

L.S.M.R.E.

LARGE SCALE MODEL RAILWAY ENGINEERING

HOPPERS

Volume VII

RAILROAD SALVAGE

FOR SALE: Nice steel work stand on pneumatic wheels. The stand has two tiers so it can accommodate a loco on one level and a tender on the lower level. I would like \$90.00 for the stand, which is less than the cost of the wheels themselves, but might consider a bit less. The stand is 4' long and 3' high. Please contact: Dario Brisighella at 414-762-7155 or write to 1032 E Manitowoc Ave. Oak Creek, WI. 53154.

FOR SALE: 1.5" scale, 7.5" gauge, Little Engines Atlantic type (4-4-2), complete with tender. Also have flat car, gondola, and cabooses, along with a Dodge van for transporting. Contact: Don Stange, 474 Oak Lawn Ave., Green Bay, WI 54304. Phone: 414-437-5719

NOTE - The Railroad Salvage section of this newsletter is used to advertise items for *M.L.E.S.* members as well as items found in other newsletters your club receives in exchange. If you are looking for something to buy, sell, or trade, if you have information to share or need, write down your message and mail it to **GAZETTE** or hand it to your secretary when you see him. All adds will run about three to four months unless sold, **FREE!**

Large Scale Model Railway Engineering **L.S.M.R.E.** The HOPPER CAR

This month marks the completion of the hopper car series. The past several issues of the **GAZETTE** had detail and assembly drawings to build either a two or three bay Norfolk & Western peak end hopper. With this issue I want to finish up with a couple of detail drawings that I forgot, and some short instructions on assembly.

The original cars that these drawings are based on were welded together with the detail parts (grabs, Stirrups etc.) riveted in place. Using this method a car can be assembled in four to five hours if all of the

parts are made ahead of time. The best way to start is to assemble the two sides and ends. Light tack welds are all that are required to hold the parts together. Next I tack the slop sheet supports (CD-157 in place followed by the centersill channels. The hopper pieces (CD-162) and bottom sheet (CD-159) can then be tacked in place.

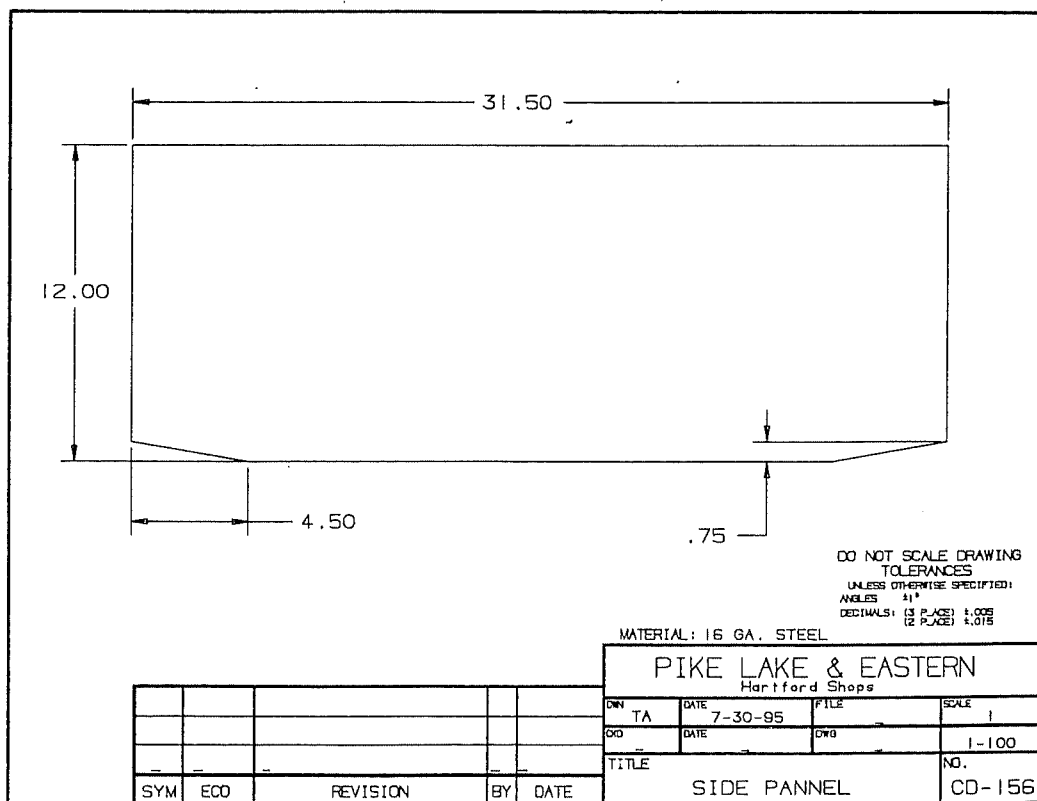
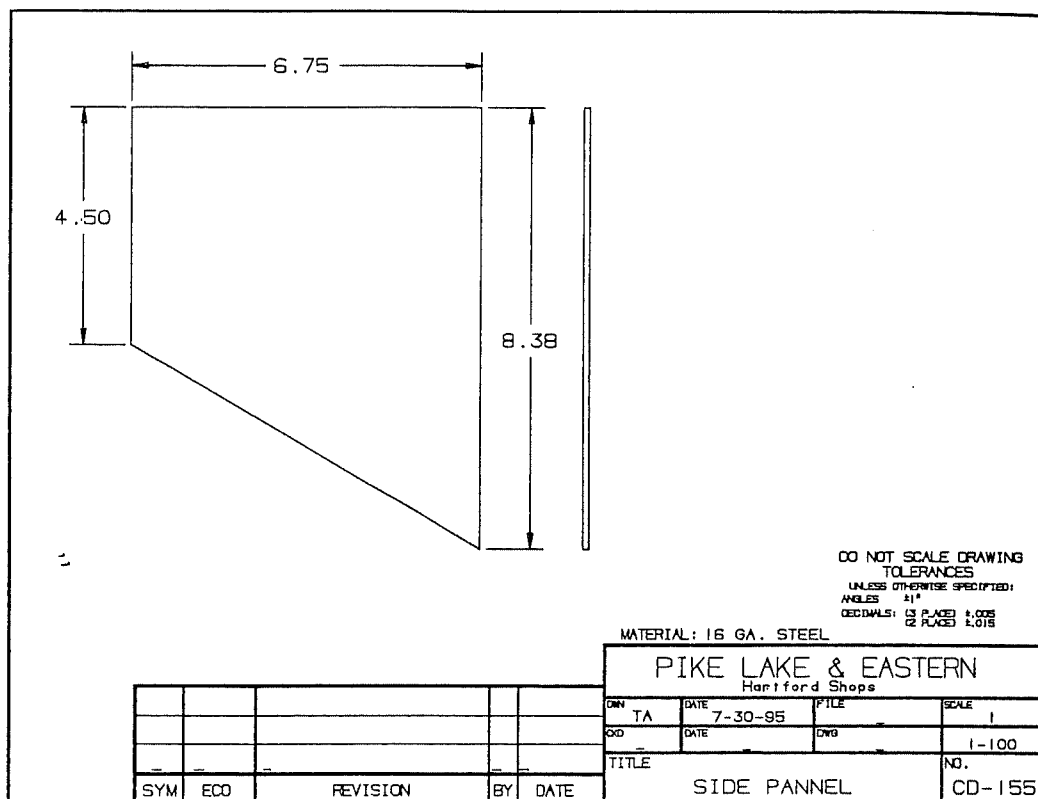
At this point the basic body is assembled and one can start to install all of the corner angles, side ribs, end braces and such. These can be welded in place and/or riveted. Lastly, the grab irons and stirrups can be riveted on

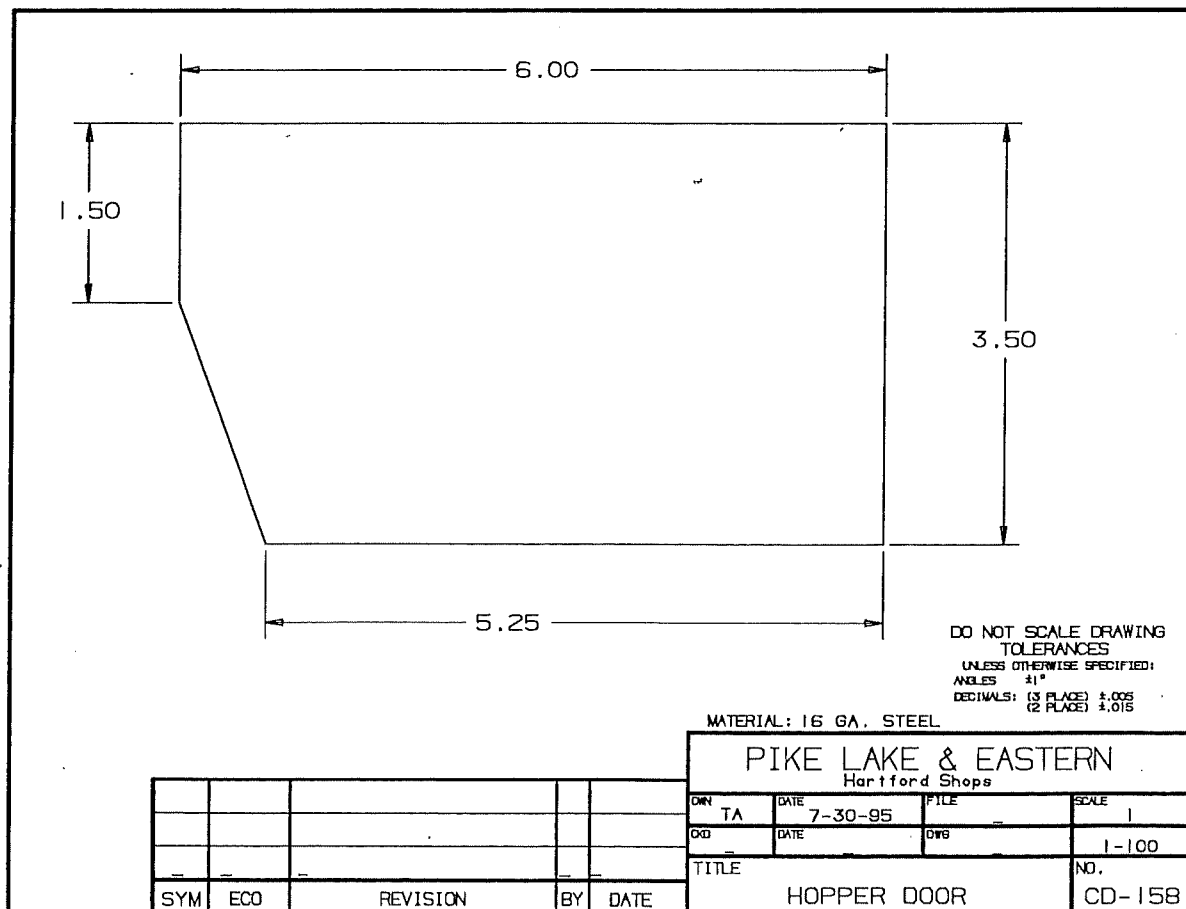
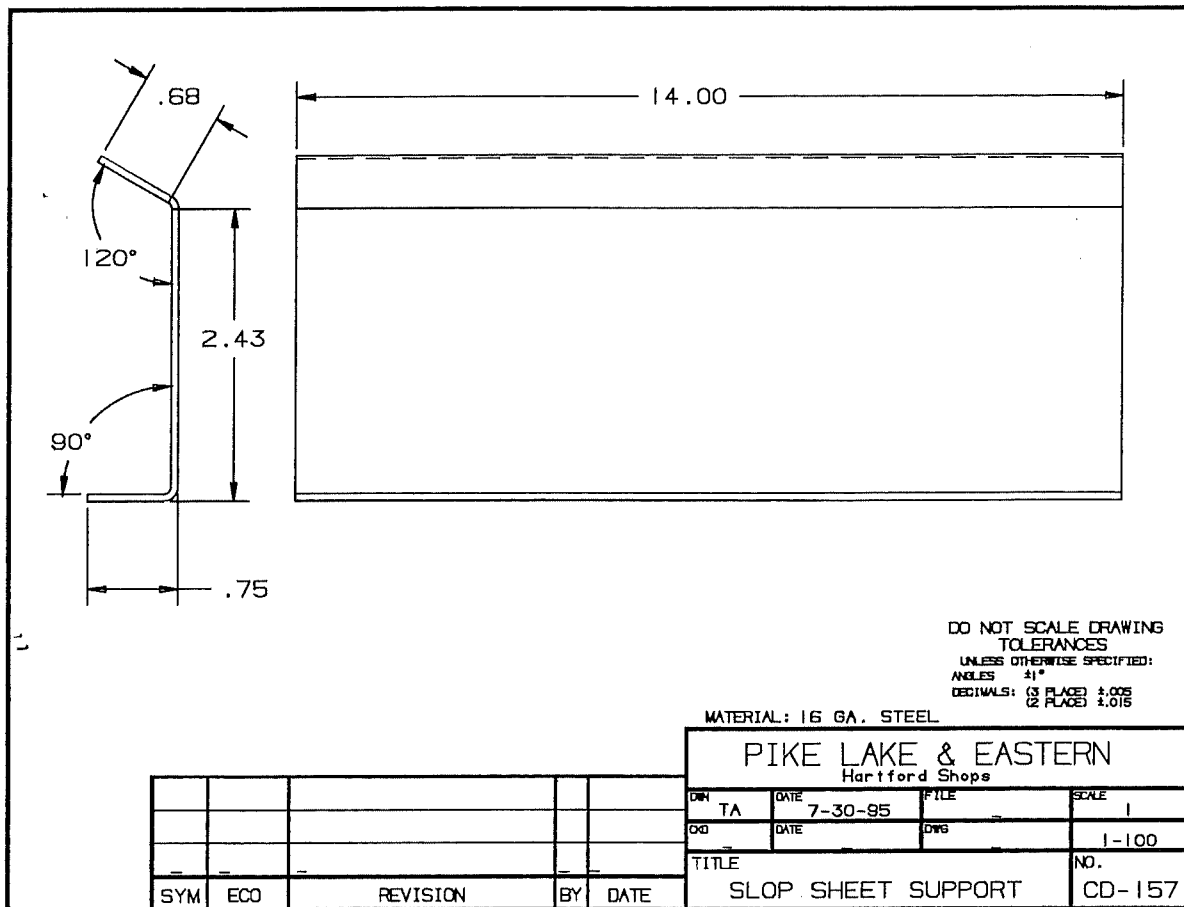
By Tom Artzberger

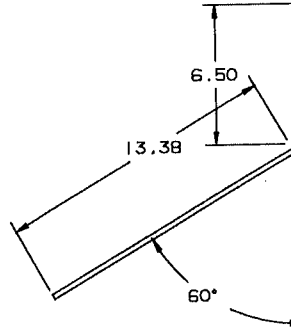
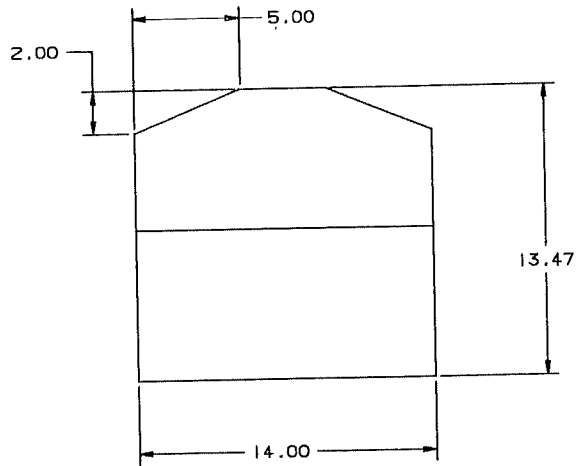
along with the brake wheel detail. The brake wheel detail is left up to the discretion of the builder. Paint, trucks and couplers complete the project.

The last car that is to be covered in the car building series is a small caboose. Since Ken and I have not finished ours yet, I am going to wait a few months before starting the series in the **GAZETTE**. In the meantime I thought I would do several articles on locomotive accessories, and maybe some shop equipment.

Stay tuned till next month.
Tom







.06 BEND RAD.

DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DIMENSIONS $\pm .015$

MATERIAL: 16 GA. STEEL

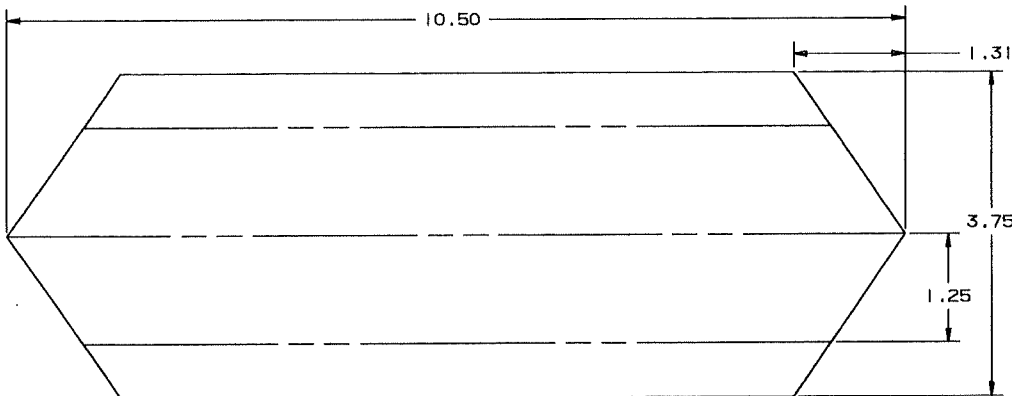
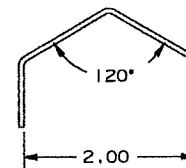
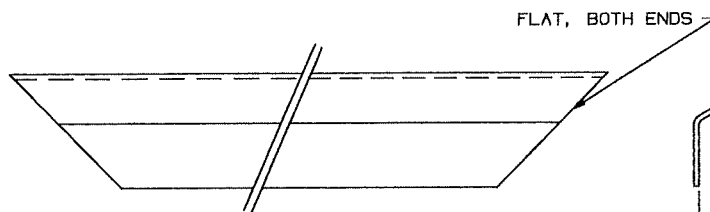
PIKE LAKE & EASTERN
Hartford Shops

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TITLE END, HOPPER

CD-160



.06 BEND RAD. TYP.

DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DIMENSIONS $\pm .015$

MATERIAL: 16 GA. STEEL

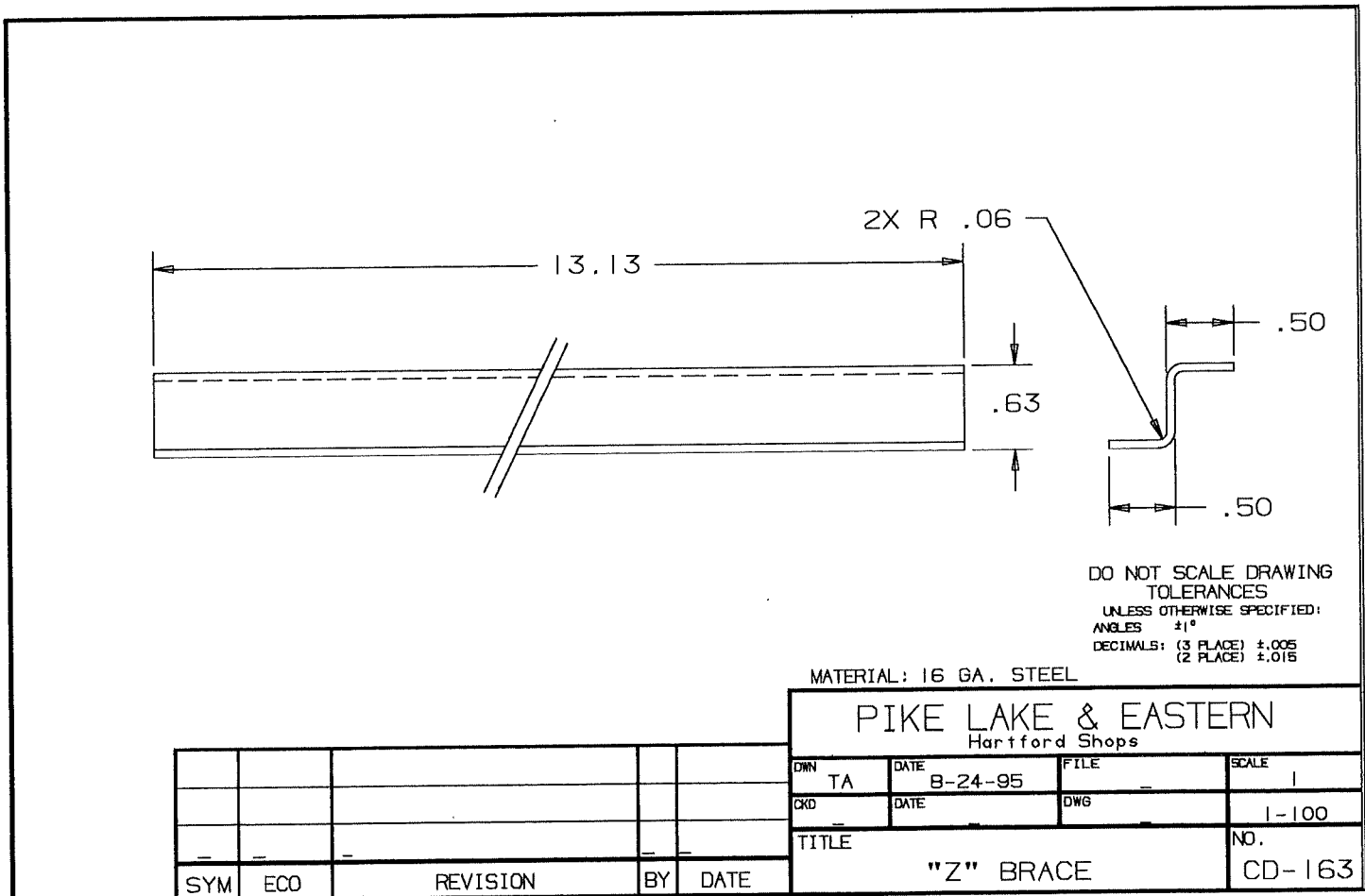
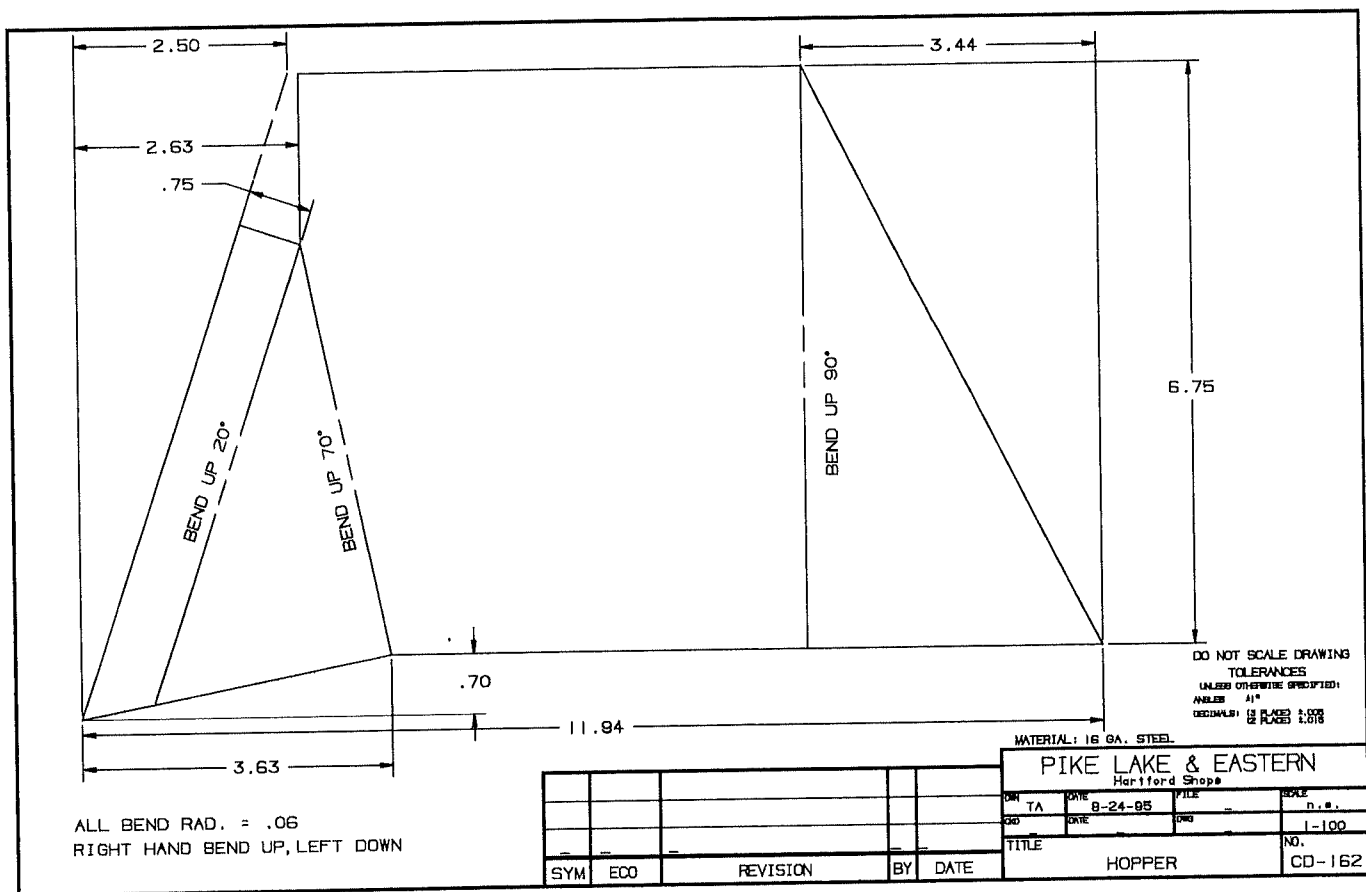
PIKE LAKE & EASTERN
Hartford Shops

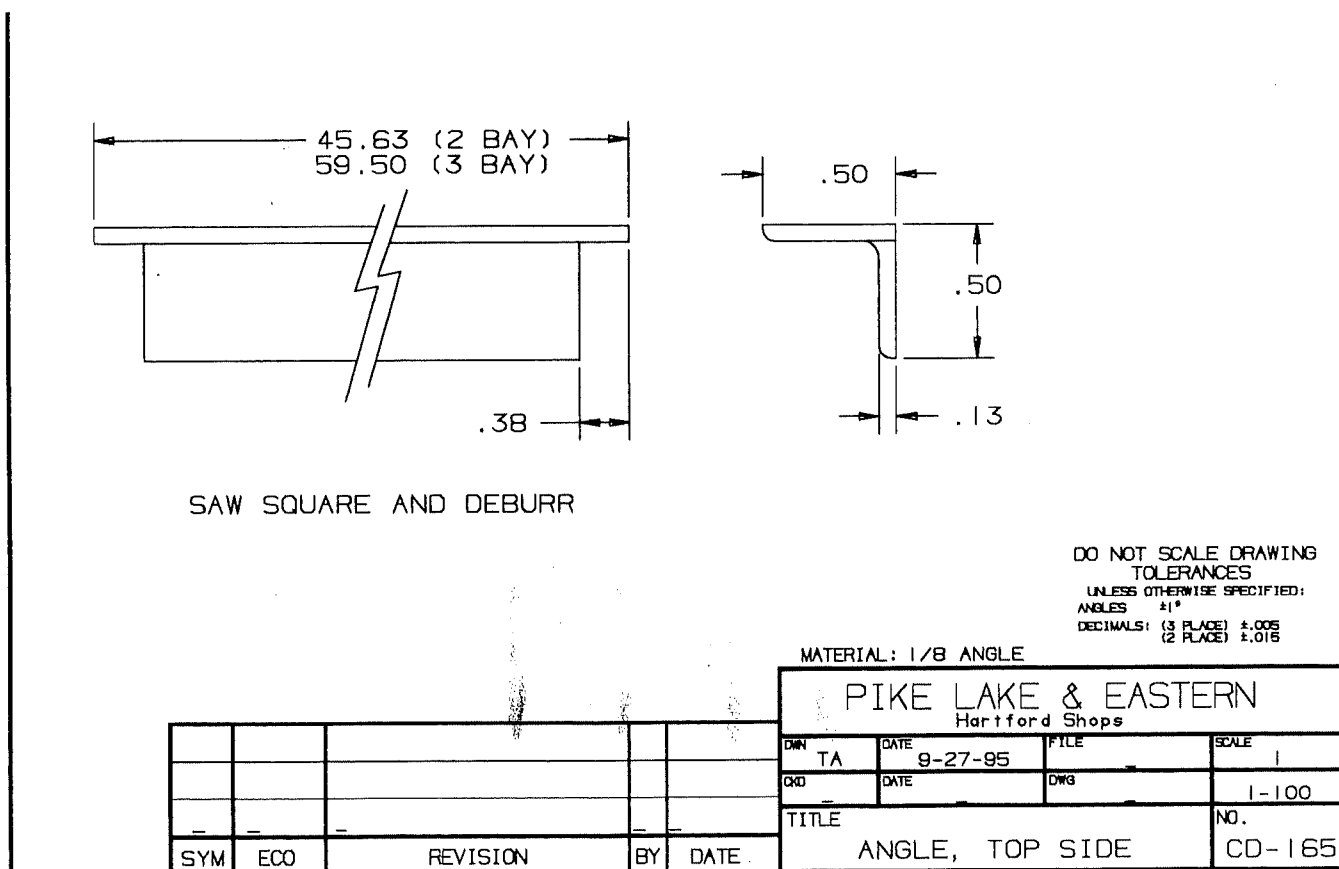
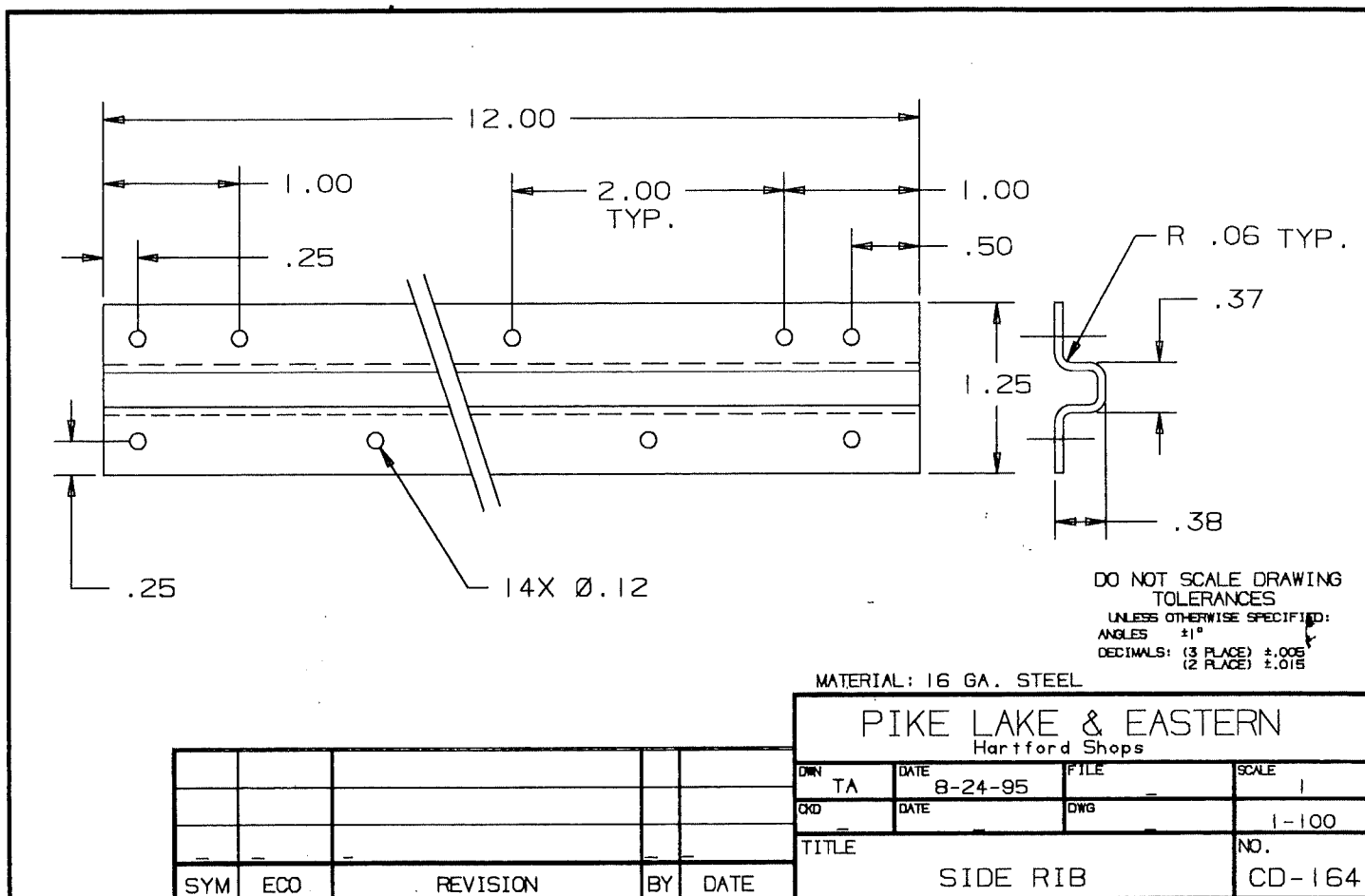
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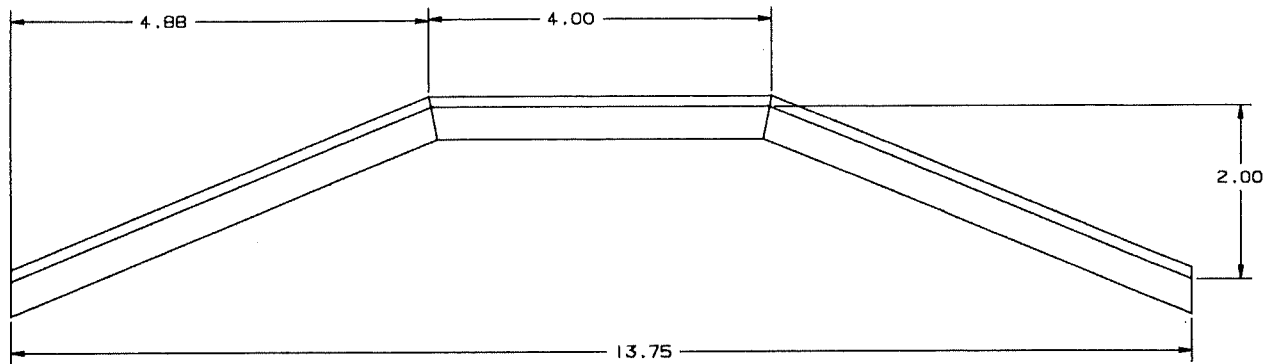
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TITLE CENTER SILL COVER

CD-161





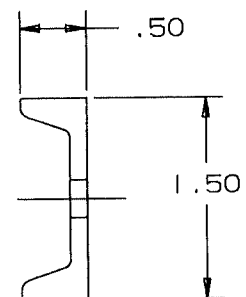
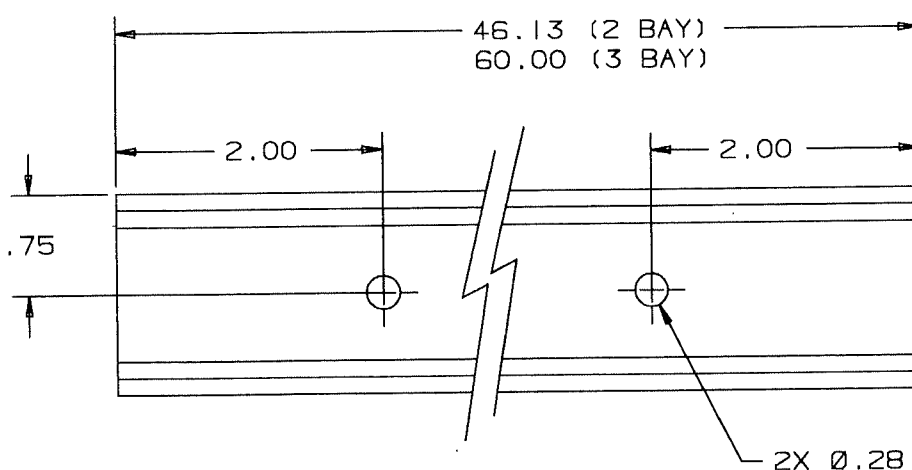


DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACES) $\pm .005$

MATERIAL: 1/2 X 1/2 X 1/8 ANGLE

PIKE LAKE & EASTERN
Hartford Shops

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| | | | | | ANGLE, END | CD-166 |



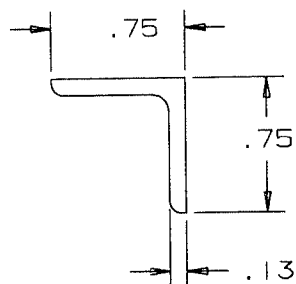
SAW SQUARE AND DEBURR

DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACES) $\pm .005$
(2 PLACES) $\pm .015$

MATERIAL: 1 1/2 X 1/2 X 1/8 STEEL CHANNEL

PIKE LAKE & EASTERN
Hartford Shops

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| | | | | | CHANNEL, CENTER SILL | CD-167 |

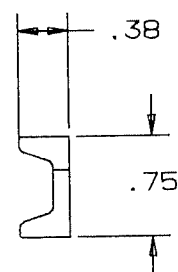
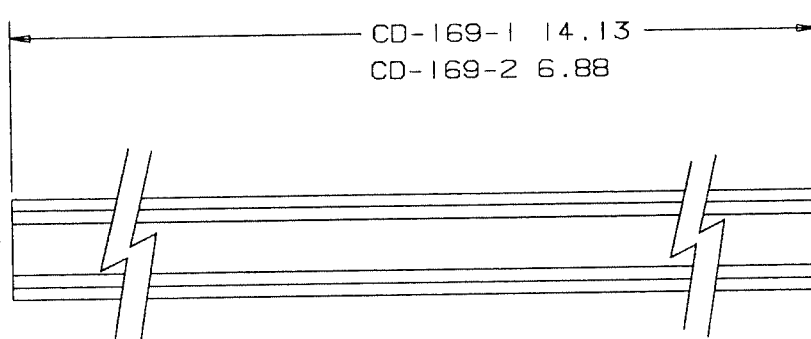


DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACE) $\pm .005$
(2 PLACE) $\pm .015$

PIKE LAKE & EASTERN
Hartford Shops

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| TITLE ANGLE, CORNER | | | NO. CD-168 |

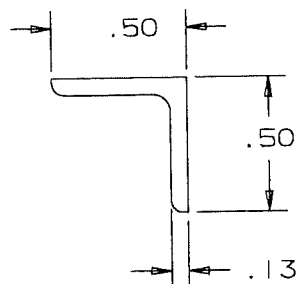


DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACE) $\pm .005$
(2 PLACE) $\pm .015$
1/8 STEEL CHANNEL

PIKE LAKE & EASTERN
Hartford Shops

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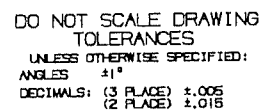
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| CHANNEL, END SILL | | | CD-169 |



DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACE) $\pm .005$
(2 PLACE) $\pm .015$

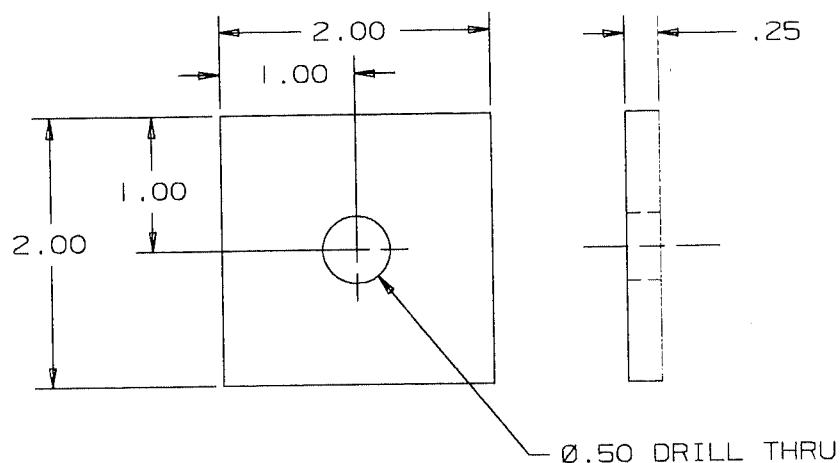
PIKE LAKE & EASTERN
Hartford Shops

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| TITLE | | | | | | NO. | |
| ANGLE, END BRACE | | | | | | CD-170 | |



PIKE LAKE & EASTERN
Hartford Shops

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| TA | 9-28-95 | | 1 |
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| TITLE | | | NO. |
| BOLSTER | | | CD-171 |



SAW SQUARE AND DEBURR

DO NOT SCALE DRAWING
TOLERANCES

UNLESS OTHERWISE SPECIFIED:

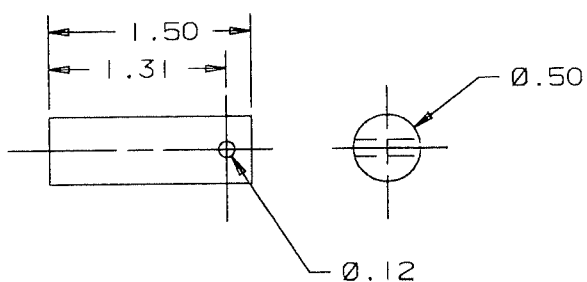
ANGLES $\pm 1^\circ$ DECIMALS: (3 PLACE) $\pm .005$ (2 PLACE) $\pm .015$

MATERIAL: 1/4 X 2 HR FLAT

PIKE LAKE & EASTERN
Hartford Shops

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| TITLE | | | | NO. |
| PAD, TRUCK | | | | CD-172 |



DEBURR BOTH ENDS AND HOLE

DO NOT SCALE DRAWING
TOLERANCES

UNLESS OTHERWISE SPECIFIED:

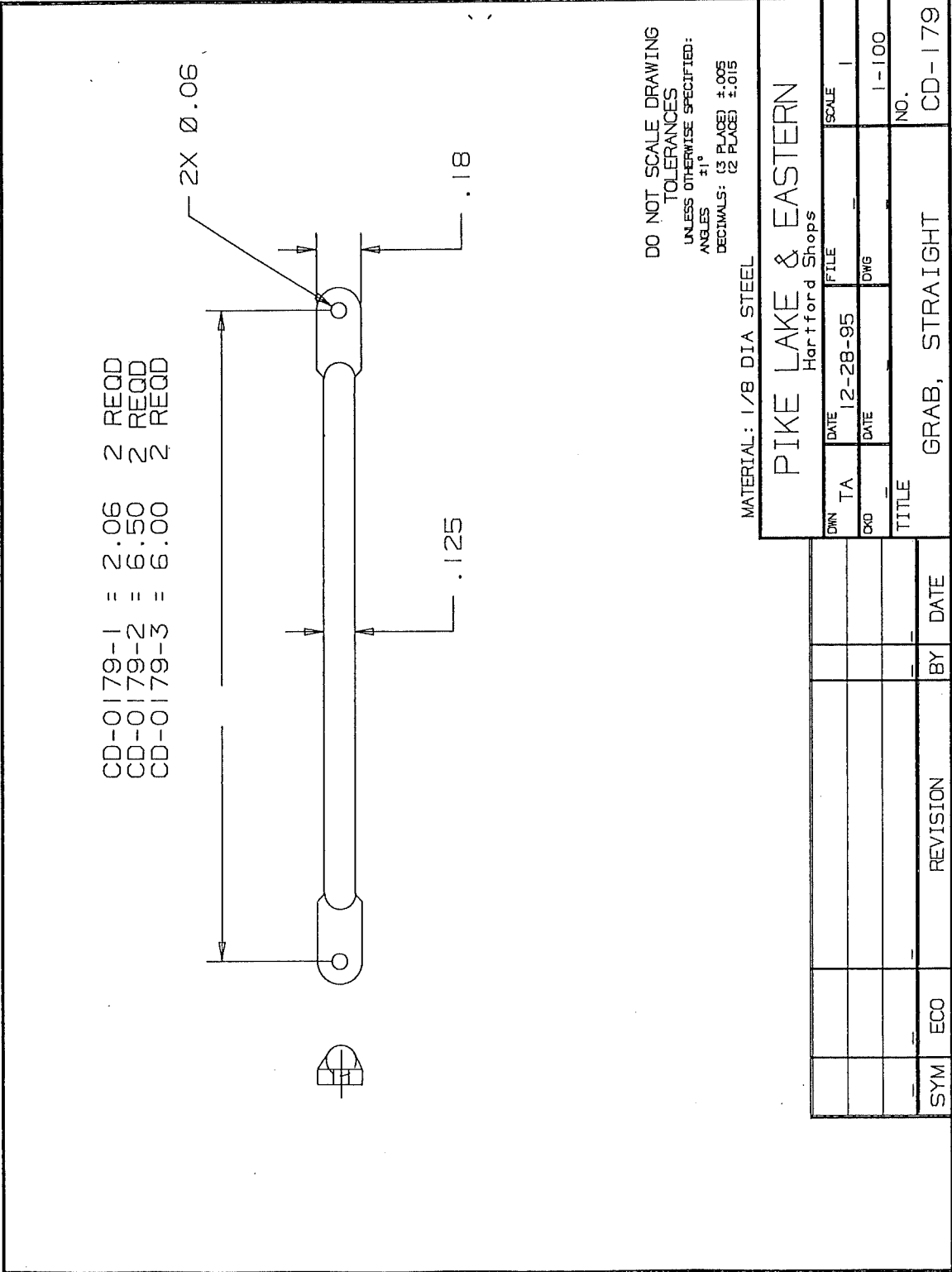
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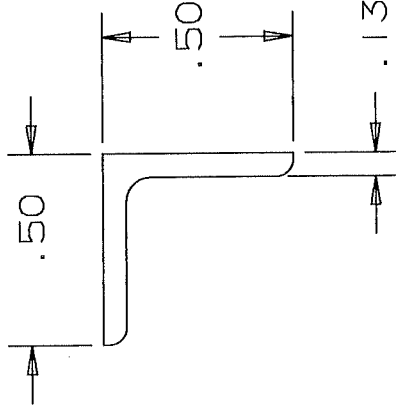
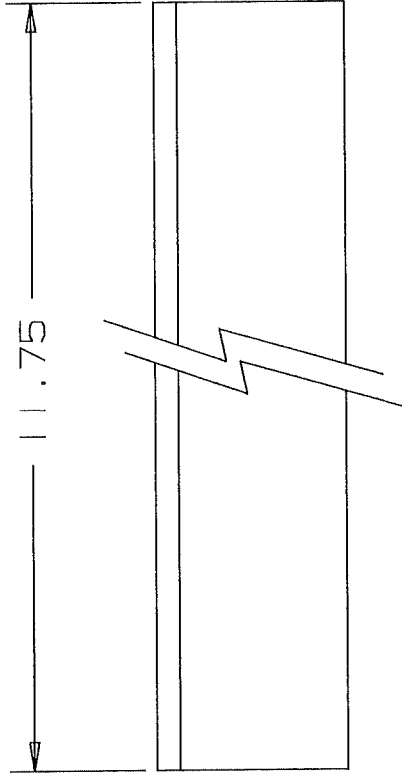
MATERIAL: 1/2 COLD ROLLED

PIKE LAKE & EASTERN
Hartford Shops

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| TITLE | | | | NO. |
| TRUCK PIN | | | | CD-173 |





SAW SQUARE AND DEBURR

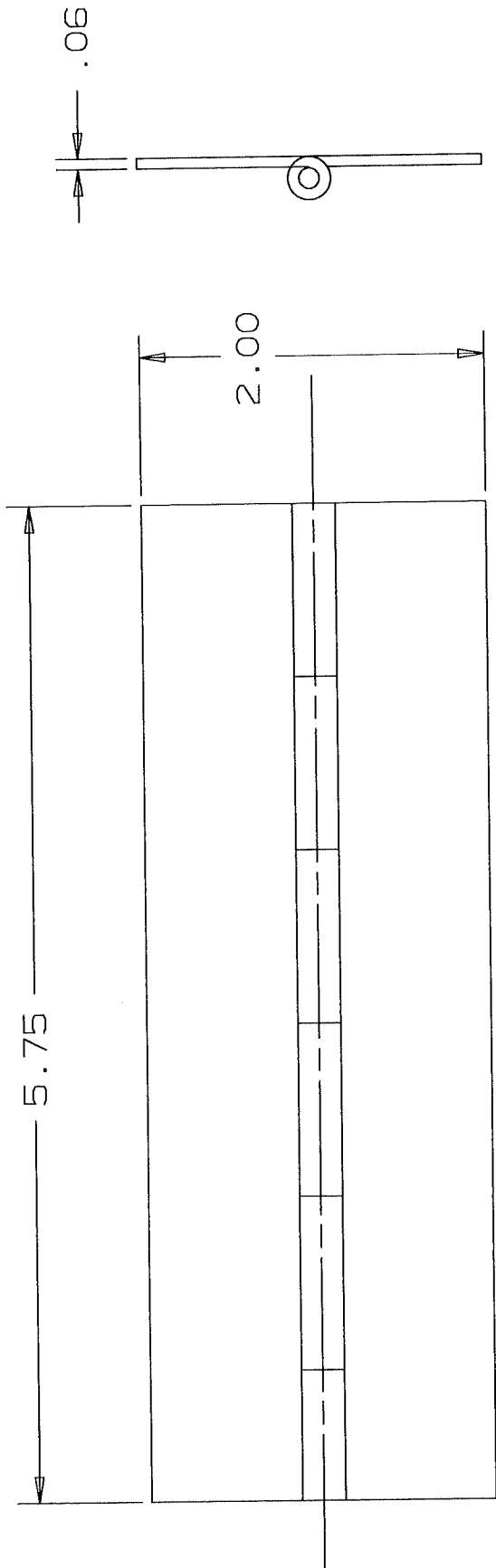
DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACES) $\pm .005$
(2 PLACES) $\pm .015$

MATERIAL: 1/2 X 1/2 X 1/8 ANGLE

PIKE LAKE & EASTERN
Hartford Shops

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| TITLE | | | | NO. |
| ANGLE, HOPPER DOOR | | | | CD-180 |



DO NOT SCALE DRAWING
TOLERANCES
ANGLES $\pm 1^\circ$
UNLESS OTHERWISE SPECIFIED:
DECIMALS: (3 PLACE) $\pm .005$
(2 PLACE) $\pm .015$

MATERIAL: 2" HINGE STOCK

PIKE LAKE & EASTERN
Hartford Shops

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| TITLE | | | | |
| HINGE, HOPPER DOOR | | | | |
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