

L.S.M.R.E.

LARGE SCALE MODEL RAILWAY ENGINEERING

FLAT CARS

Volume V

Large Scale Model Railway Engineering

As promised last month, this month we will begin presenting drawings for the 36 foot logging flats. The drawings for the parts made out of angle and channel are included to be followed next month be the parts made from flat bar. Some of these parts will also be used on future cars so even if you are not building these flats hang on to the drawings, you may need them later.

The parts shown, can be cut to length on a cutoff saw (or with a hacksaw) and simply deburred to remove the sharp edges. Parts CD-121 and CD-122 have notches cut or milled in the center so that they will eventually fit around the center sill of the car. The center sills are so arranged that the coupler assemblies that we described last month will slide nicely inside as will be seen next month when we show the car assembly.

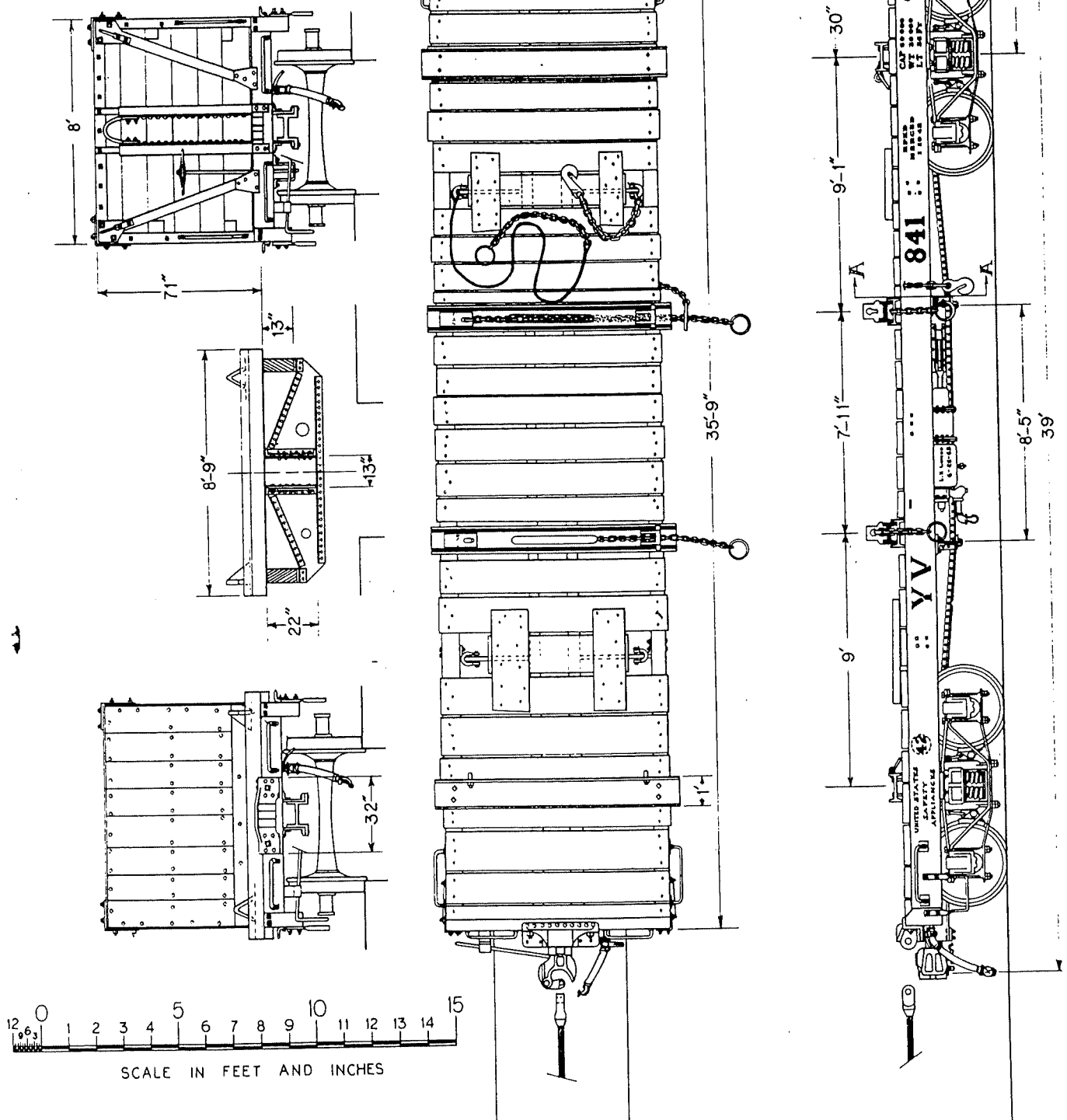
Floors of the car is constructed out of $1/4 \times 1 \frac{1}{2}$ strips sawed from pressure treated two by fours. Four 4-40 machine screws are used to hold each board in place. If one was lazy pieces of grooved plywood could be used but that just does not give the same affect as individual boards. More on this next month.

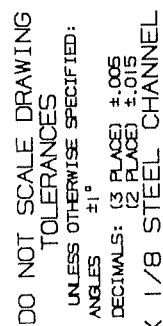
In the July newsletter I will show how to make the fixtures for mass producing the grab irons and stirrups for these and the other cars to follow.

BULK HEAD LOG CAR

The YV owned 175 of these special log cars which dated from 1912 and were built by Seattle Car & Foundry Co. at Renton, Washington. Modifications in lettering and design were made at various times by the YV shops.

Drawing by
ROBERT LUNOE



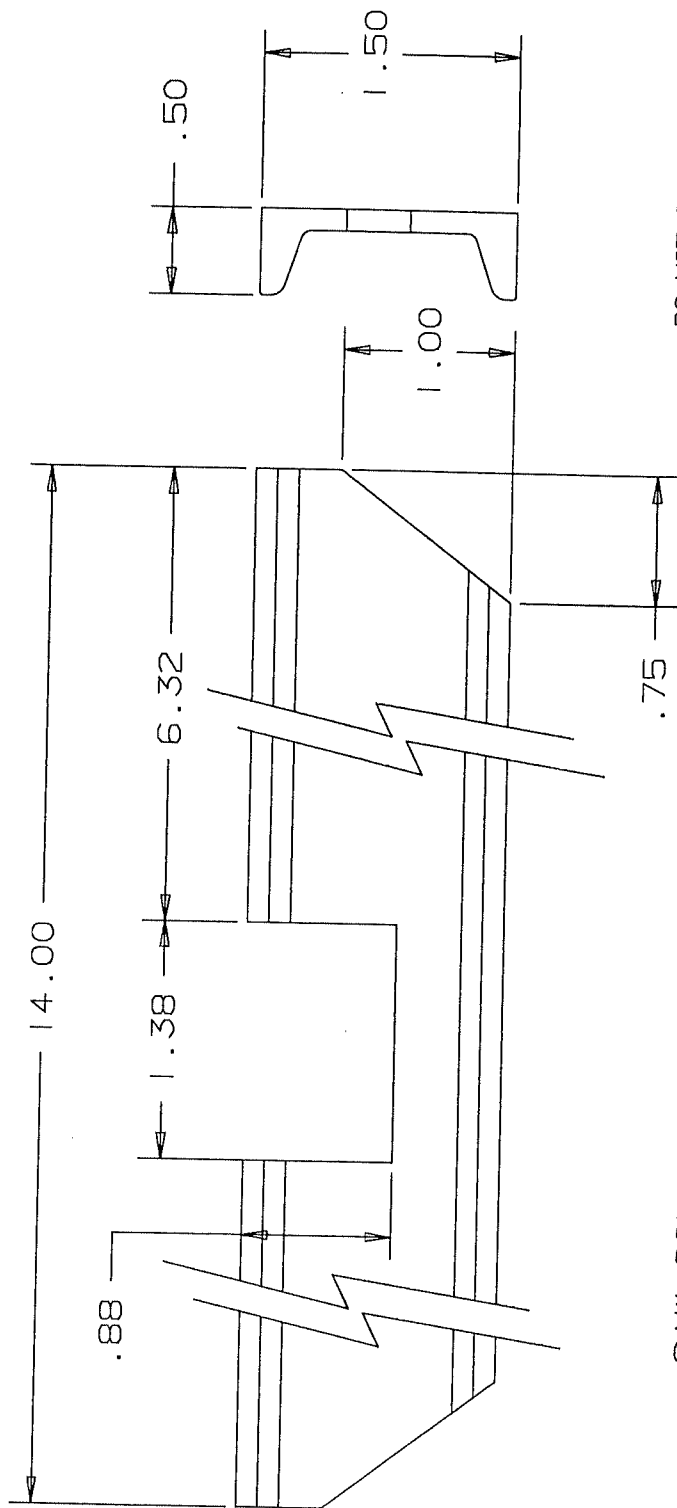


SAW SQUARE AND DEBURR

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

PIKE LAKE & EASTERN

[illegible]



SAW SQUARE AND DEBURR

DO NOT SCALE DRAWING

TOLERANCES

UNLESS OTHERWISE SPECIFIED:

ANGLES $\pm 1^\circ$

DECIMALS: (3 PLACES) $\pm .005$

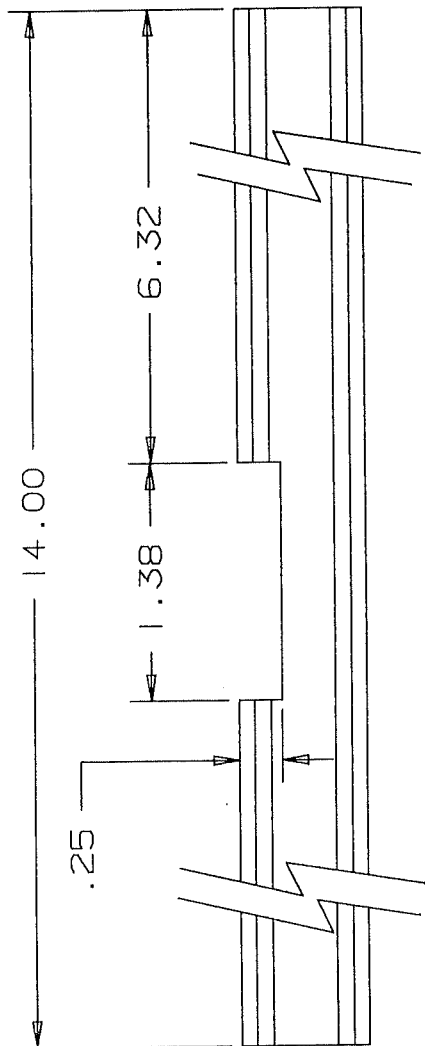
(2 PLACES) $\pm .015$

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

PIKE LAKE & EASTERN

Hartford Shops

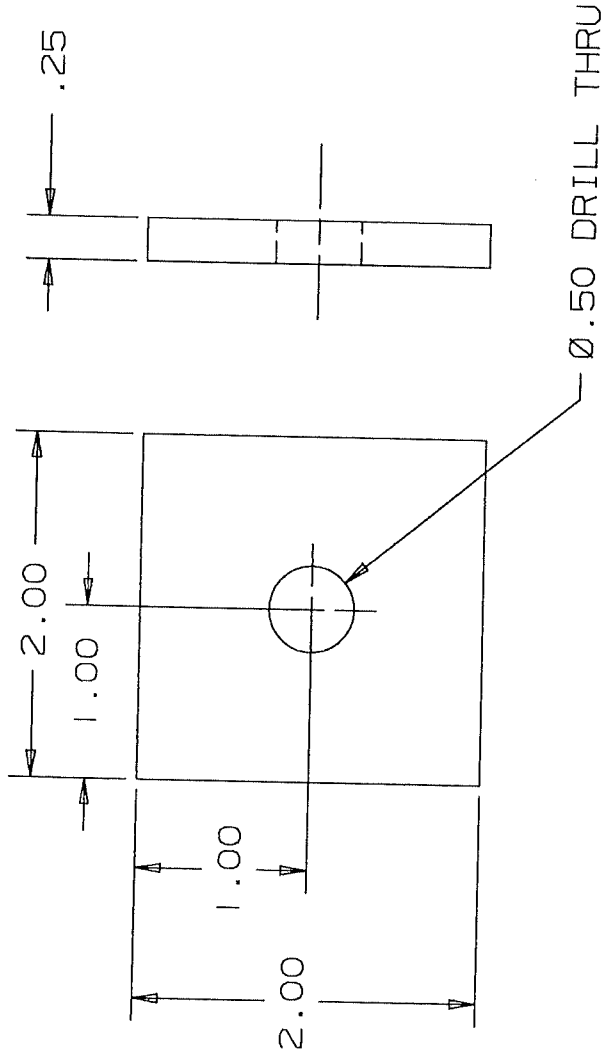
DWN	TA	DATE	FILE	SCALE
		5-1-94		1
EXD	DATE	DWG		
TITLE				NO.
CHANNEL, UNDER FRAME				CD-121
SYM	ECO	REVISION	BY	DATE



DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES ±1°
 DECIMALS: (3 PLACE) ±.005
 (2 PLACE) ±.015
 MATERIAL: 3/4 X 3/8 X 1/8 STEEL CHANNEL

SAW SQUARE AND DEBURR

PIKE LAKE & EASTERN Hartford Shops			
DWG	TA	DATE	FILE
		5-1-94	SCALE 1
ECO		DATE	DWG
			1-100
TITLE		NO.	
CHANNEL, END SILL		CD-122	
SYM	ECO	REVISION	BY DATE



SAW SQUARE AND DEBURR

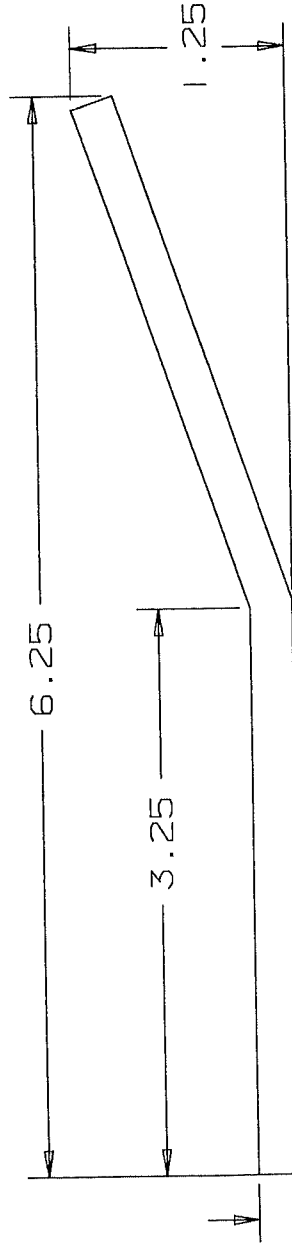
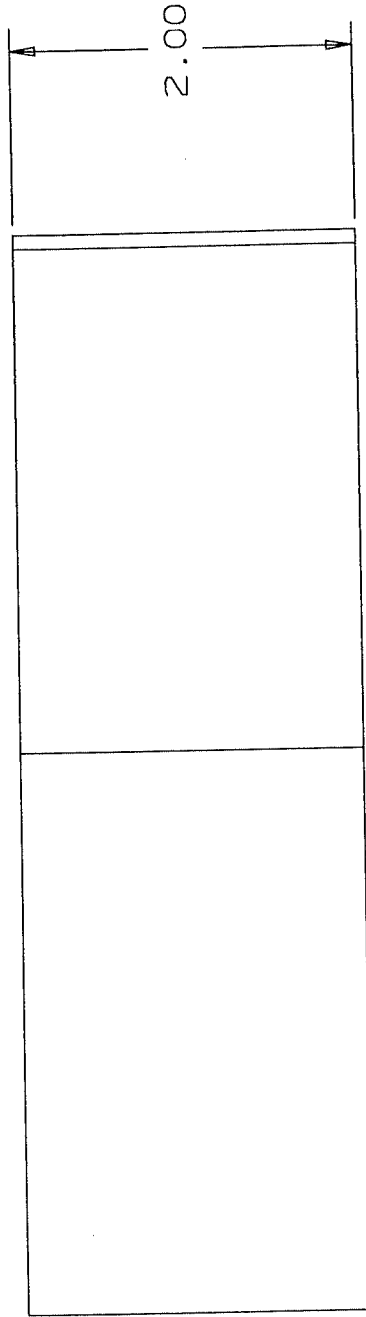
DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACE) $\pm .005$
(2 PLACE) $\pm .015$

MATERIAL: 1/4 X 2 HR FLAT

PIKE LAKE & EASTERN
Hartford Shops

SYM	ECO	REVISION	BY	DATE

DWN	TA	DATE	FILE	SCALE
		5-1-94		1
CKD		DATE	DWG	
TITLE				No.
PAD, TRUCK				1-100
				CD-123



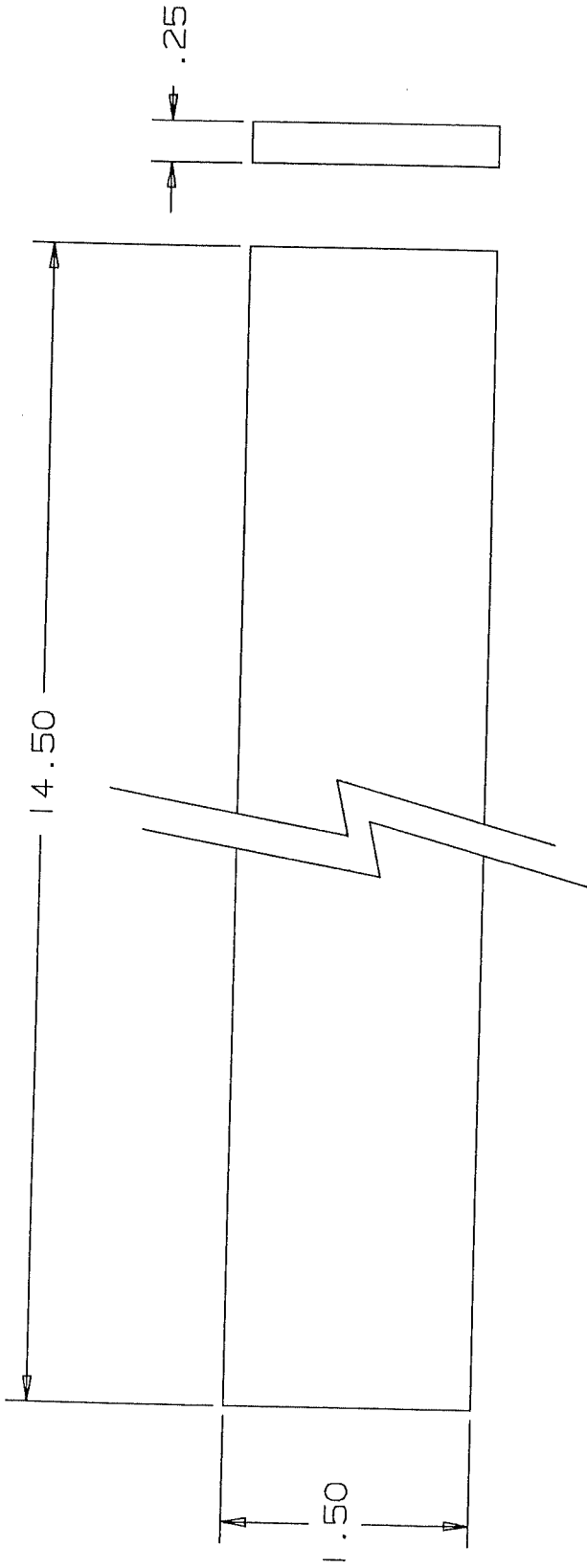
DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACES) $\pm .005$
(2 PLACES) $\pm .015$

MATERIAL: 1/4 X 2 STEEL

PIKE LAKE & EASTERN
Hartford Shops

SYM	ECO	REVISION	BY	DATE

DWN	TA	DATE	FILE	SCALE
		6-1-94		1
CKD		DATE	DWG	
				1-100
TITLE				NO.
BOLSTER				CD-124

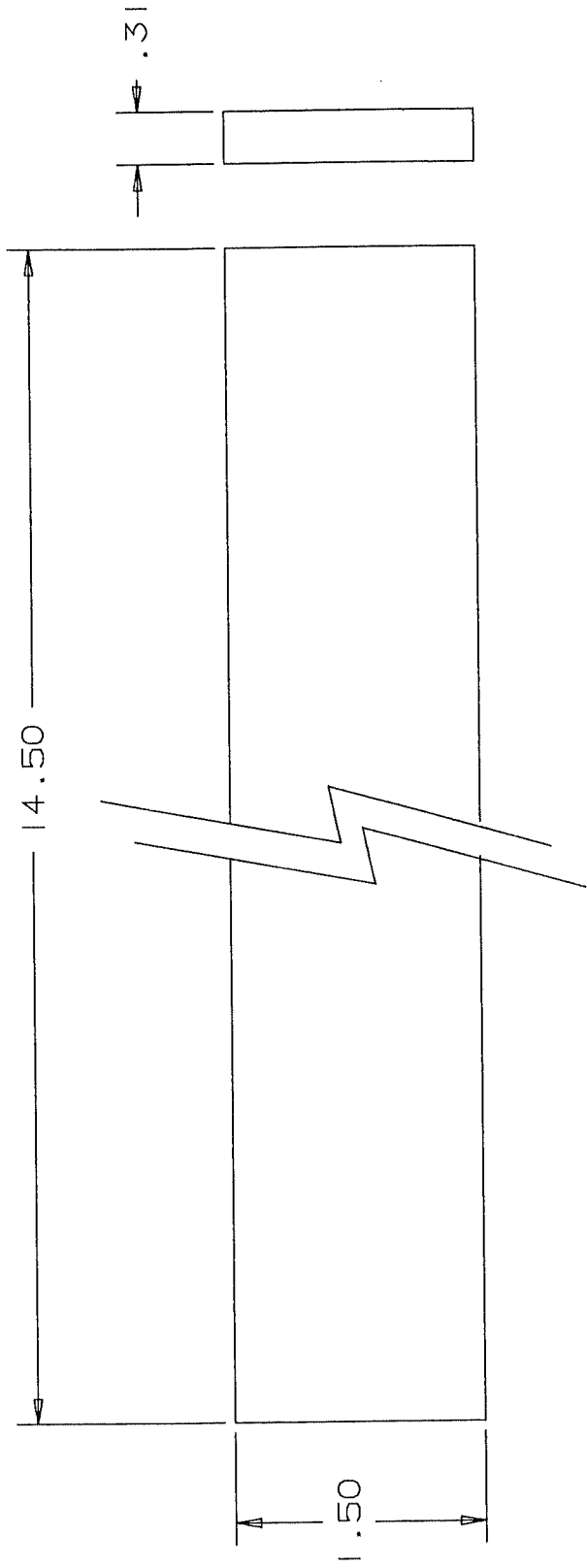


DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES ±1°
 DECIMALS: (3 PLACES) ±.005
 (2 PLACES) ±.015

MATERIAL: 1/4 x 1 1/2 WOOD

PIKE LAKE & EASTERN Hartford Shops			
OWN	TA	DATE	FILE
		6-1-94	
CKD		DATE	DWG
TITLE			SCALE
WOOD PLANK (FLOOR)			1-100
NO.			CD-125

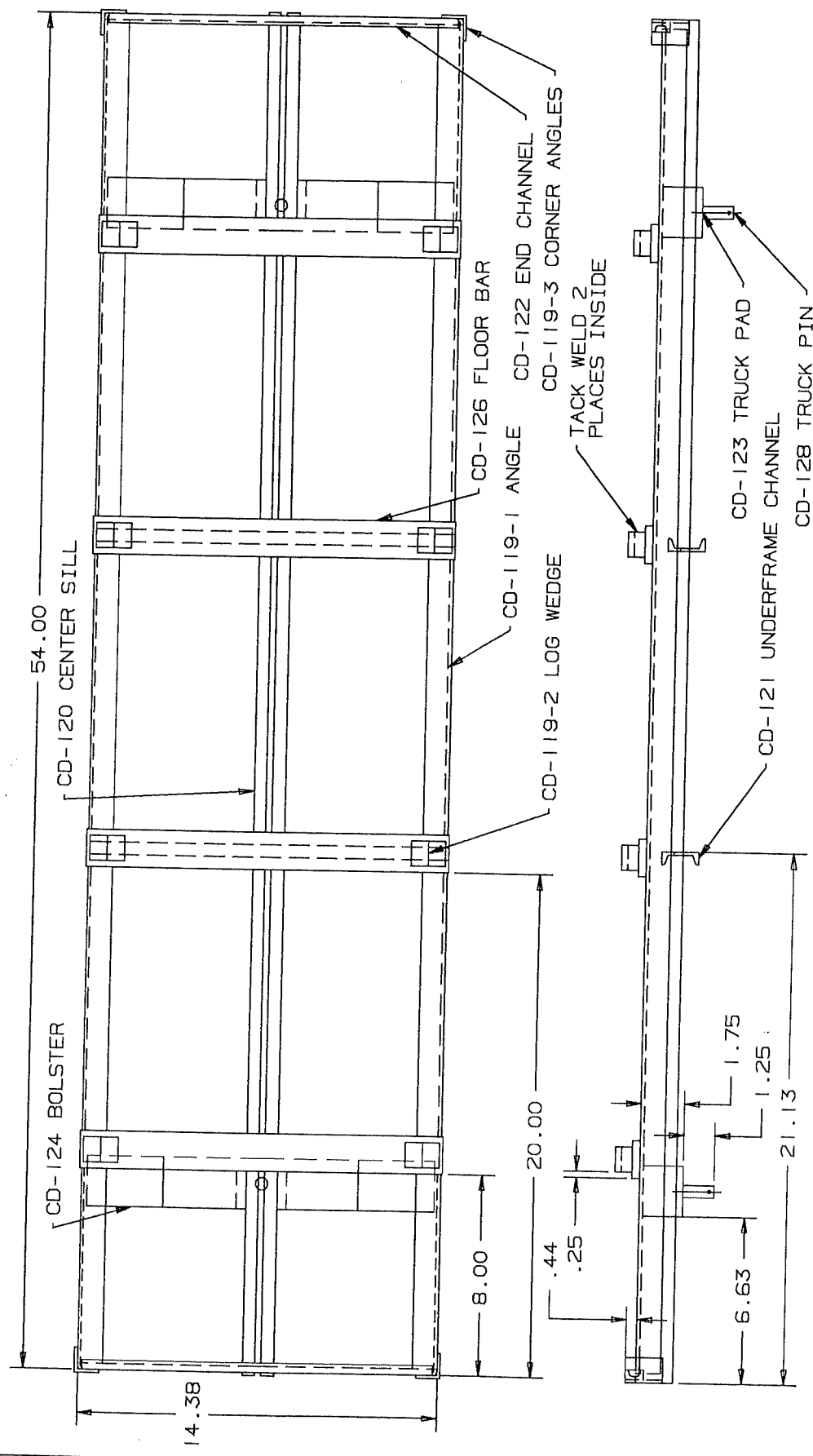
SYM	ECO	REVISION	BY	DATE



DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES ±1°
DECIMALS: (3 PLACES) ±.005
(2 PLACES) ±.015

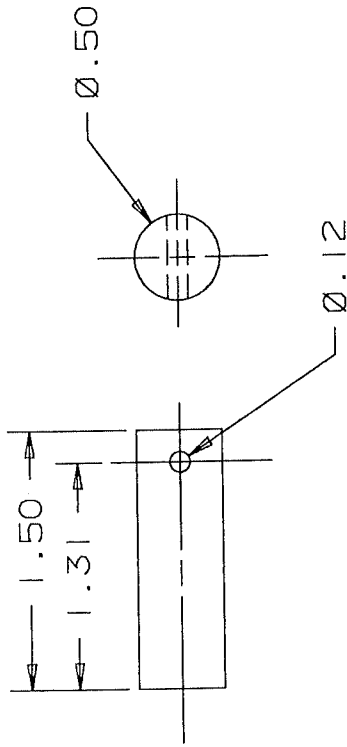
MATERIAL: 5/16 x 1 1/2 STEEL

PIKE LAKE & EASTERN Hartford Shops			
DWN	TA	DATE	FILE
		6-1-94	
ECO		DATE	DWG
			1-100
TITLE			NO.
FLOOR BAR			CD-126
SYM	ECO	REVISION	BY DATE



CD NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED
DIMENSIONS IN INCHES
DECIMALS: .125 .250 .375 .500 .625 .750 .875 .9375

PIKE LAKE & EASTERN		CD-127	
TA	CD-127	CD-127	CD-127
REV	REV	REV	REV
SYM	SYM	SYM	SYM
ED	ED	ED	ED
REV	REV	REV	REV
DATE	DATE	DATE	DATE
FRAME WELDMENT, 35' LOG			



DEBURR BOTH ENDS AND HOLE

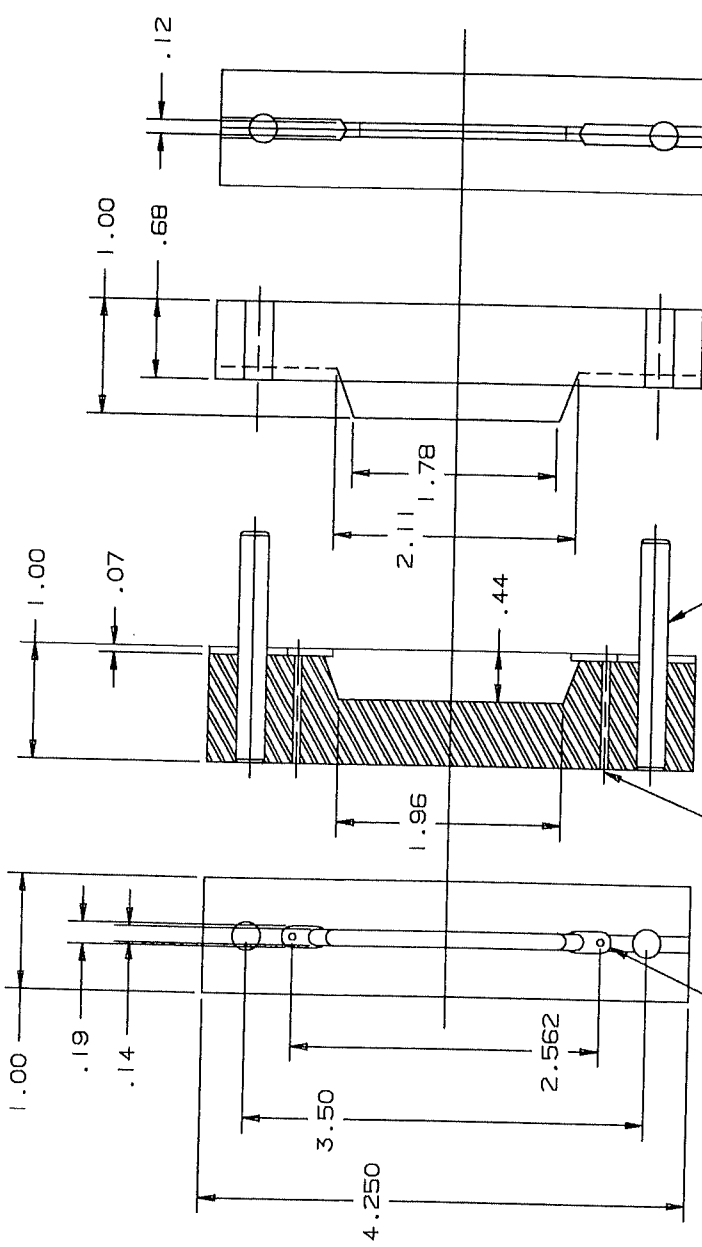
DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACE) $\pm .005$
(2 PLACE) $\pm .015$

MATERIAL: 1/2 COLD ROLLED

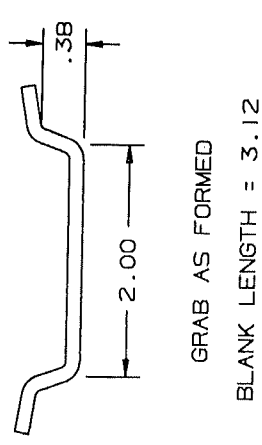
PIKE LAKE & EASTERN

Hartford Shops

DWG	TA	DATE	6-1-94	FILE	SCALE	1
CHKD		DATE		DWG		1-100
TITLE				NO.		
TRUCK PIN				CD-128		
SYM	ECO	REVISION	BY	DATE		



HEAT TREAT 50-55 RC
 .062 DIA. DRILL THRU 2 PLACES
 .186 DIA. DRILL 1.12 DEEP BOTH ENDS

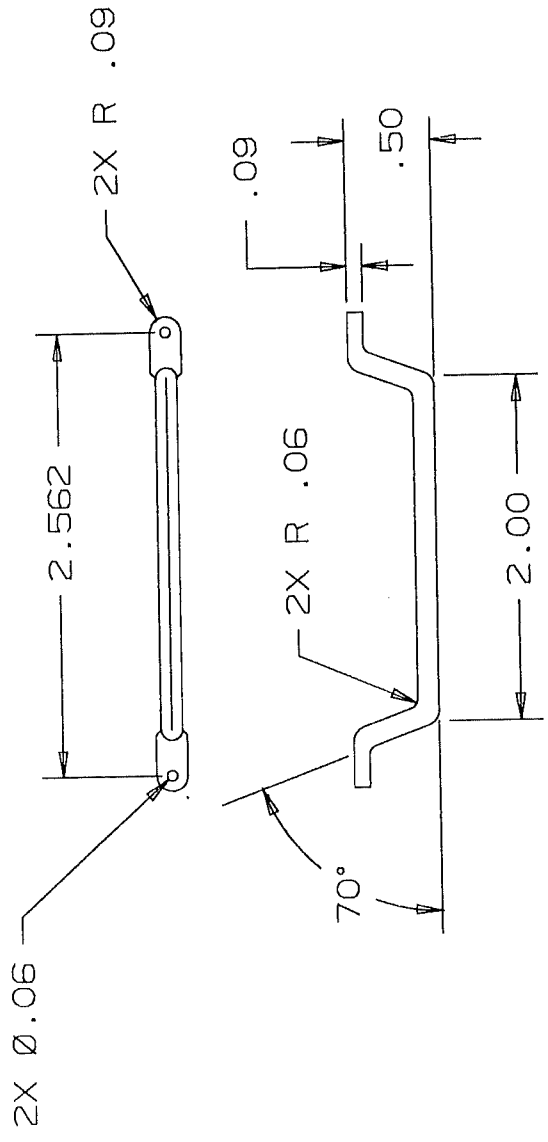


DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES ±1°
 DECIMALS: 13 PLACES ±.005
 12 PLACES ±.015

MATERIAL: TOOL STEEL

PIKE LAKE & EASTERN Hartford Shops			
DATE	FILE	SCALE	FULL
6-27-94			
DATE	DATE	DATE	DATE
TITLE			NO.
FIXTURE, GRAG FORMING			CD-0129

SYM	ECO	REVISION	BY	DATE

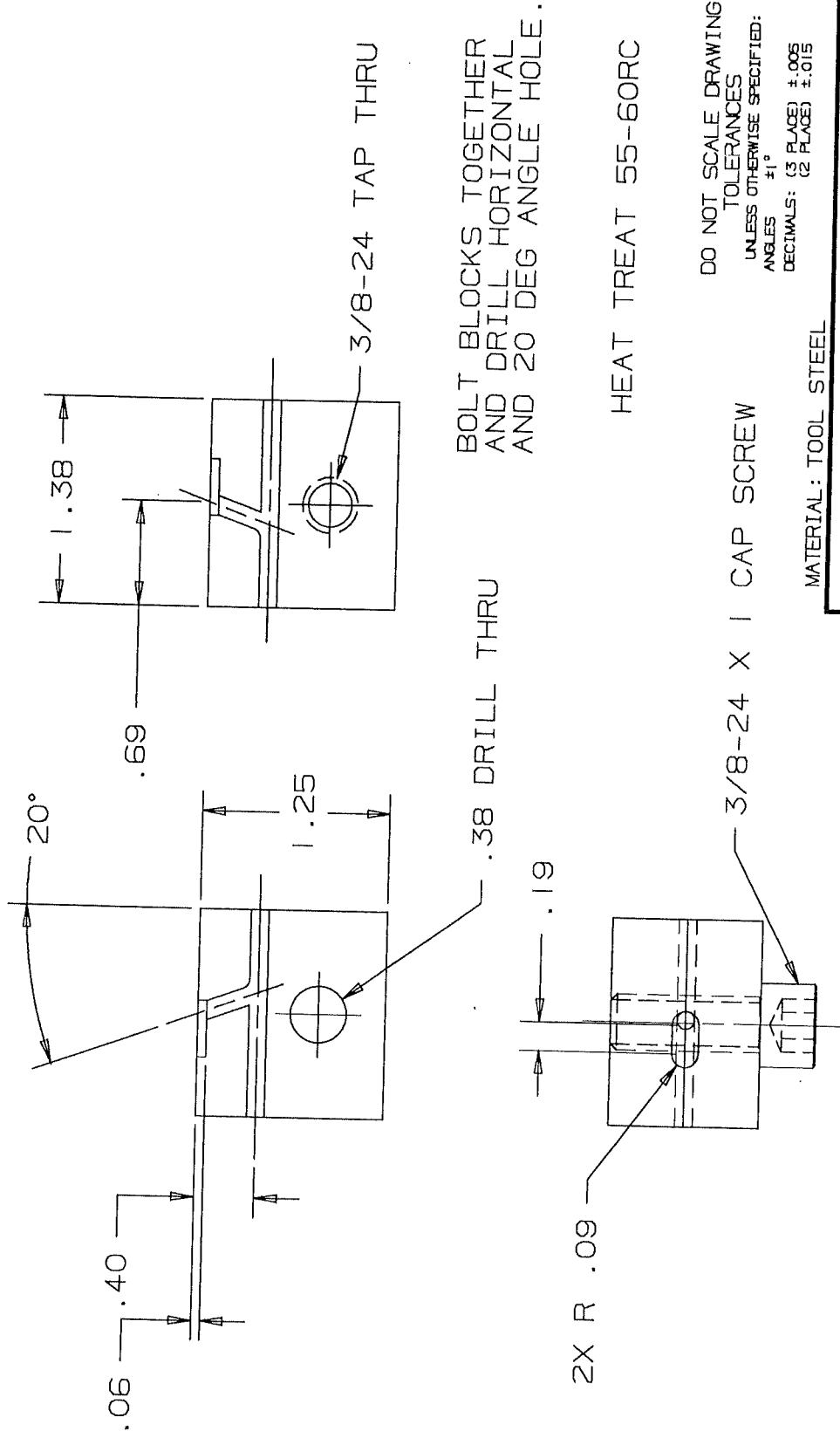


DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACE) $\pm .005$
(2 PLACE) $\pm .015$

MATERIAL: 1/8 ROUND BRASS

PIKE LAKE & EASTERN Hartford Shops				FILE	SCALE
DWN	TA	DATE	6-28-94		1
OKD		DATE		DWG	1-100
TITLE				NO.	
GRAB				CD-130	

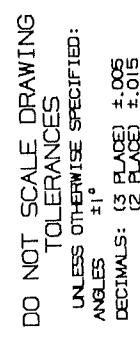
SYM	ECO	REVISION	BY	DATE



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

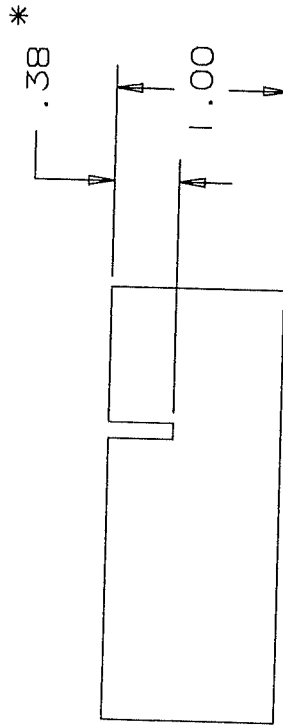
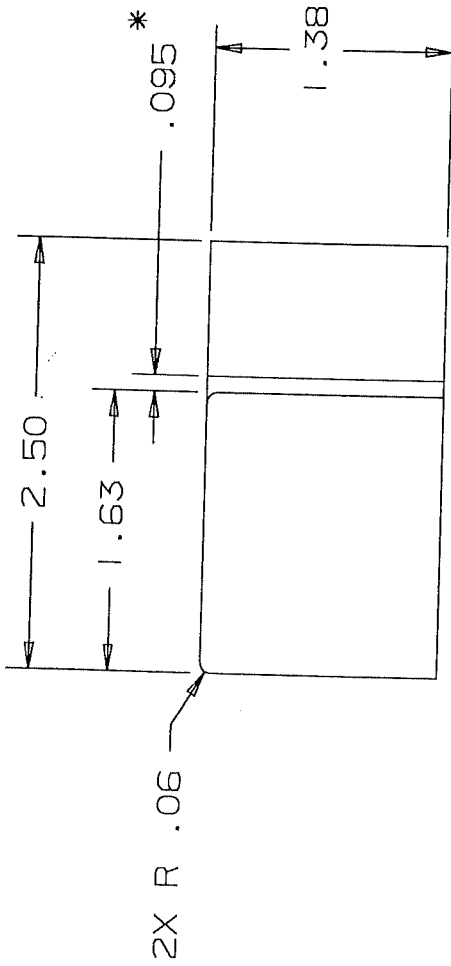
MATERIAL: TOOL STEEL

PIKE LAKE & EASTERN Hartford Shops			
DWN	TA	DATE	FILE
		6-29-94	SCALE 1
CKD		DATE	DWG
			1-100
TITLE			No.
DIE, GRAB FORMING			CD-131
SYM	ECO	REVISION	DATE



PIKE LAKE & EASTERN
Hartford Shops

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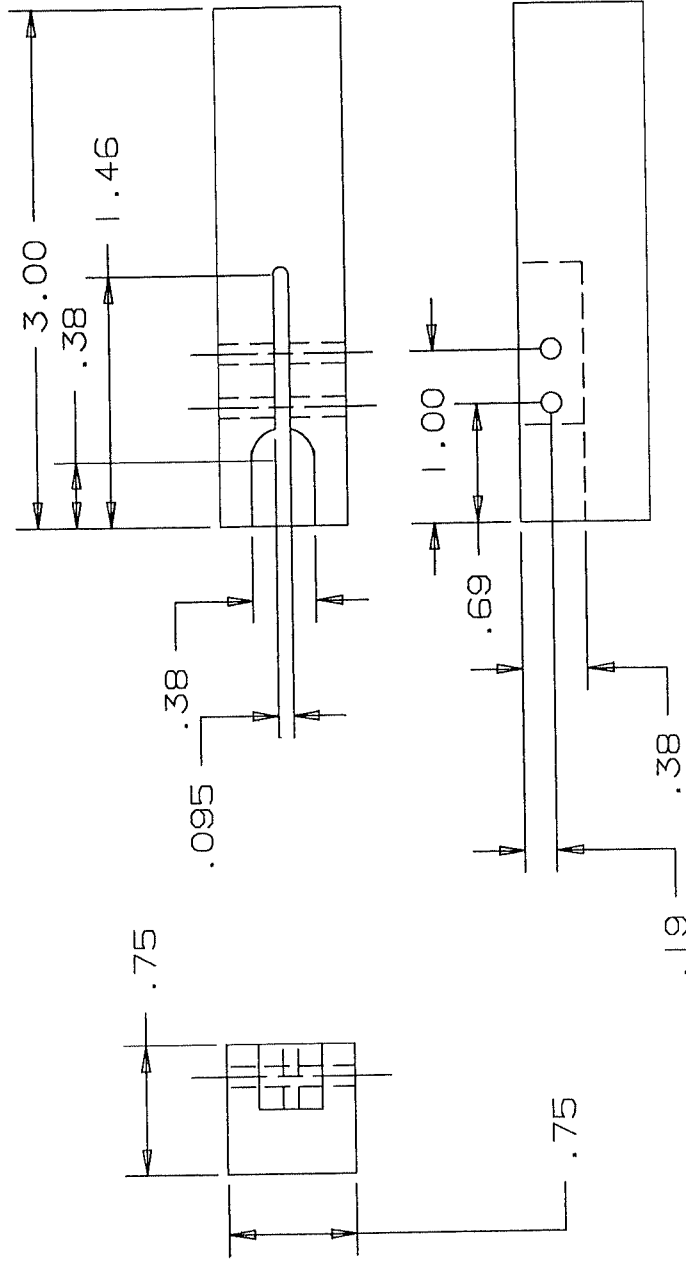


DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACE) $\pm .005$
(2 PLACE) $\pm .015$

* SLOT WIDTH AND DEPTH TO SUIT
STIRRUP DIMENSIONS

MATERIAL: STEEL

PIKE LAKE & EASTERN Hartford Shops			
DWG	TA	DATE	FILE
		8-1-94	
CD		DATE	DWG
TITLE			SCALE
FORMING BLOCK, STIRRUP			1-100
NO.			CD-133
SYM	ECO	REVISION	BY DATE

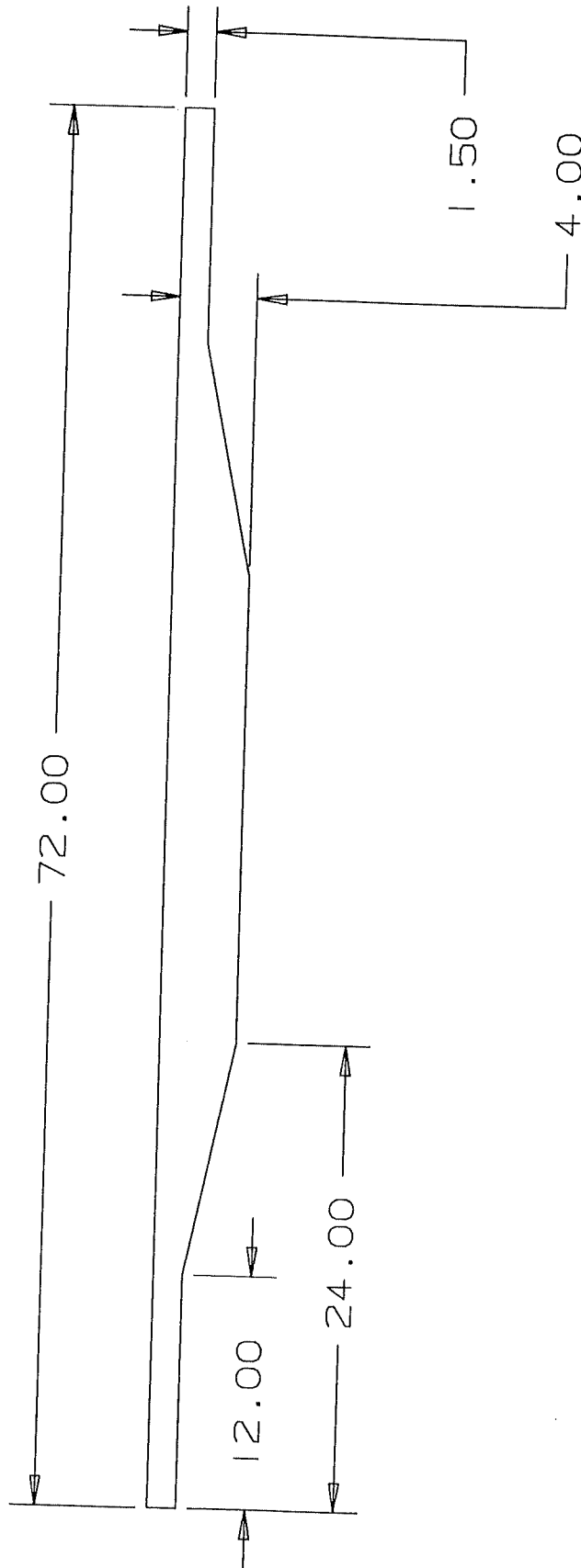


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TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACE) $\pm .005$
(2 PLACE) $\pm .015$

MATERIAL: STEEL

PIKE LAKE & EASTERN
Hartford Shops

SYN	ECO	REVISION	BY	DATE	OWN	TA	DATE	FILE	SCALE
							8-1-94		1
					OKD		DATE	DWG	1-100
					TITLE				
					FORMING TOOL, STIRRUP				
					NO.				
					CD-134				



DO NOT SCALE DRAWING
 DIMENSIONS
 UNLESS OTHERWISE SPECIFIED
 ALL DIMENSIONS IN INCHES
 DECIMALS: 2 PLACES

MATERIAL: 1/8 x 4 STEEL

PIKE LAKE & EASTERN

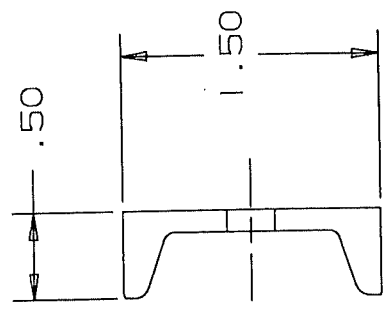
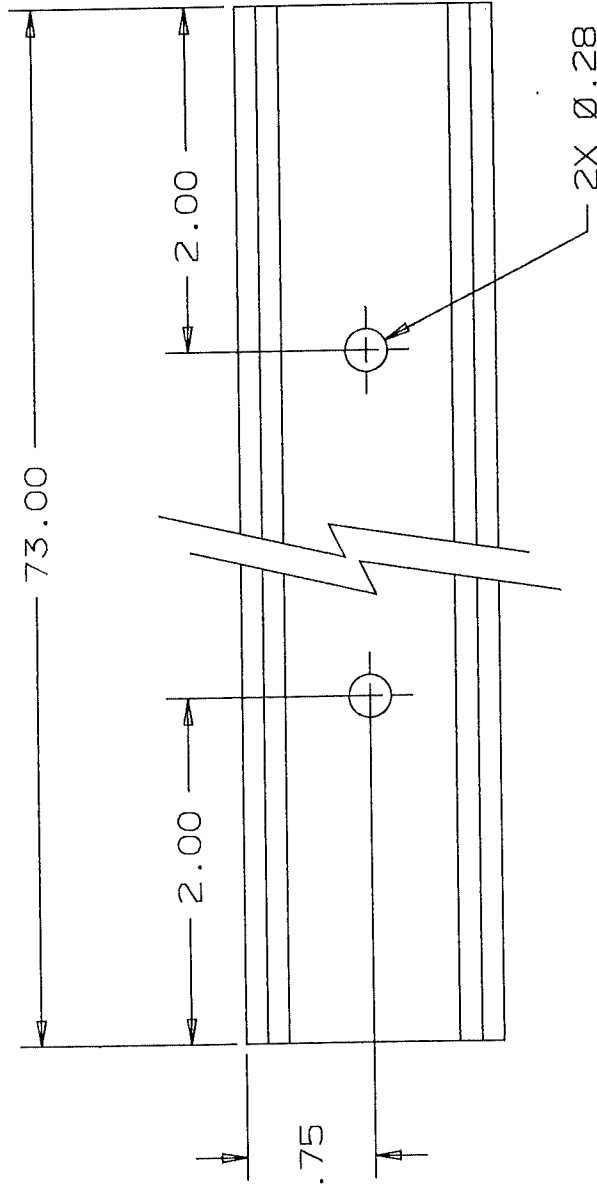
Harford Shops

SYM	ED	REVISION	BY	DATE
1	1			
2	2			
3	3			
4	4			
5	5			
6	6			
7	7			
8	8			
9	9			
10	10			

NO.	TA	DATE	FILE	NO.
1	1	11-28-84	1	1
2	2		2	2
3	3		3	3
4	4		4	4
5	5		5	5
6	6		6	6
7	7		7	7
8	8		8	8
9	9		9	9
10	10		10	10

SIDE, 48 FOOT FLAT

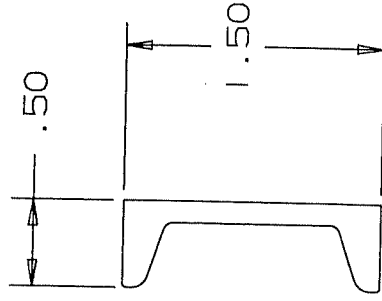
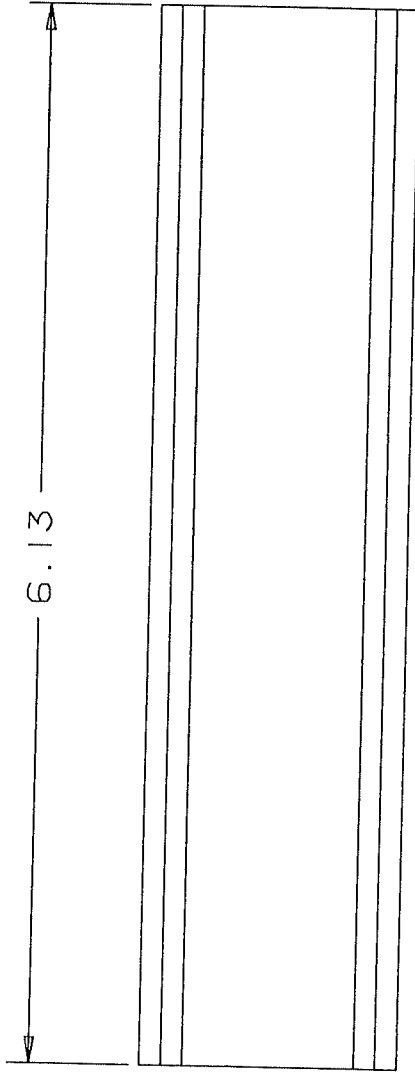
CD-145



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TOLERANCES
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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

SAW SQUARE AND DEBURR

PIKE LAKE & EASTERN Hartford Shops DATE 11-28-94 DATE FILE DWG SCALE 1 1-100			
NO. CD-146			
CHANNEL, CENTER SILL			
DATE BY REVISION ECO SYM			



SAW SQUARE AND DEBURR

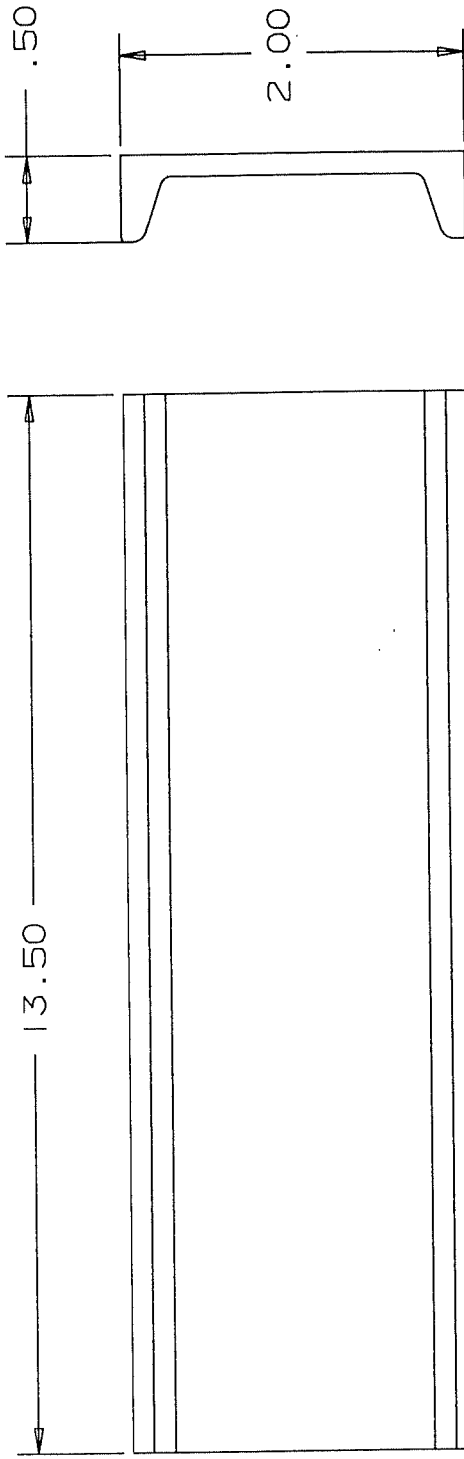
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ANGLES $\pm 1^\circ$
DECIMALS: (3 PLACES) $\pm .005$
(2 PLACES) $\pm .015$

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

PIKE LAKE & EASTERN
Hartford Shops

SYM	ECO	REVISION	BY	DATE

DWN	TA	DATE	FILE	SCALE
		11-28-94		1
CKD		DATE	DWG	
				1-100
TITLE				
CHANNEL, END SILL				
				No.
				CD-147



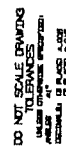
DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES ±1°
DECIMALS: (3 PLACE) ±.005
(2 PLACE) ±.015

SAW SQUARE AND DEBURR

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

PIKE LAKE & EASTERN
Hartford Shops

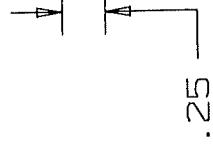
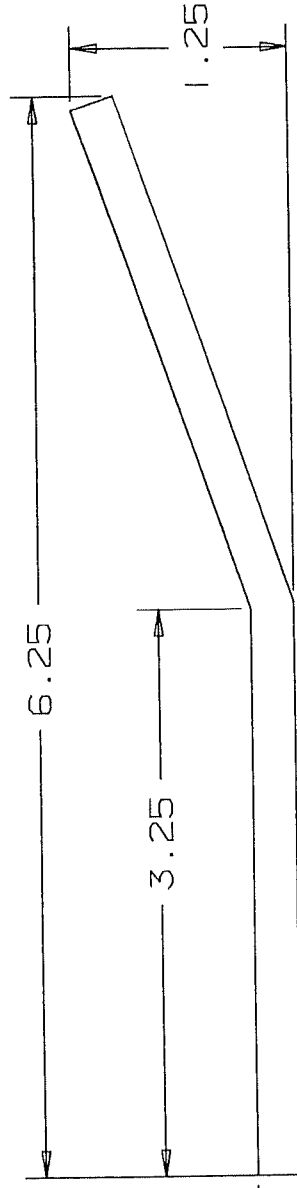
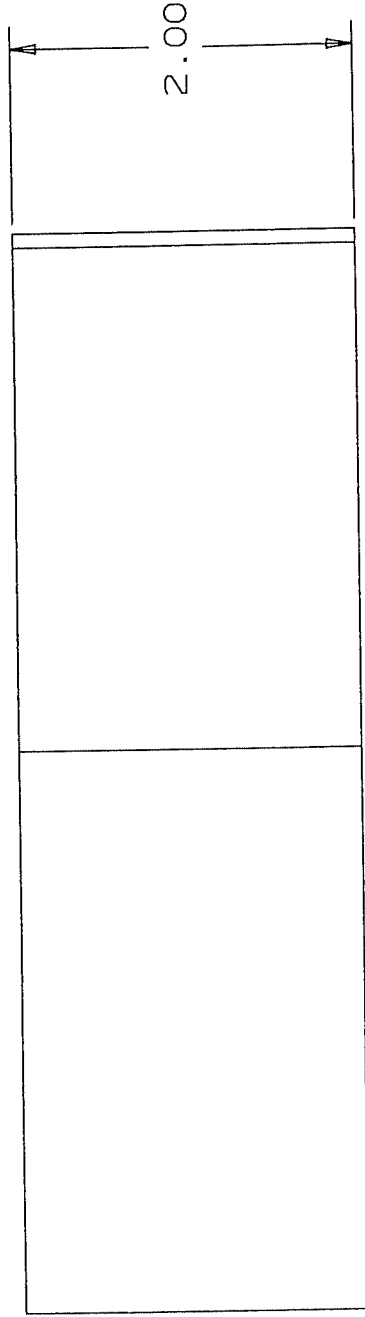
SYM	ECO	REVISION	BY	DATE	OWN	TA	DATE	FILE	SCALE
					CKD		11-28-94		1
								DWG	1-100
								TITLE	NO.
								CHANNEL, INSIDE	CD-148



MATERIAL: 1 X 1 X 1/8 ANGLE

PIKE LAKE & EASTERN

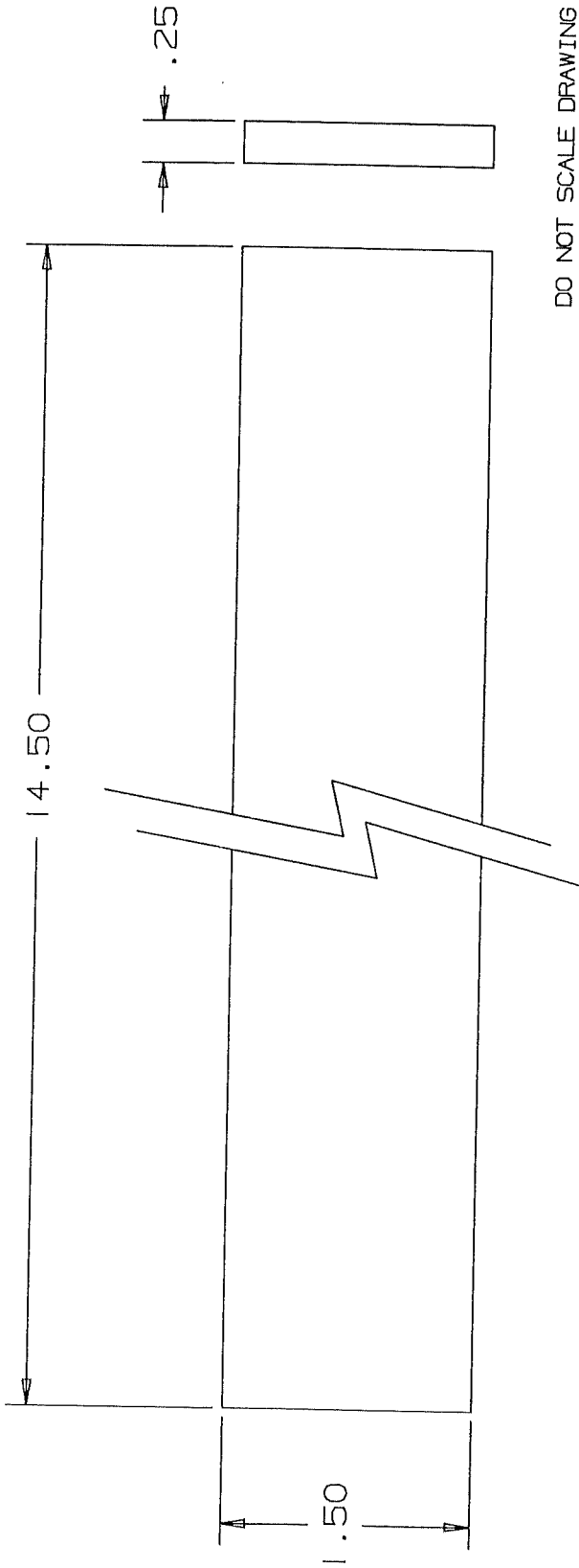
[illegible]



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 STEEL

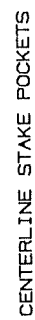
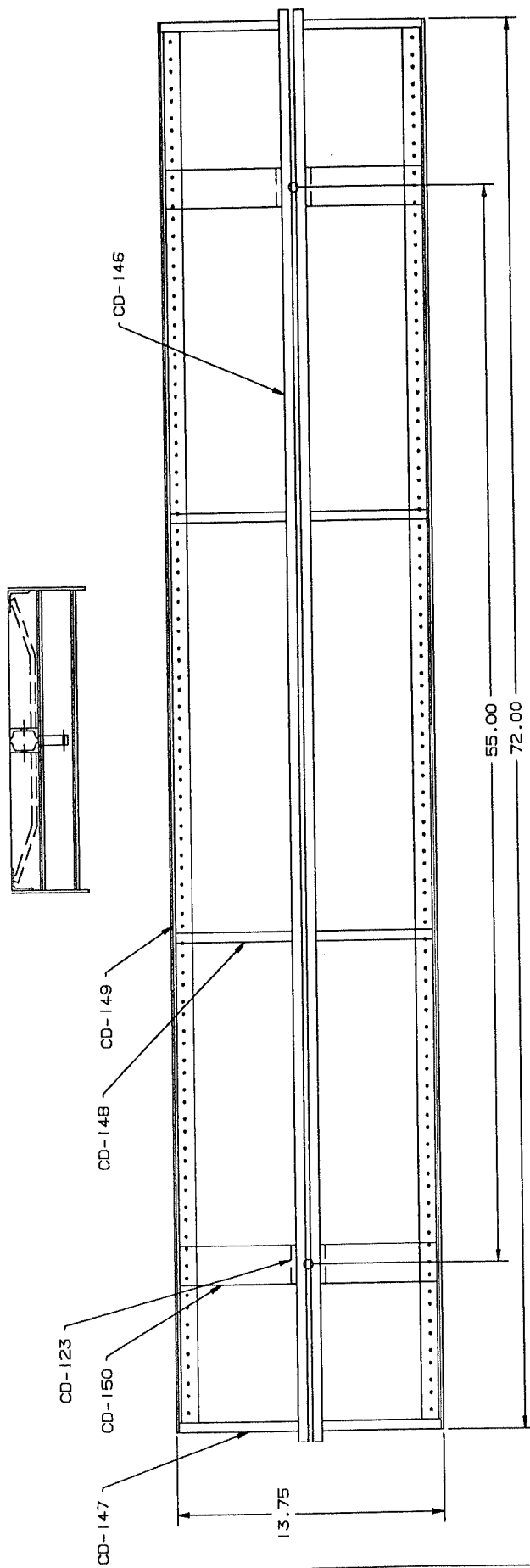
PIKE LAKE & EASTERN Hartford Shops				FILE SCALE 1	
DWN TA DATE 11-29-94		FILE SCALE 1		DWG 1-100	
ECO DATE		ECO DATE		NO. CD-150	
SYM ECO		REVISION		TITLE BOLSTER	
BY DATE		BY DATE		BY DATE	



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 1 1/2 WOOD

PIKE LAKE & EASTERN Hartford Shops			
DWN	TA	DATE	FILE
		11-19-94	
CKD		DATE	DWG
TITLE			SCALE
WOOD PLANK (FLOOR)			1-100
NO.			CD-151
SYM	ECO	REVISION	BY DATE



DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED
FRACTIONS 1/16"

SW	ECO	REVISION	BY	DATE	TITLE	TA	DATE	BY	DATE
					FRAME WELDMENT, FLAT	12-30-04	14.8.		
					CD-153	1-100	NO.		
					PIKE LAKE & EASTERN				
					14-110-04				
					WATERVAL-1				

CD-153 FRAME WELDMENT

CD-132

DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED
ANGLES 3/4"
DIMENSIONS OF PLOTS 3/4"
DIMENSIONS OF PLOTS 3/4"

INTERVAL	PIKE LAKE & EASTERN Western Slope		DATE	FILE	NO.
	TA	2-30-04	DATE	FILE	NO.
	30	002	DATE	FILE	NO.
	TITLE		DATE	FILE	NO.
	FLAT CAR		DATE	FILE	NO.
	CO-154		DATE	FILE	NO.