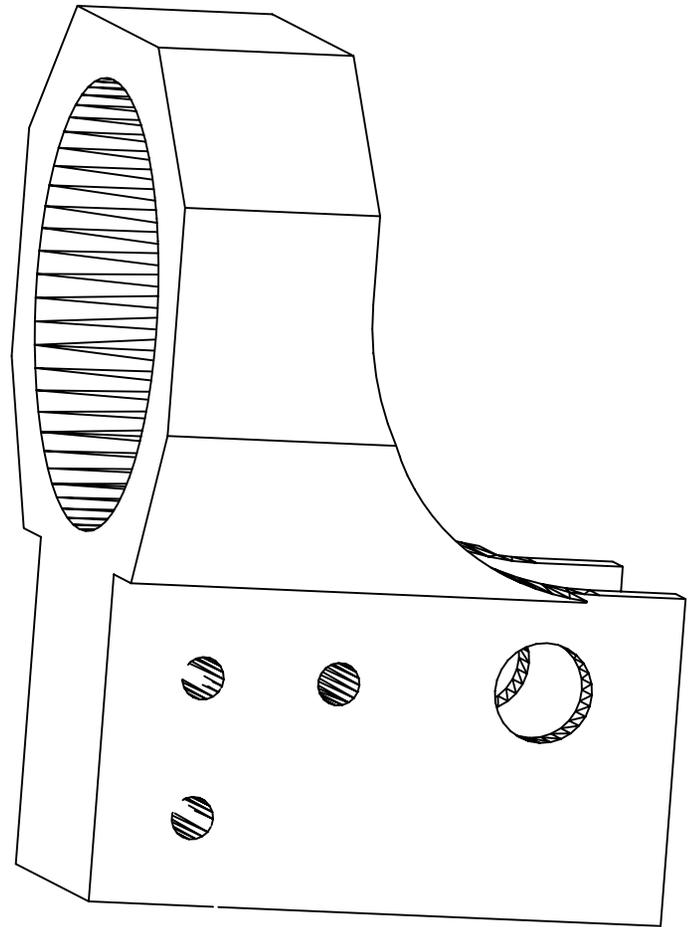
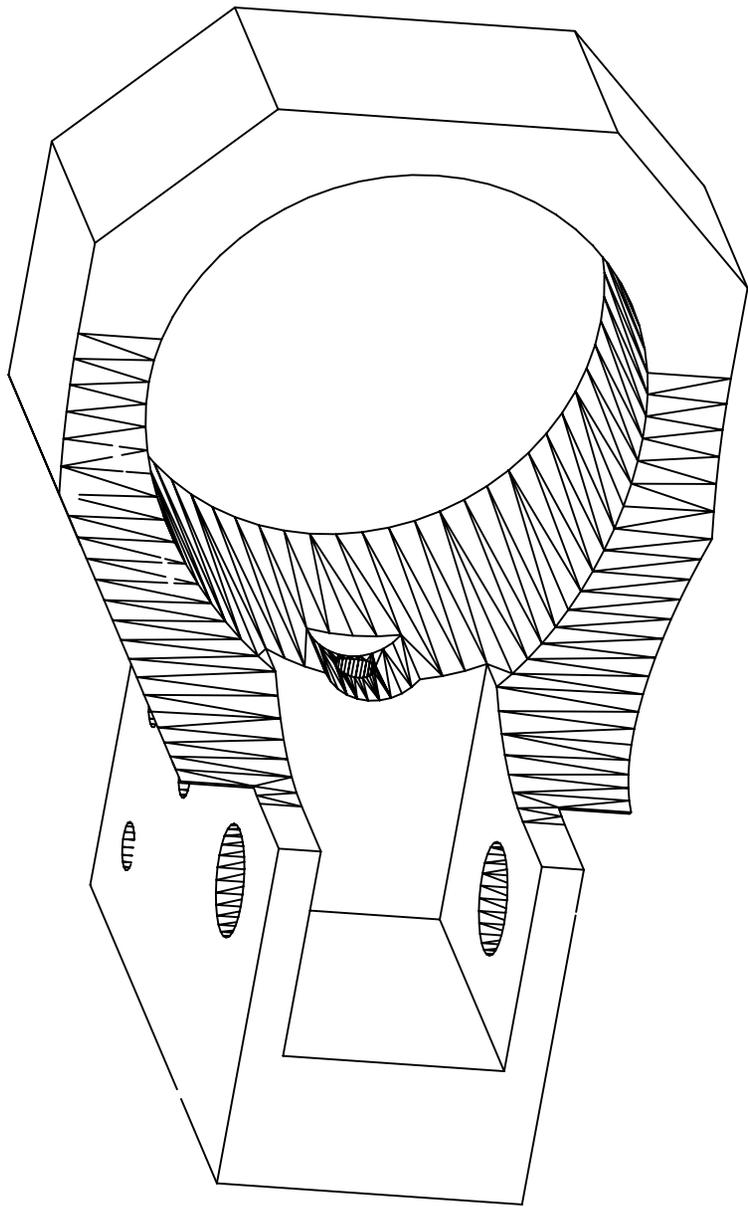
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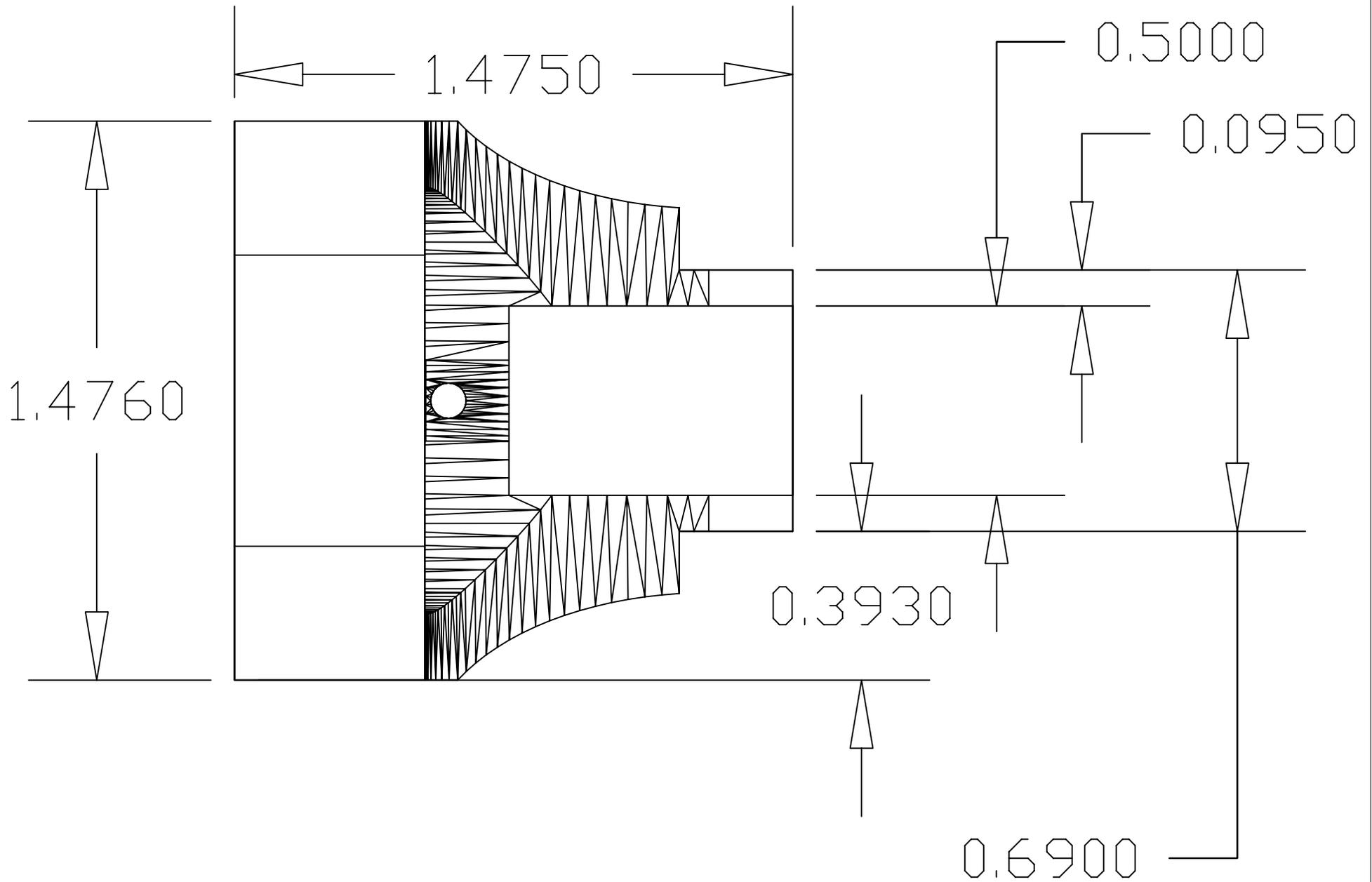
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tap .089" hole
 #4-40 to depth of
 approx 0.5"

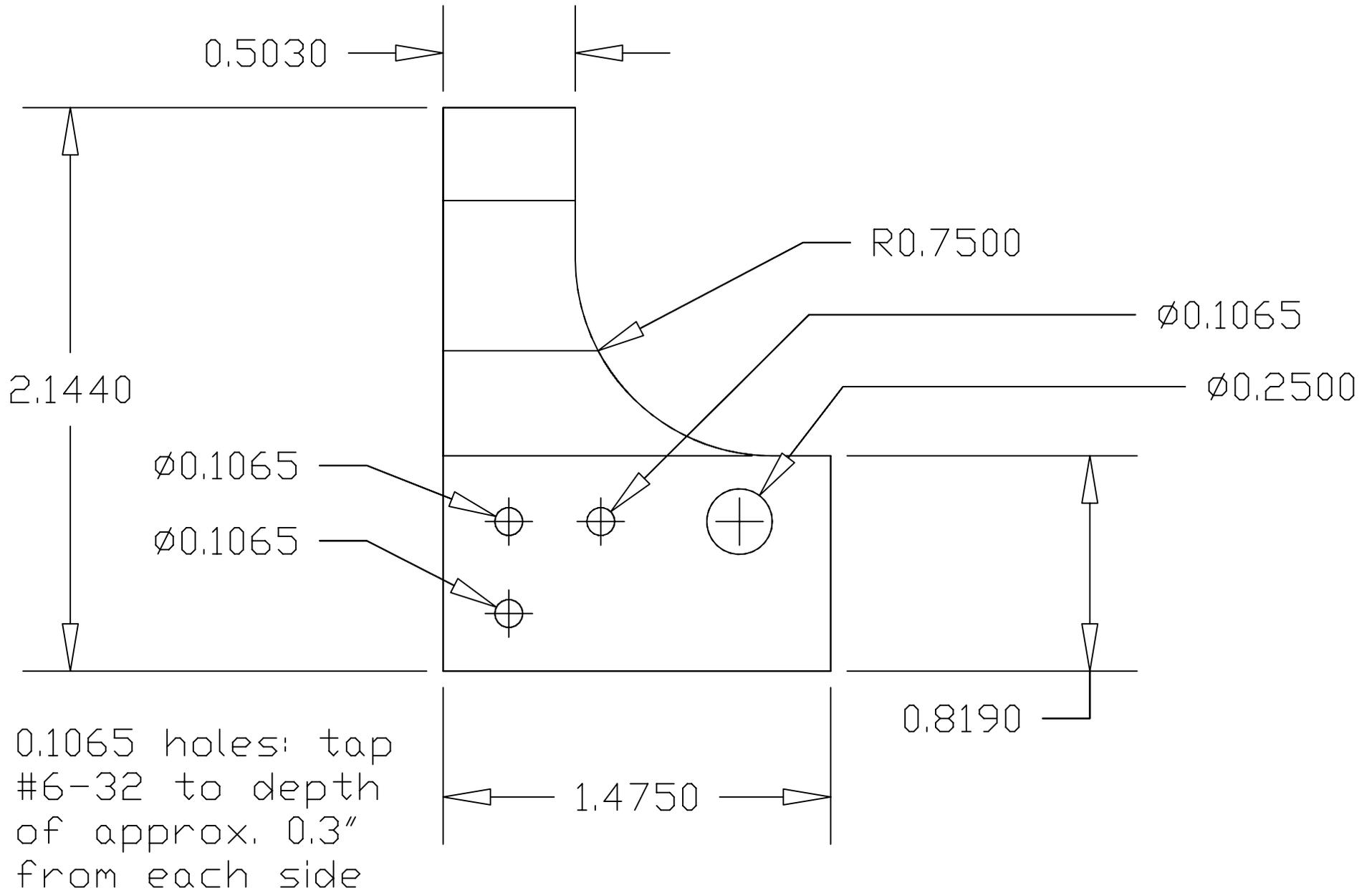
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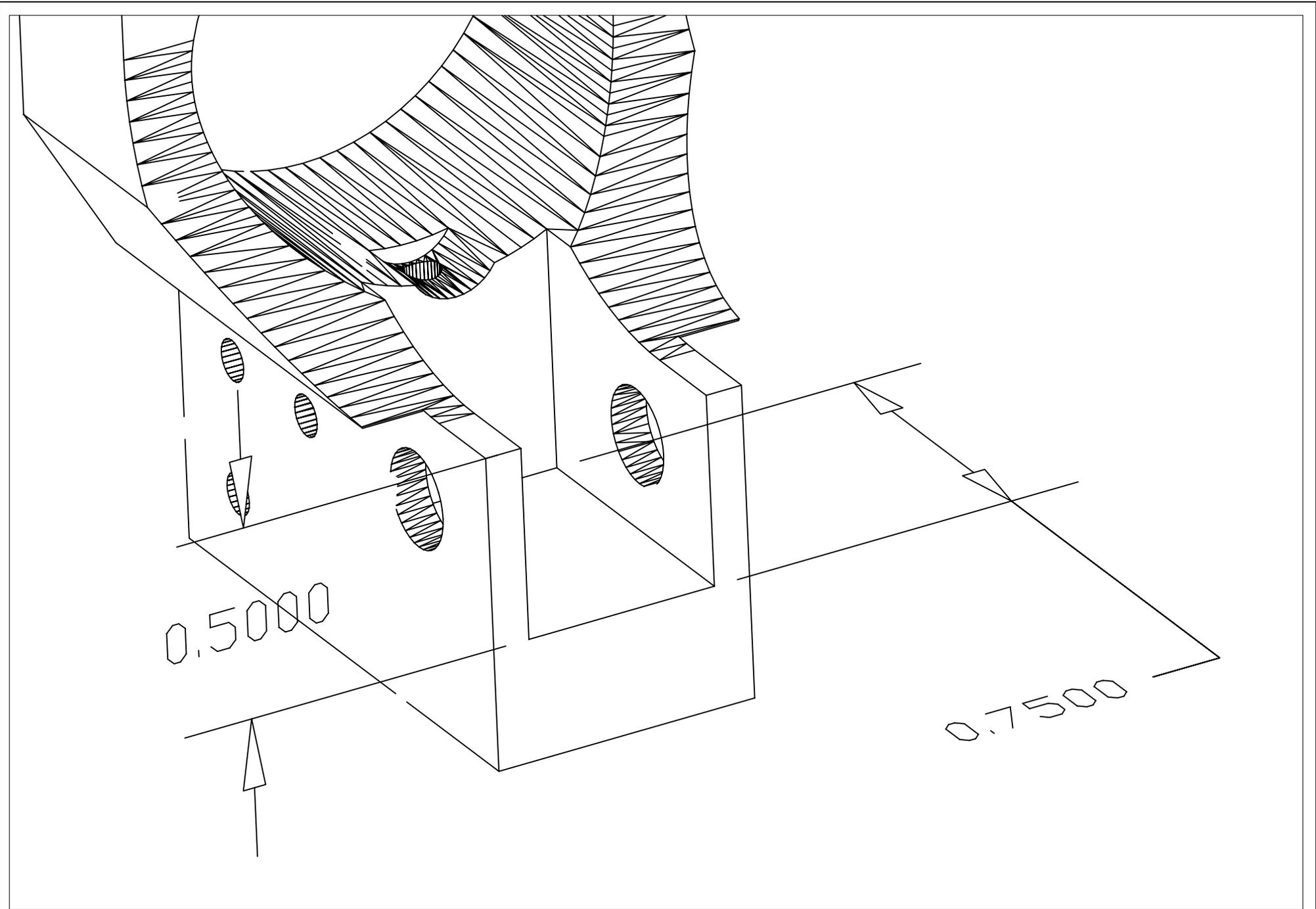
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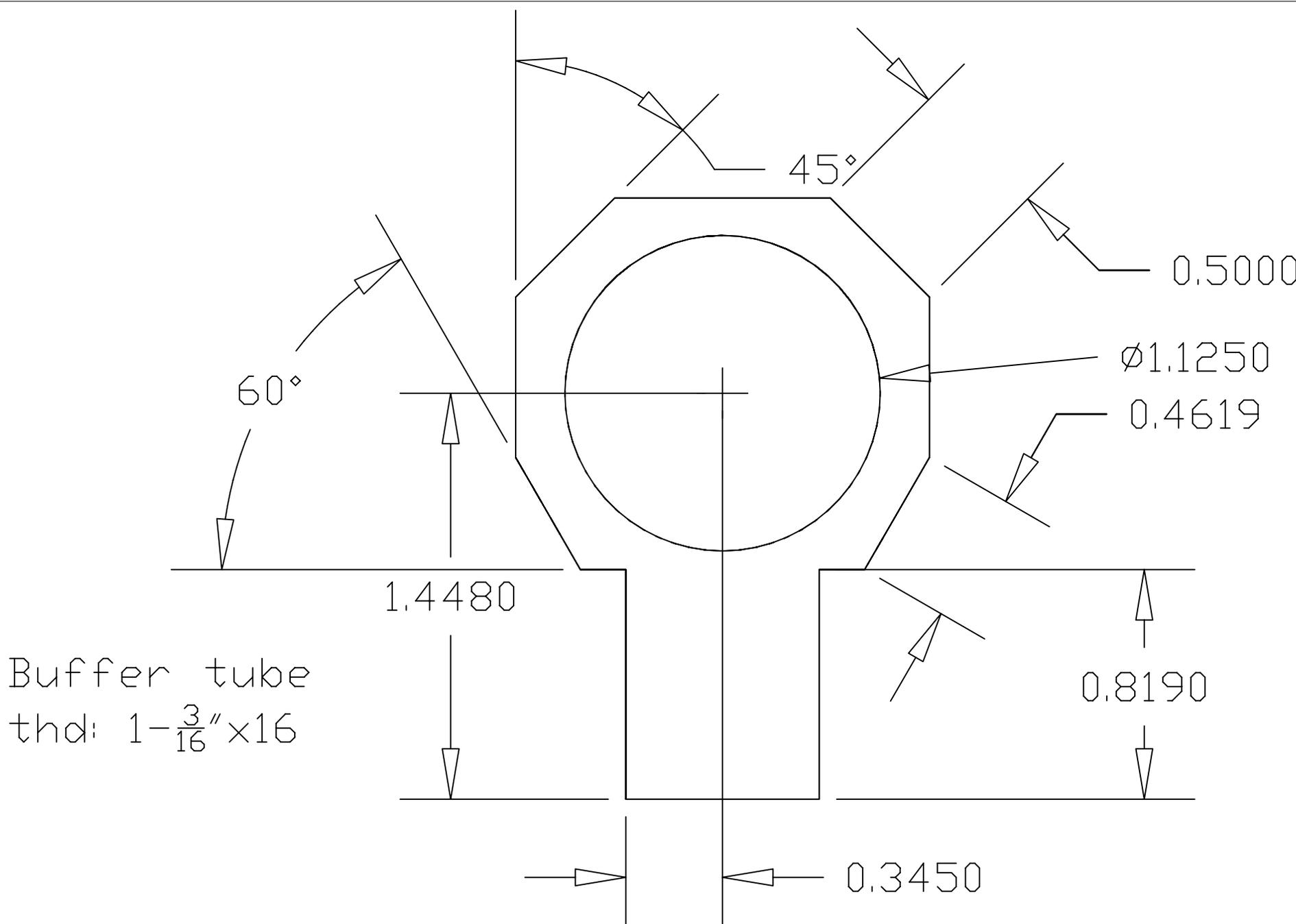
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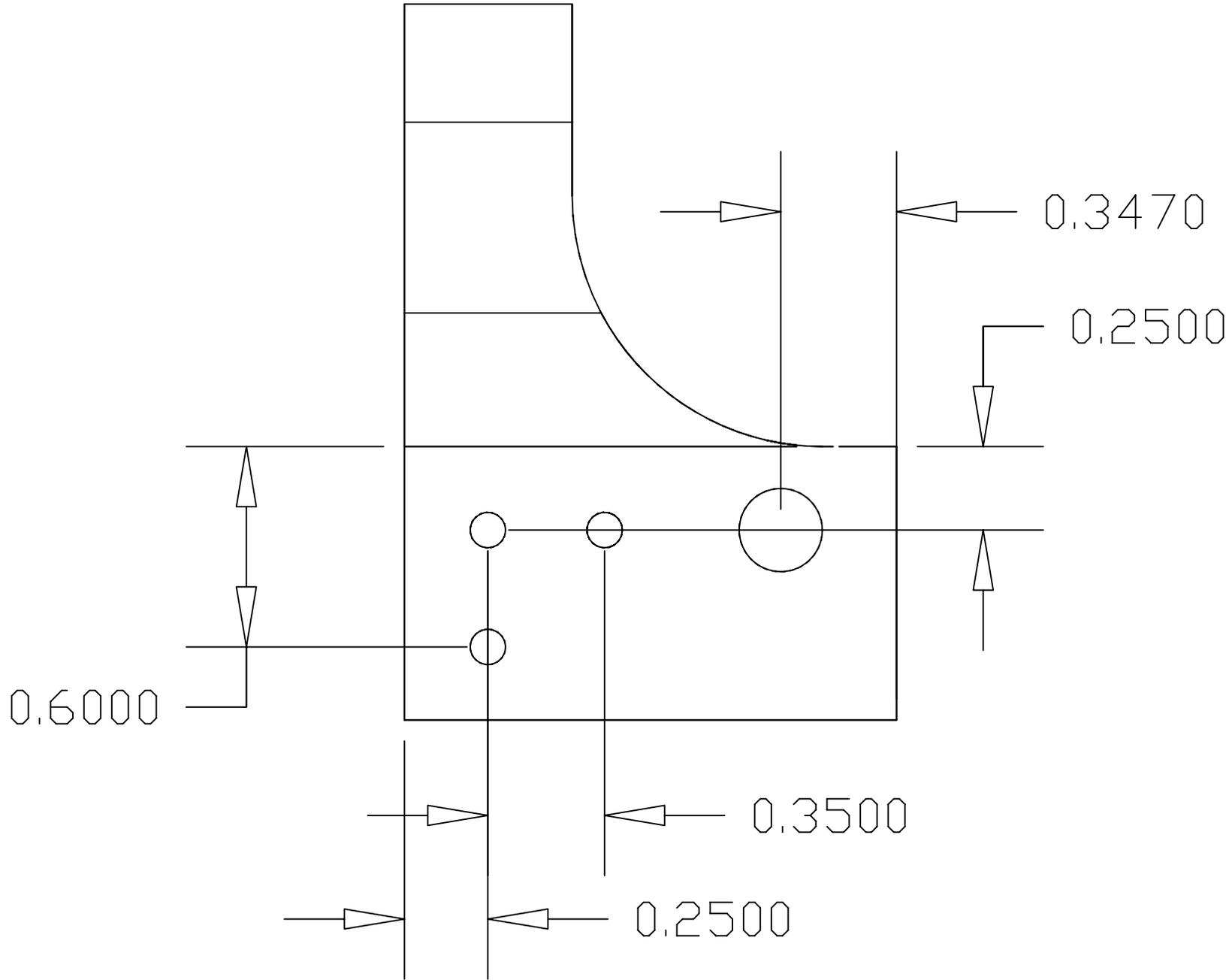
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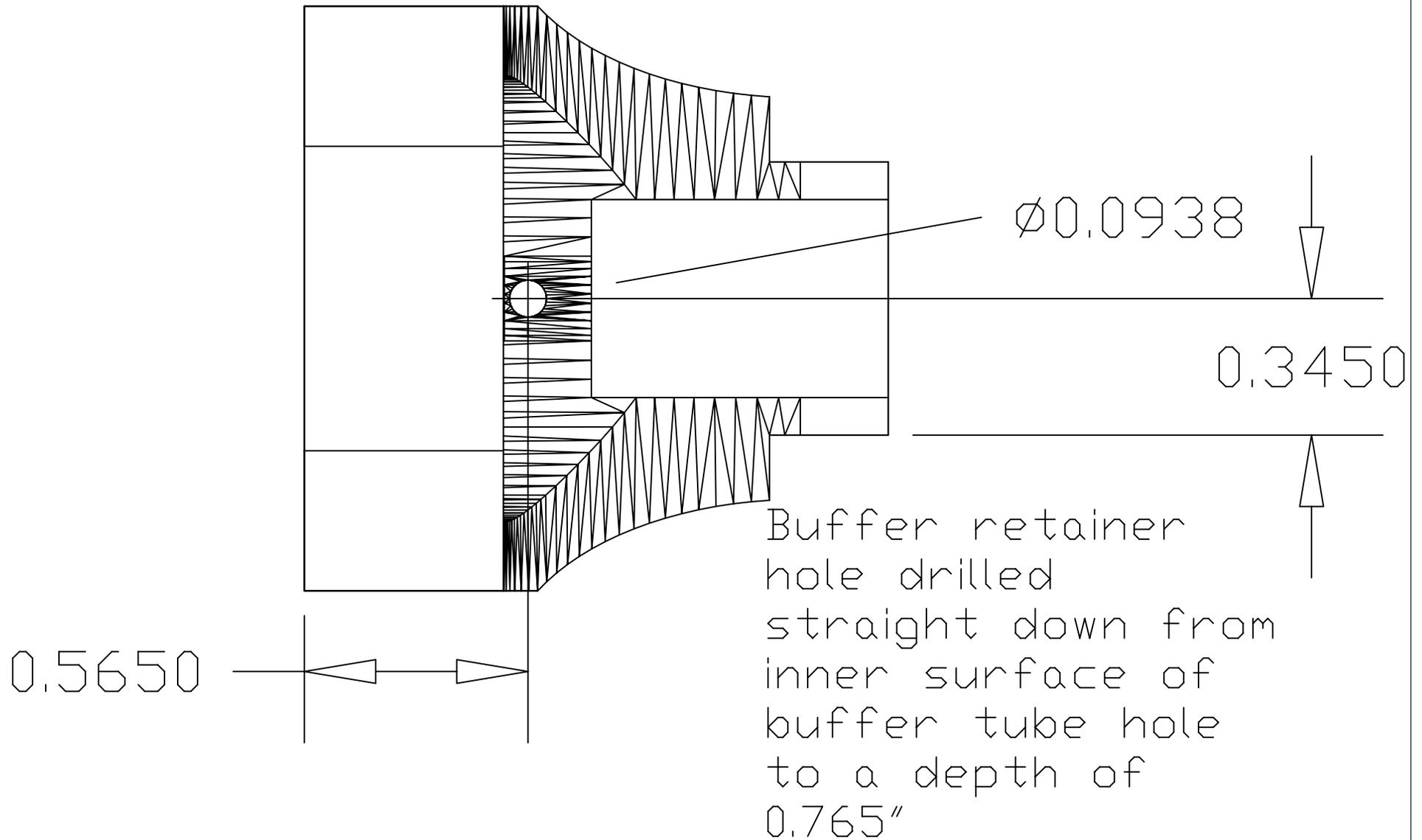


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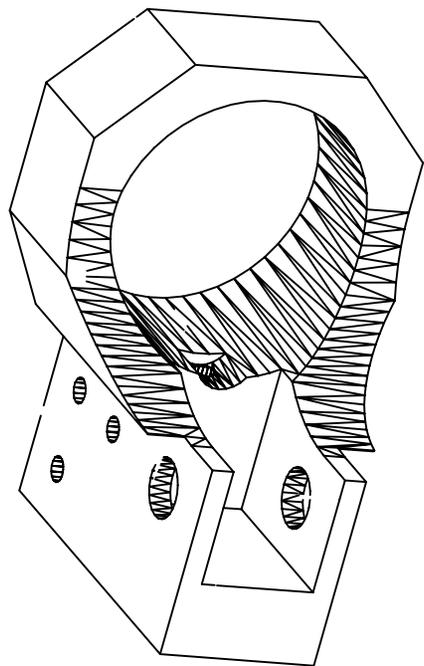


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Buffer retainer hole details



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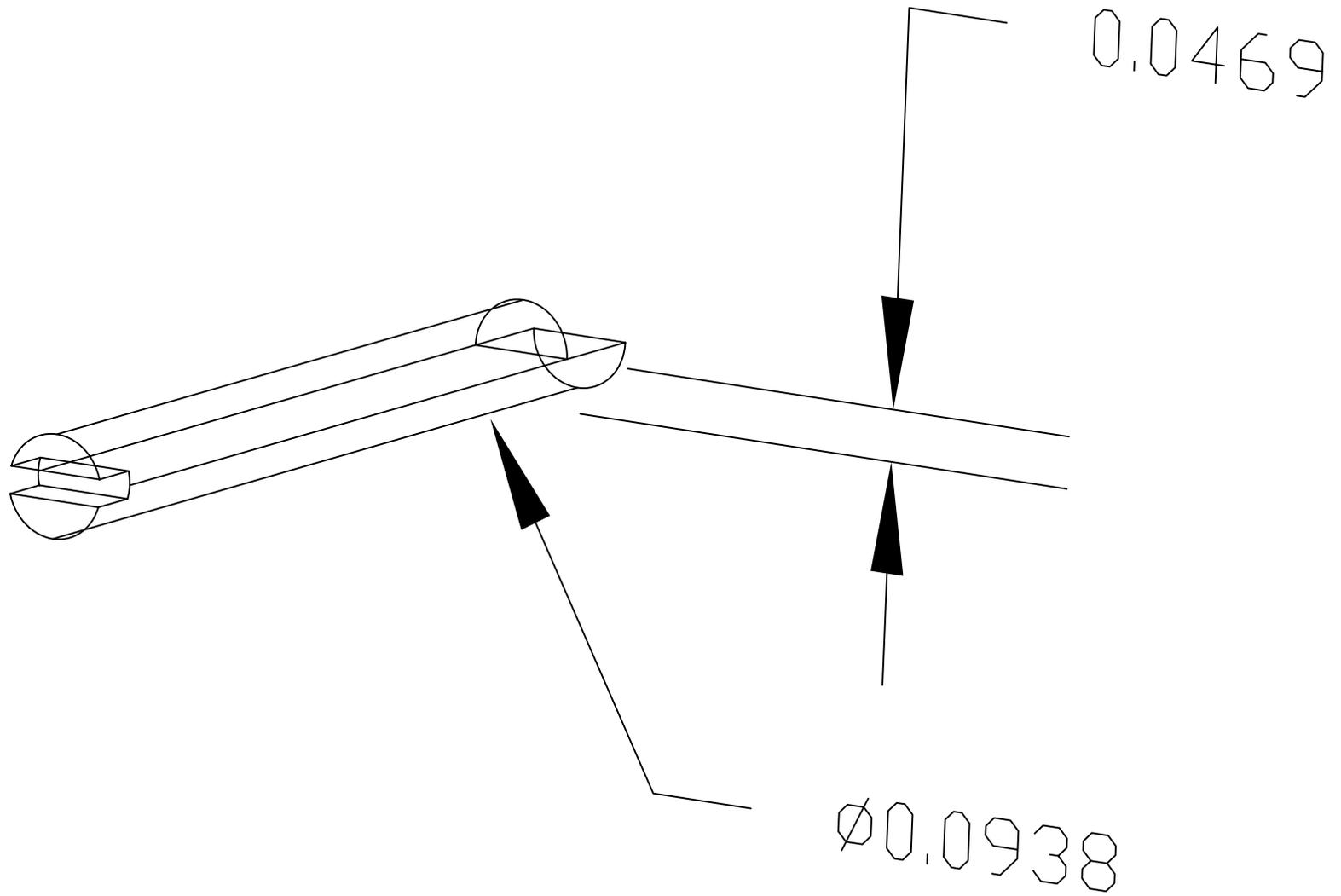


Note:

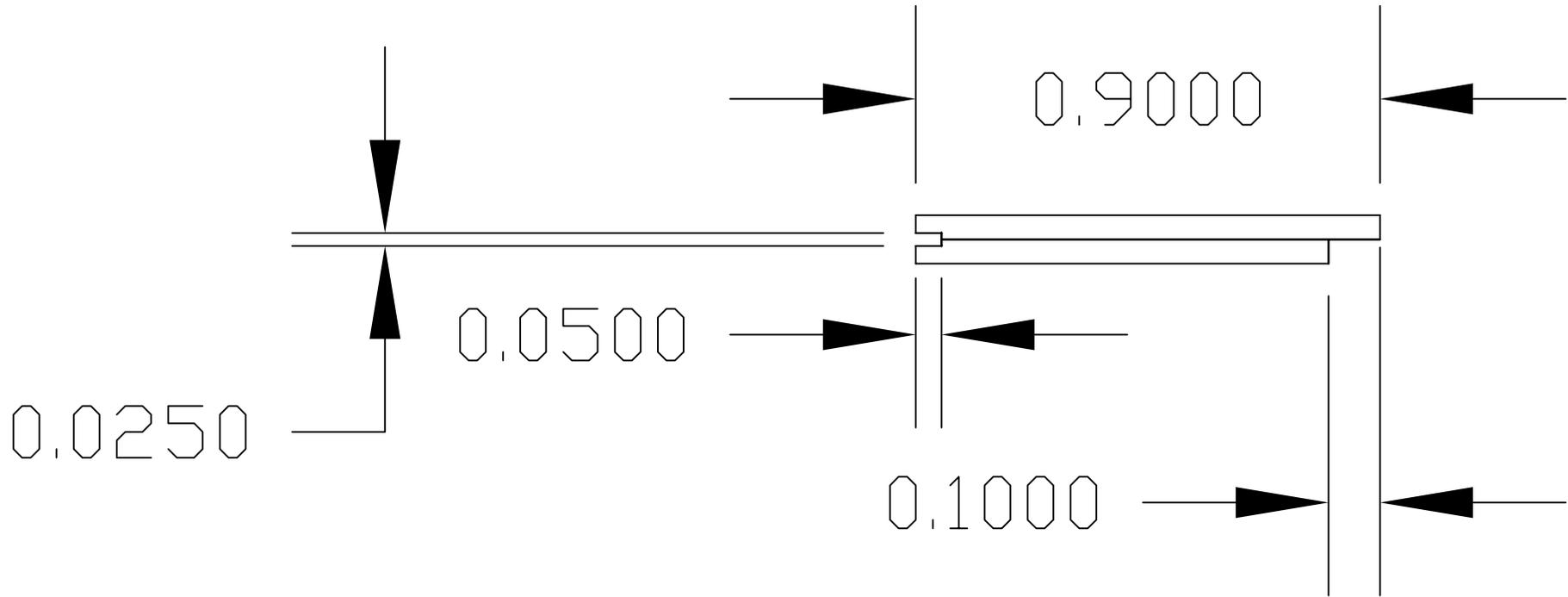
The buffer retainer hole was drilled after threading the buffer tube hole (mistake!). To make drilling this hole easier, the threads were milled off in a small area around the buffer retainer hole with a $\frac{1}{4}$ " diameter endmill (exact size is not critical but mill off enough material to just remove the thread (thread depth is approx. 0.065"). The the buffer retainer hole is drilled to a depth of 0.7" from the top surface of the small flat area.

To avoid this, drill the buffer retainer hole before tapping for the buffer tube (hole depth is 0.765" from inner surface of buffer tube hole - as stated on sheet 6)

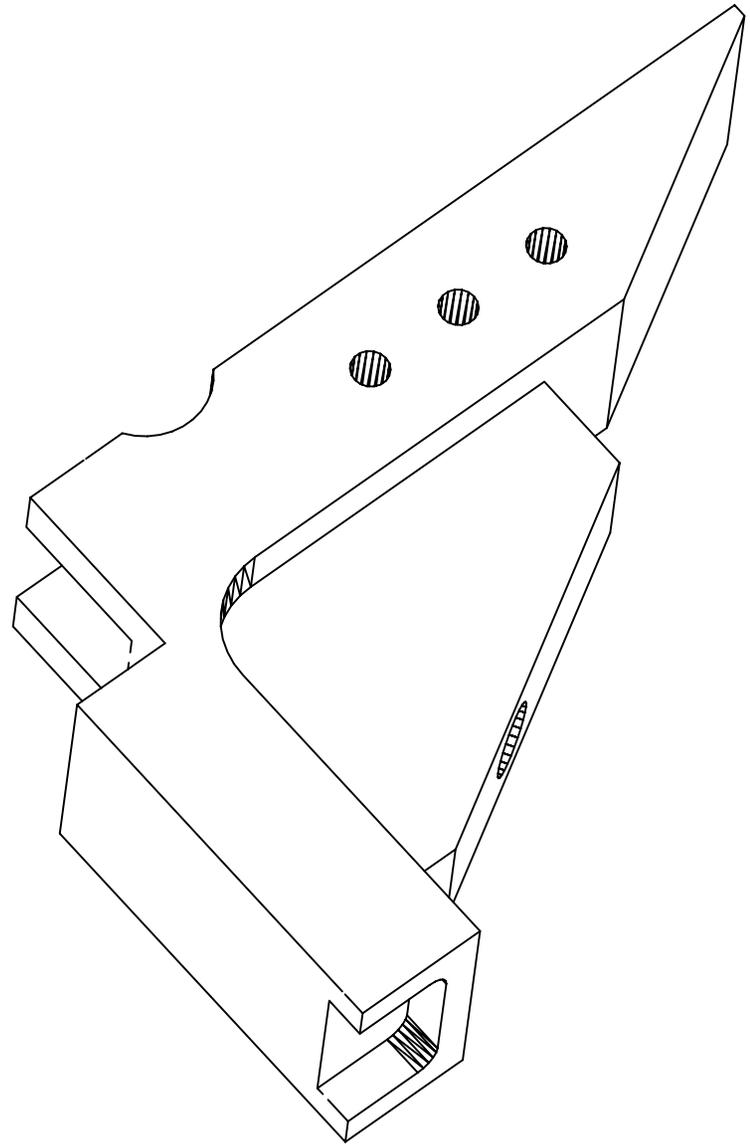
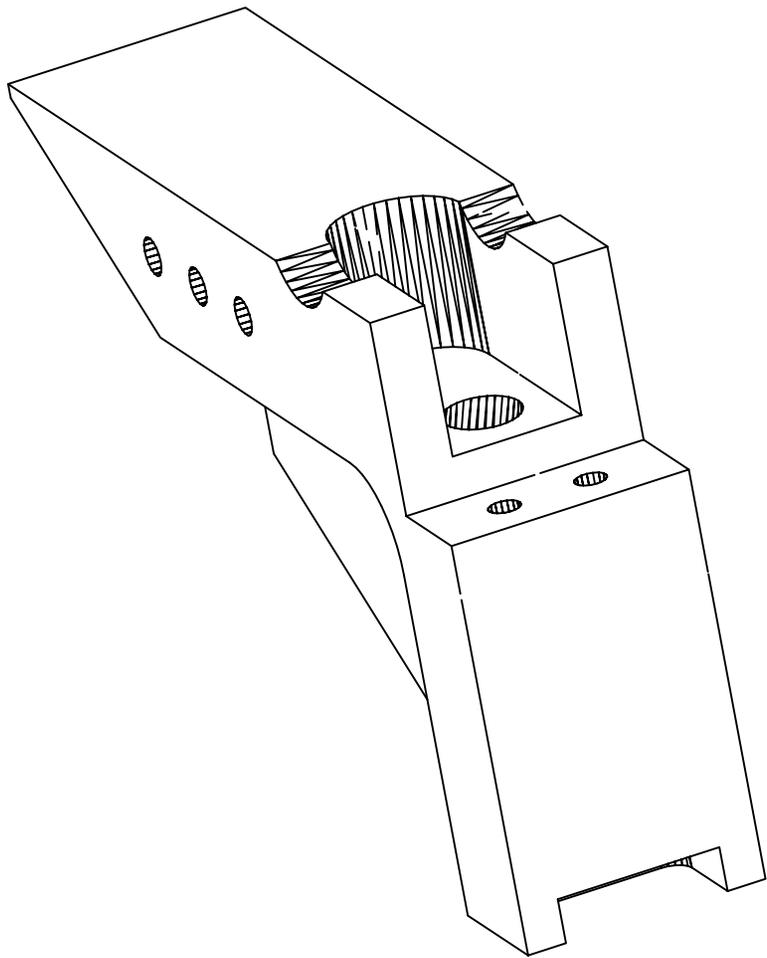
TITLE	AR15 receiver buffer	DATE	Dec 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	7		



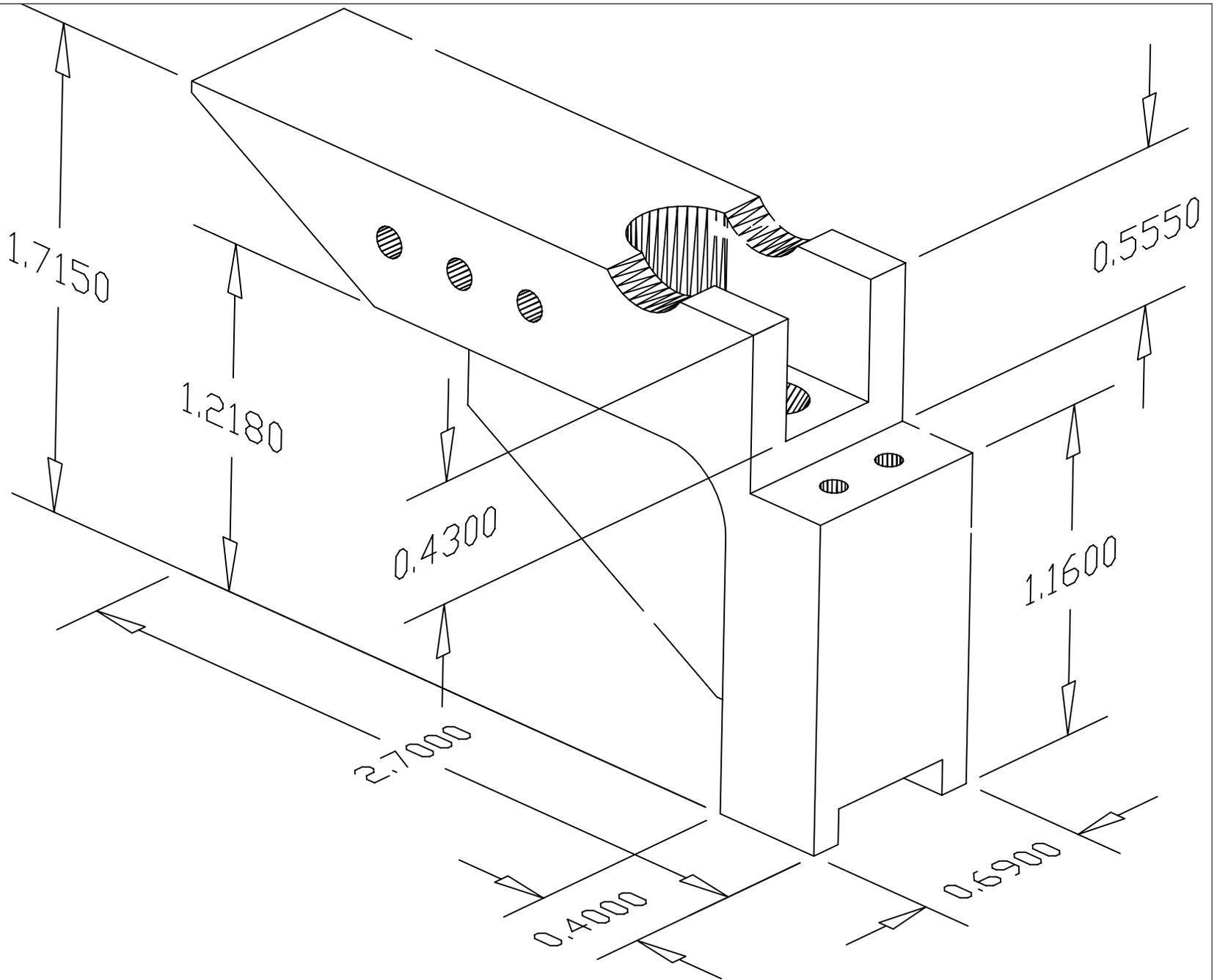
TITLE	AR15 receiver buffer retainer	DATE	Oct 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	0		



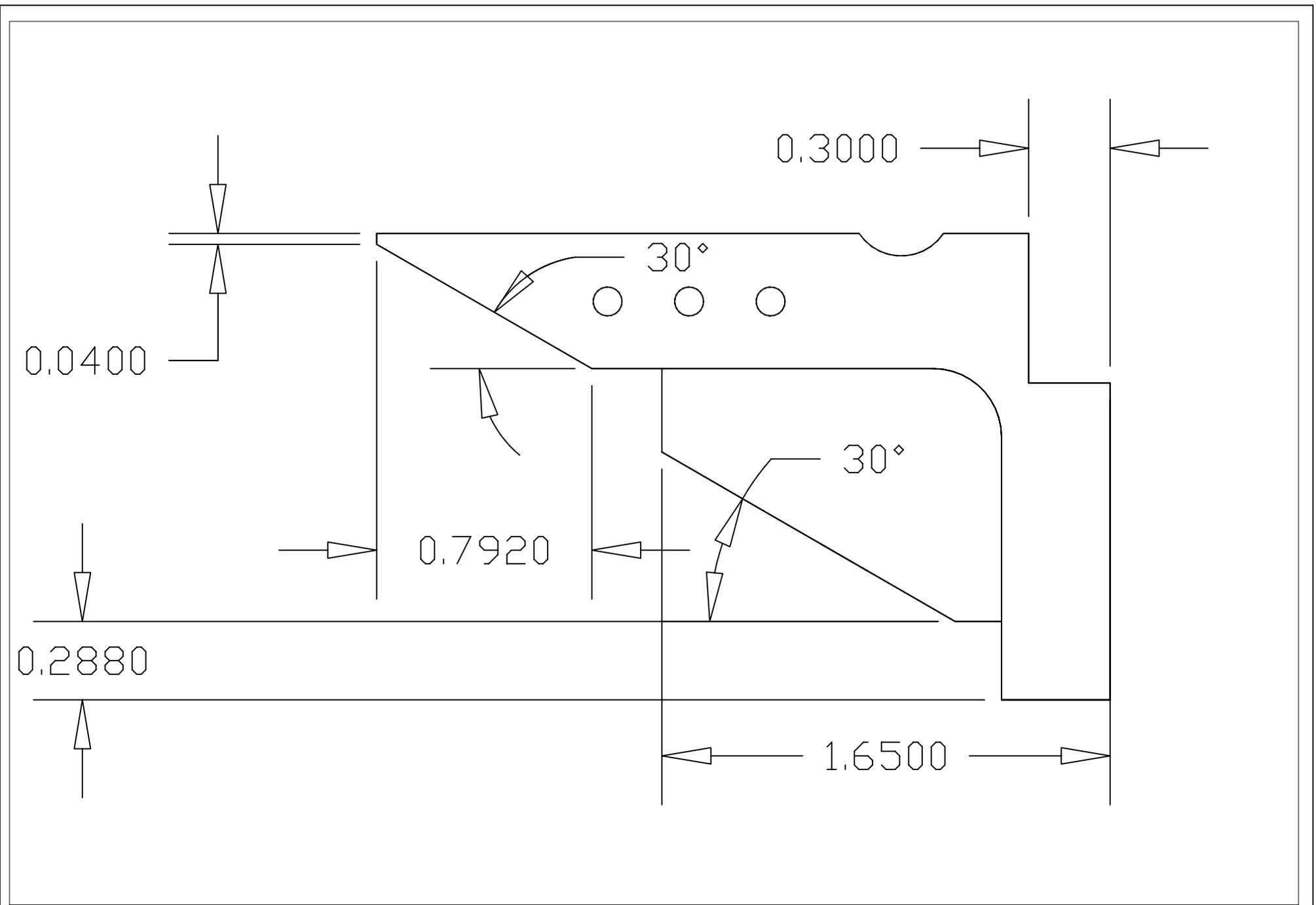
TITLE	AR15 receiver buffer retainer	DATE	Oct 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	1		



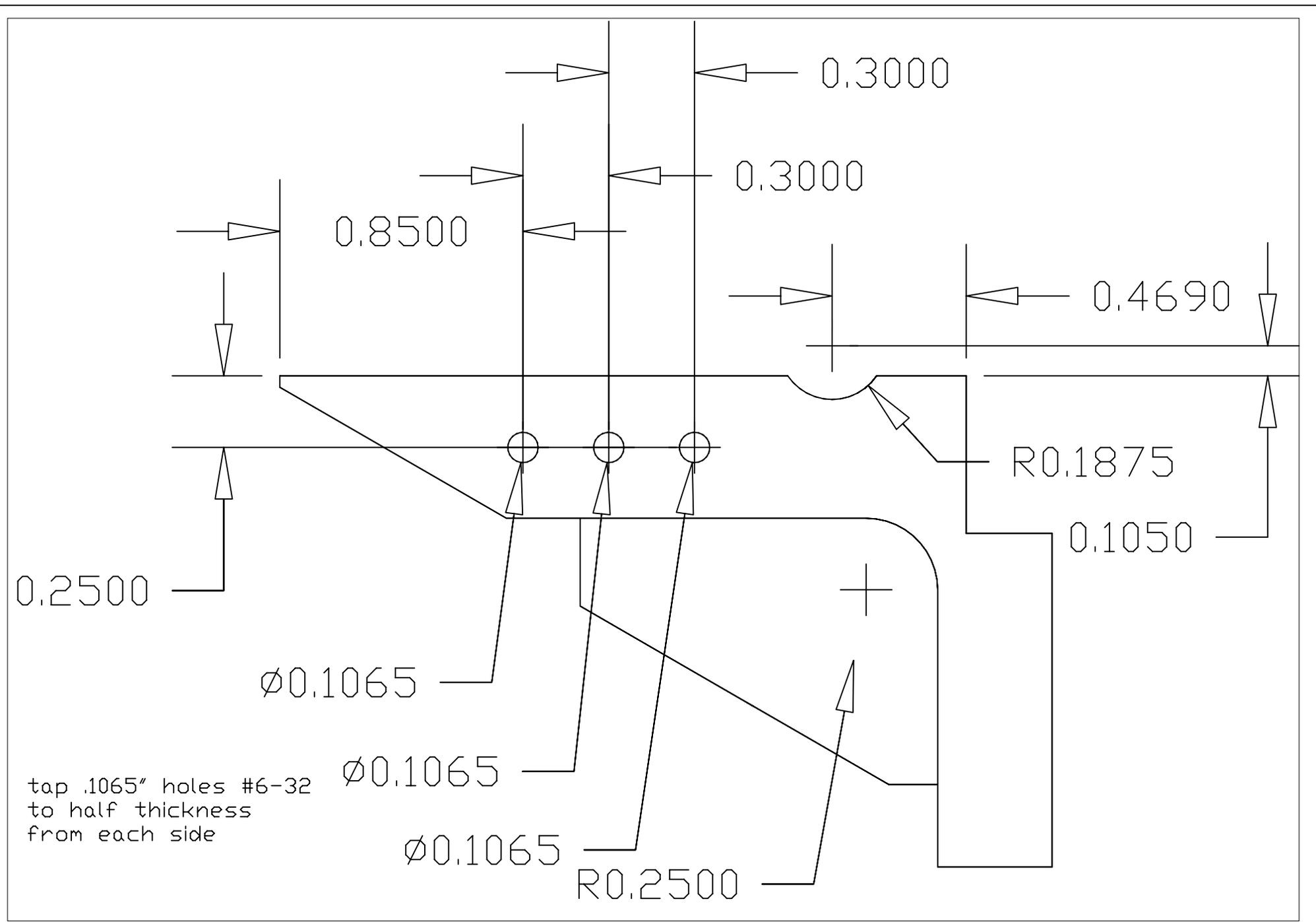
TITLE	AR15 receiver grip part	DATE	Dec 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	0		



TITLE	AR15 receiver grip part	DATE	Dec 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	1		

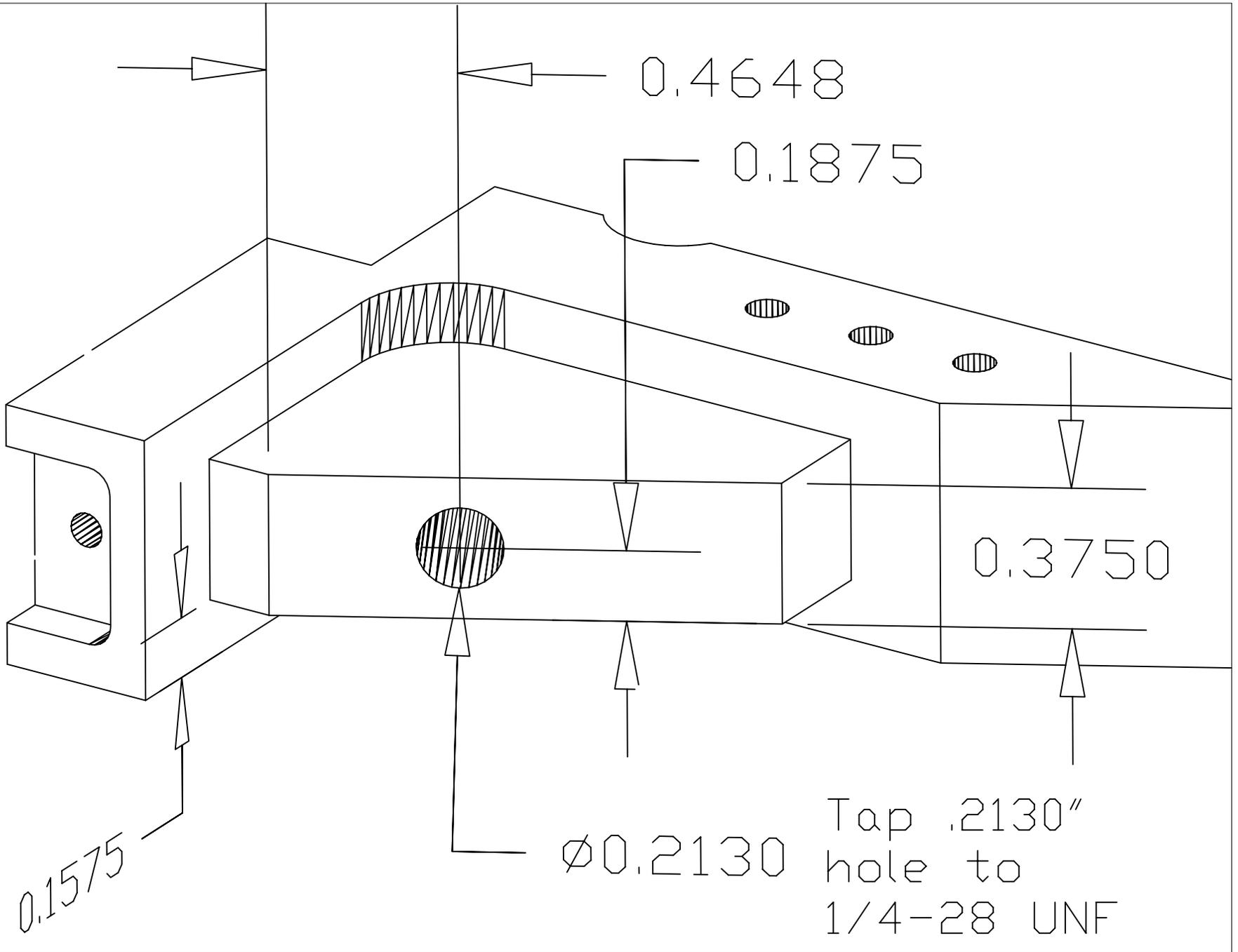


TITLE	AR15 receiver grip part	DATE	Dec 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	2		

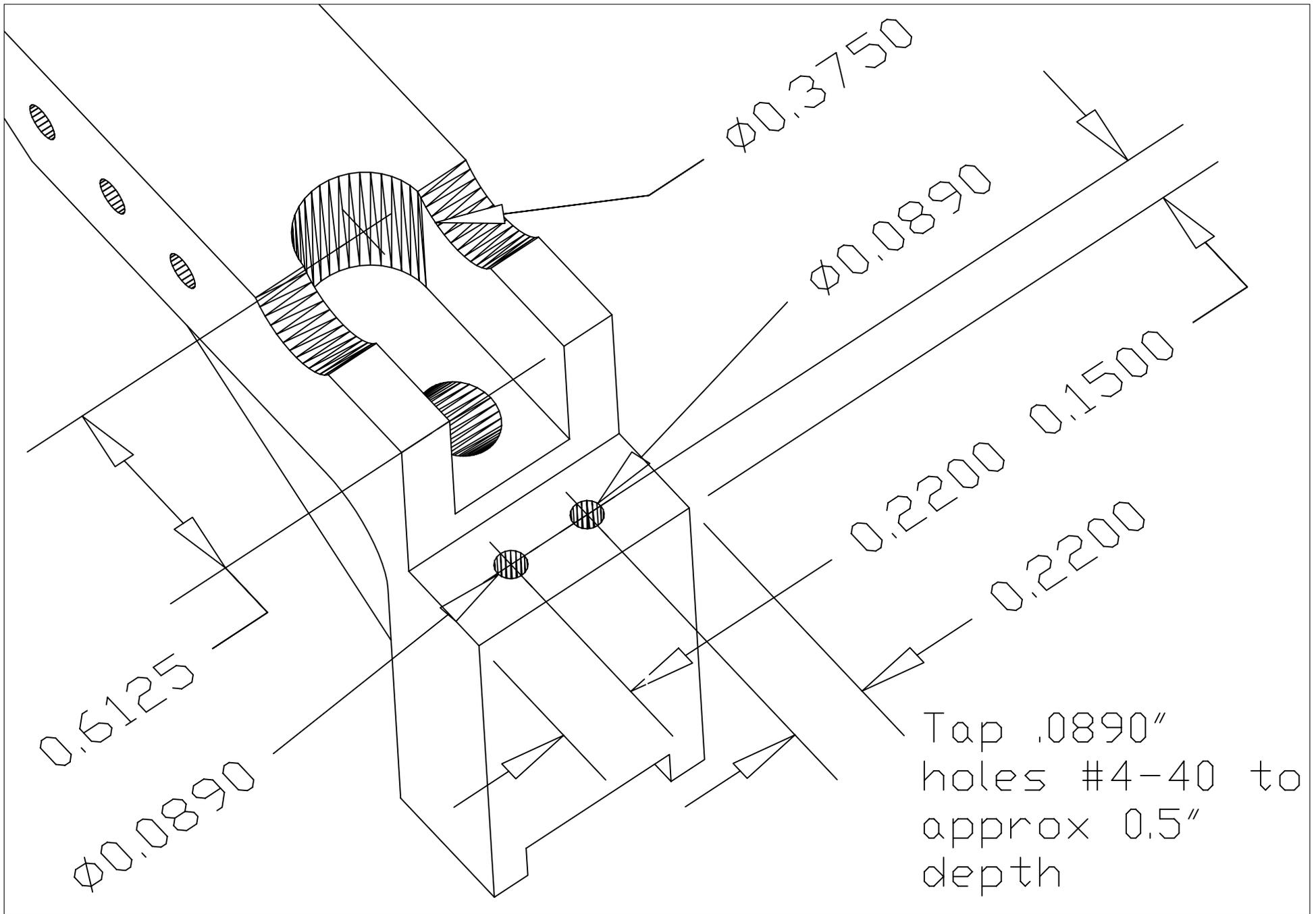


tap .1065" holes #6-32
to half thickness
from each side

TITLE	AR15 receiver grip part	DATE	Dec 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	3		

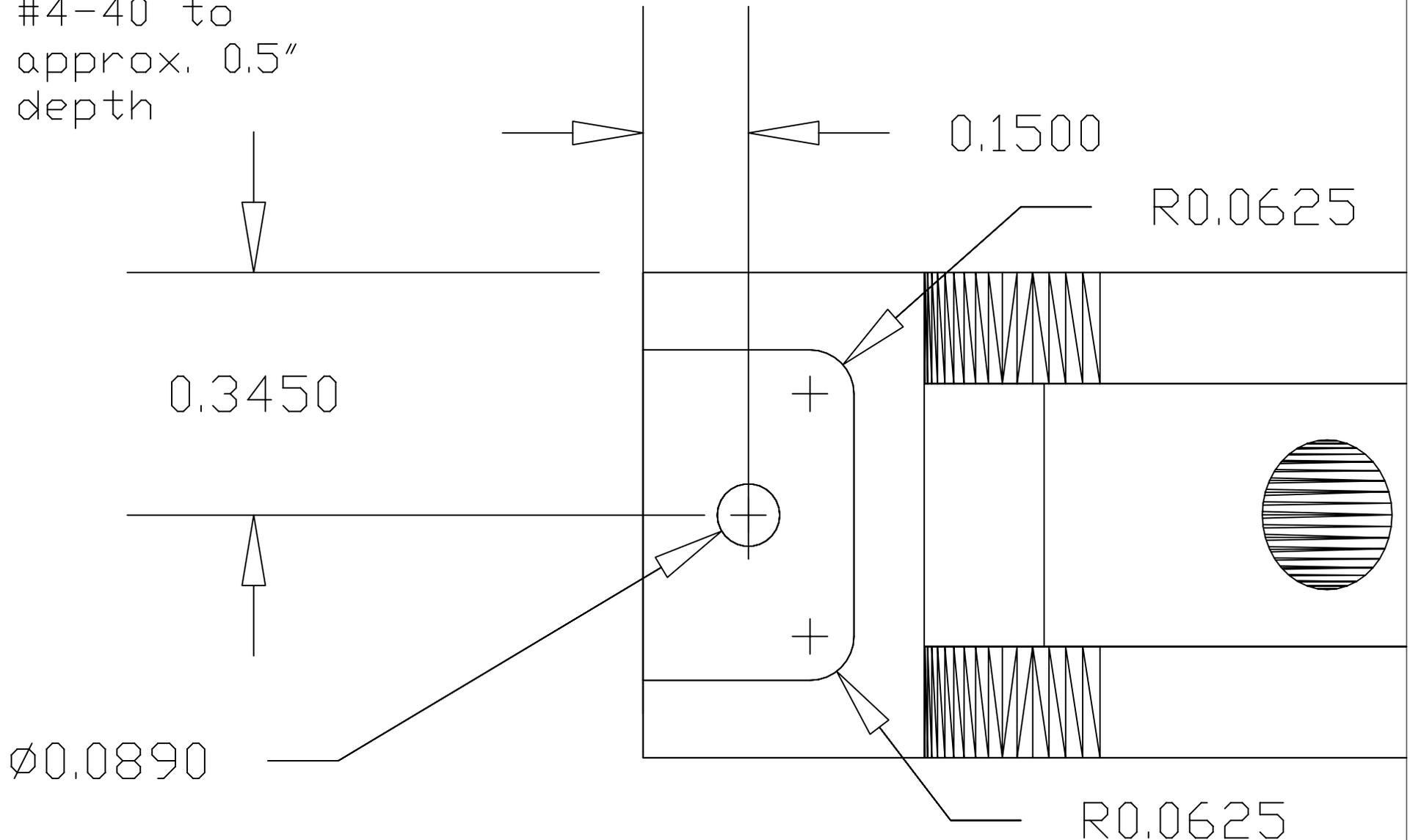


TITLE	AR15 receiver grip part	DATE	Dec 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	4		

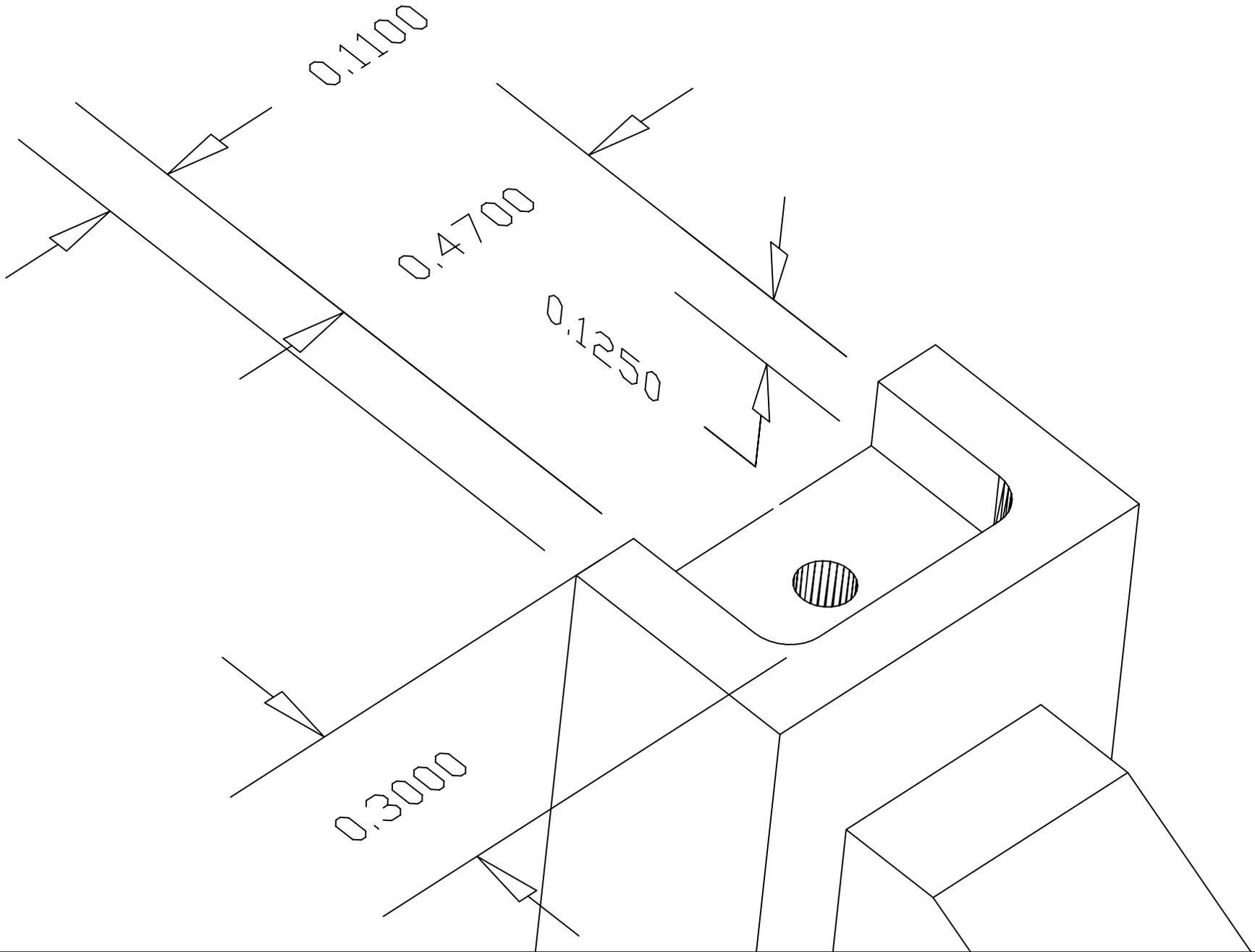


TITLE	AR15 receiver grip part	DATE	Dec 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	5		

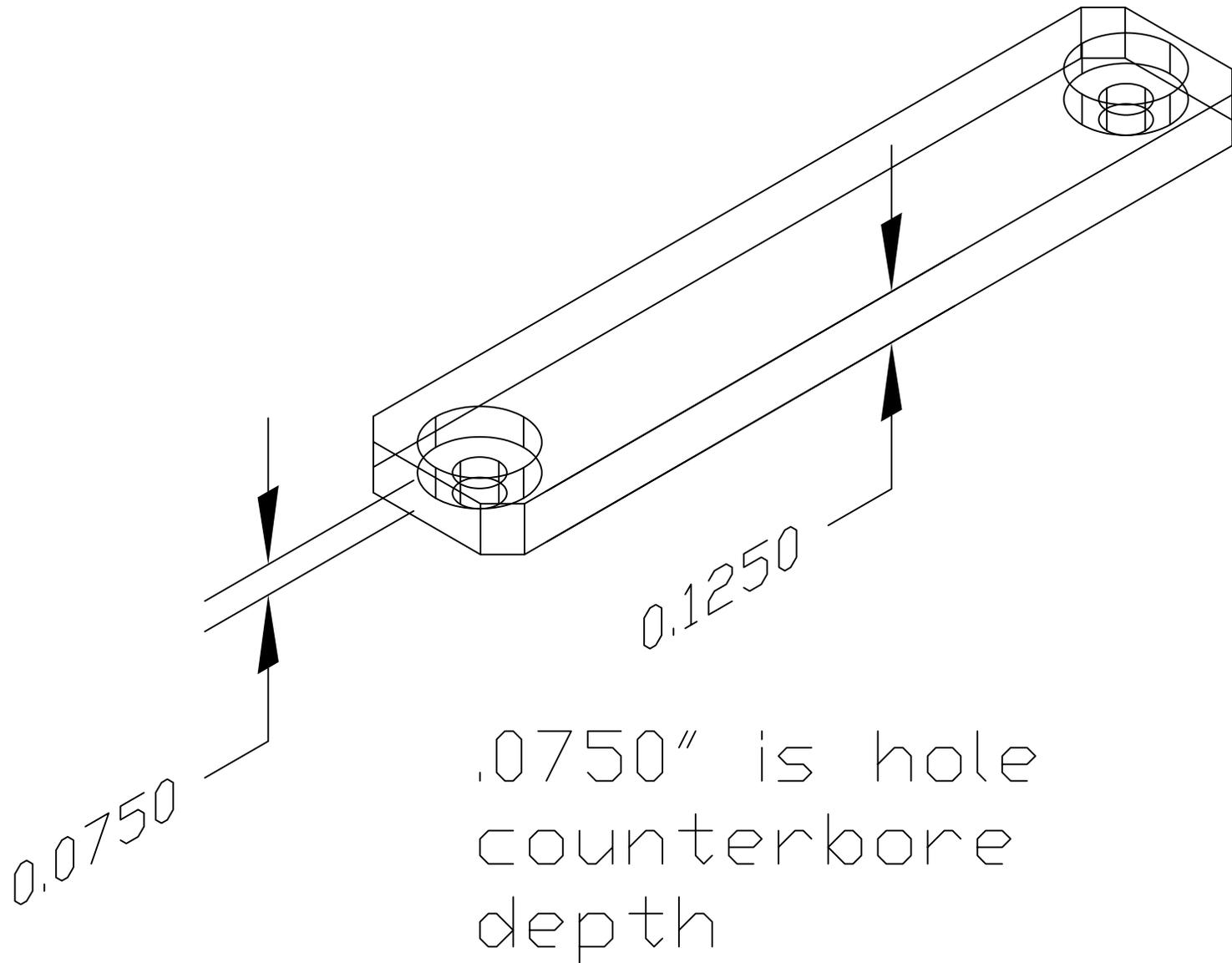
Tap .089" hole
#4-40 to
approx. 0.5"
depth



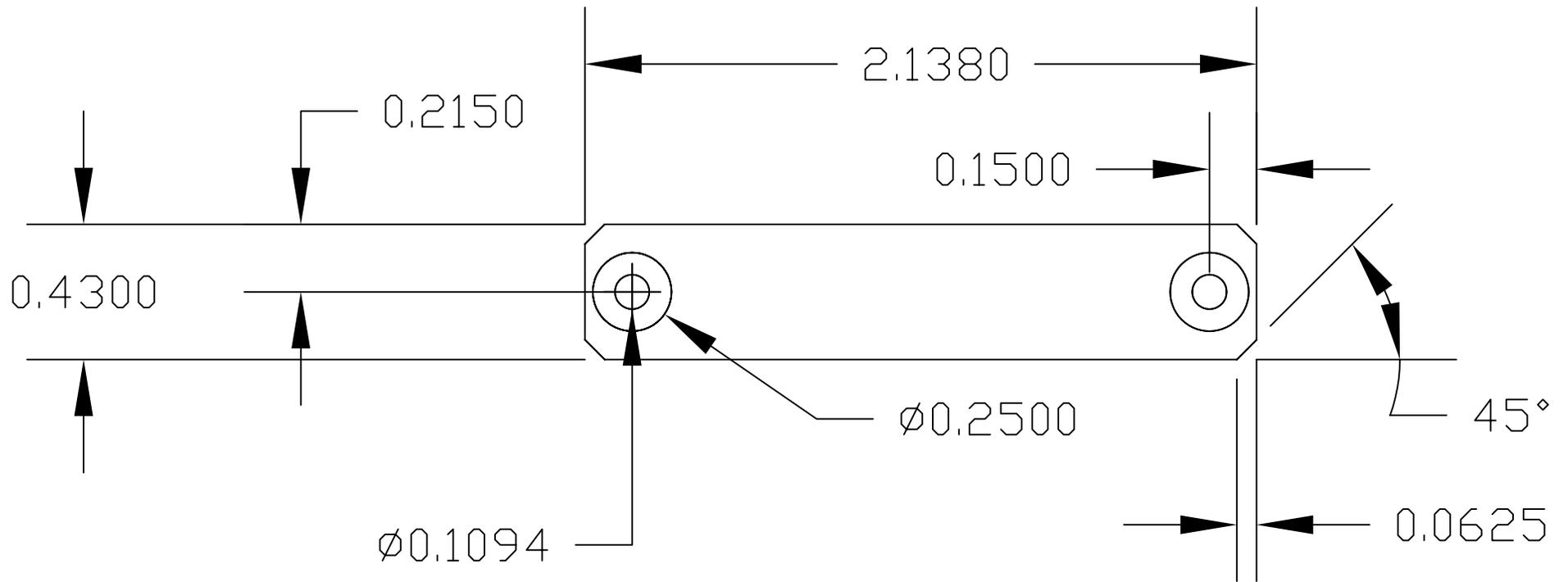
TITLE	AR15 receiver grip part	DATE	Dec 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	6		



TITLE	AR15 receiver grip part	DATE	Dec 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	7		



TITLE	AR15 receiver trigger guard	DATE	Oct 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	0		



TITLE	AR15 receiver trigger guard	DATE	Oct 2002	REV	A
AUTHOR	Copyright: elmgrove1765@yahoo.com	SHEET	1		