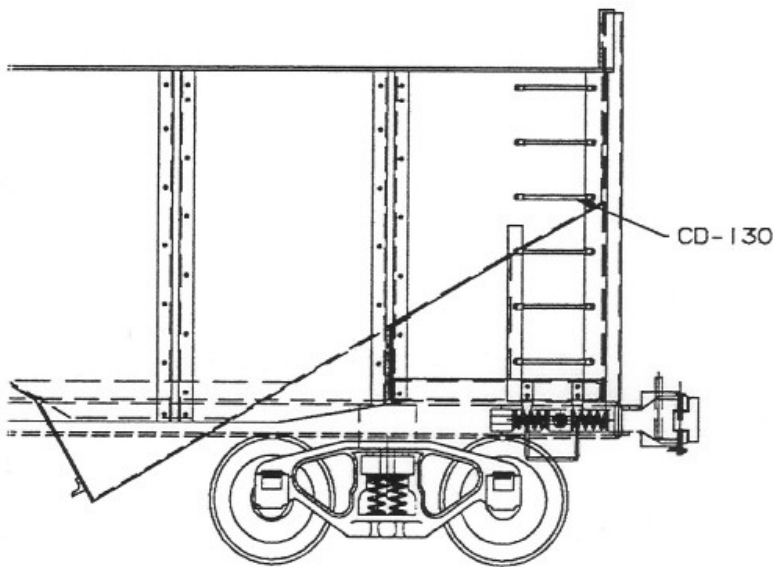
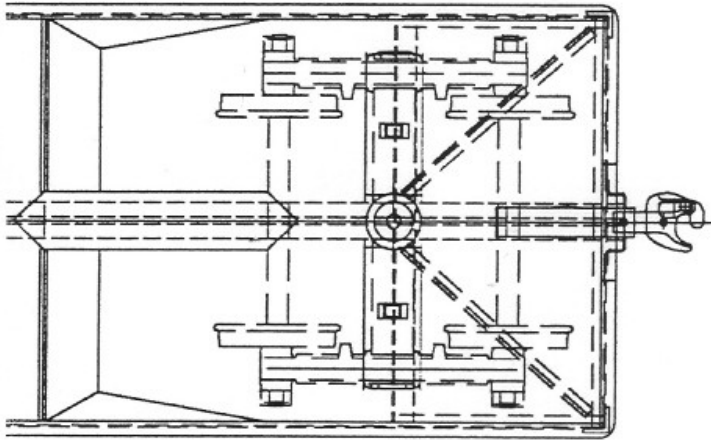


LARGE SCALE MODEL RAILWAY ENGINEERING

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 and 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 too 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 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 mean time I thought I would do several articles on locomotive accessories and maybe some shop equipment. Stay tuned till next month.



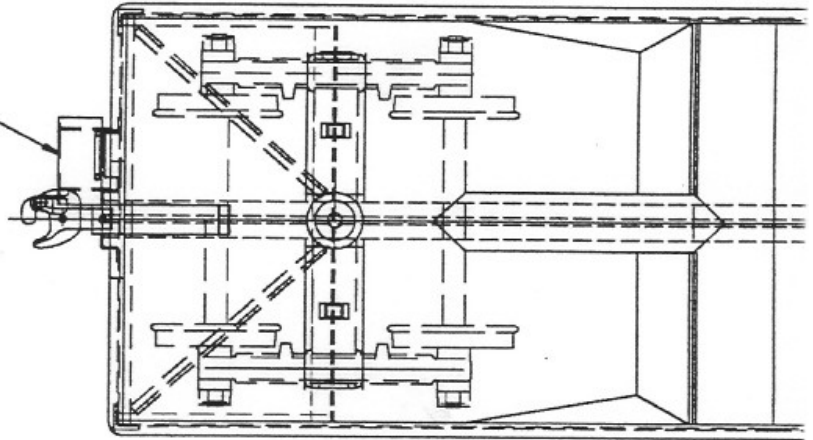
DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 FINISH .01"
 DECIMALS 16 PLAGS 1.00

MATERIAL:

PIKE LAKE & EASTERN
 Hartford, Shepa

					DRW	DATE	FILE	NO.
					TA	11-20-85		N.S.
					DRG			1-100
					TITLE			NO.
					HOPPER CAR - 2 BAY			CD-175
SYM	ECC	REVISION	BY	DATE				

CD-178



BRAKE WHEEL
AND HOUSING
BUILDERS CHOICE

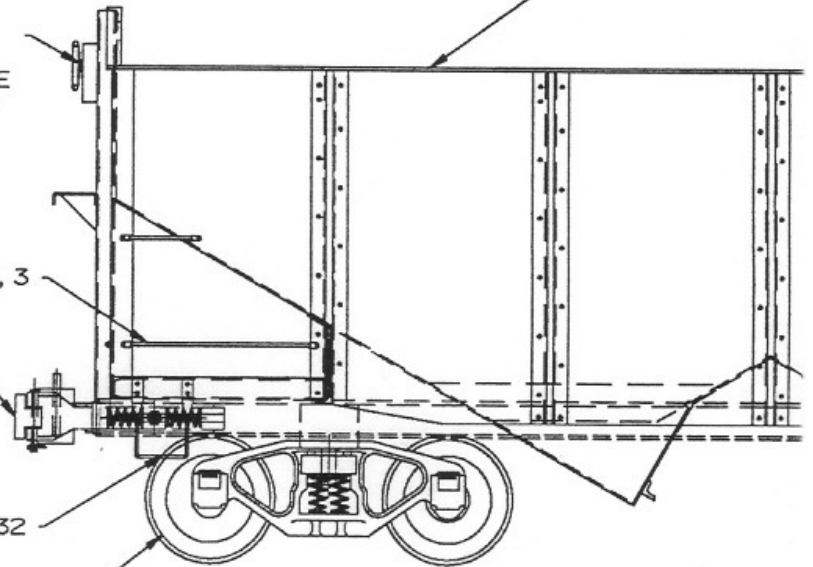
CD-176 BODY

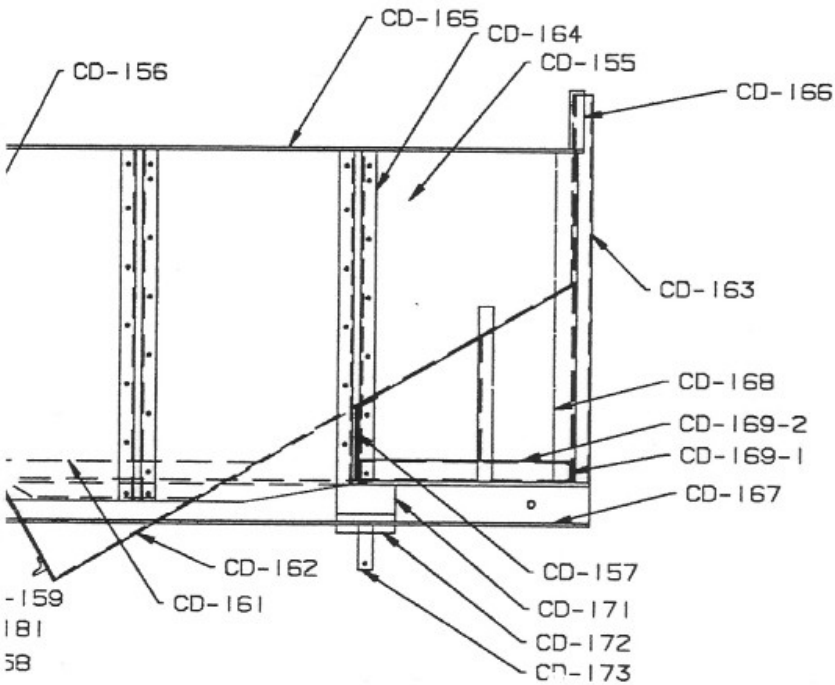
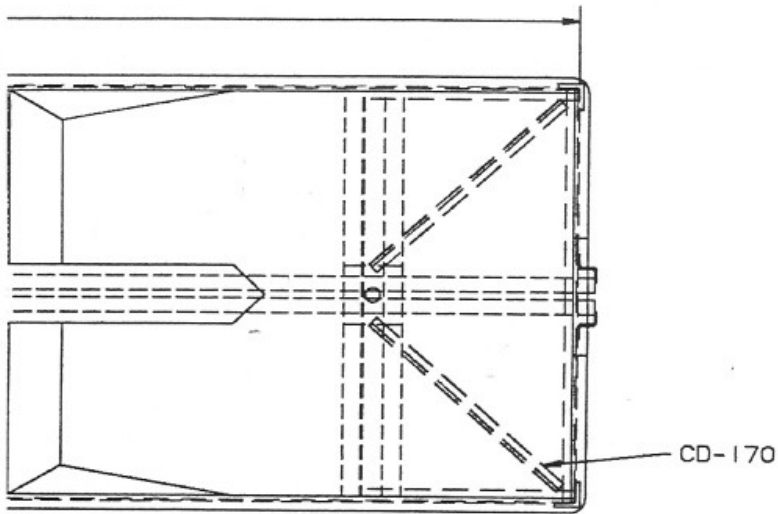
CD-179-1, 2, 3

CD-114

CD-132

CD-106





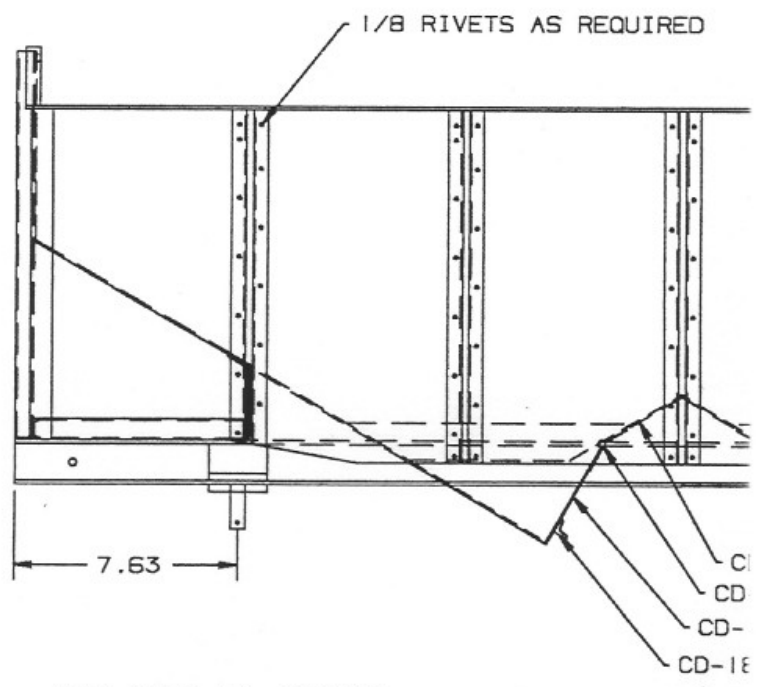
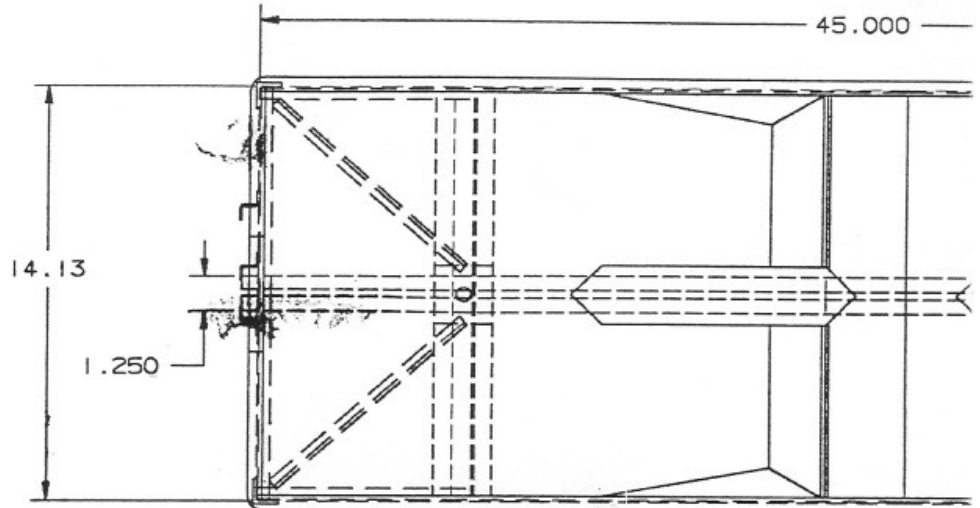
SEE SHEET 2 FOR END
AND CROSS SECTION DETAILS

DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED
INCHES .005
DECIMALS .001

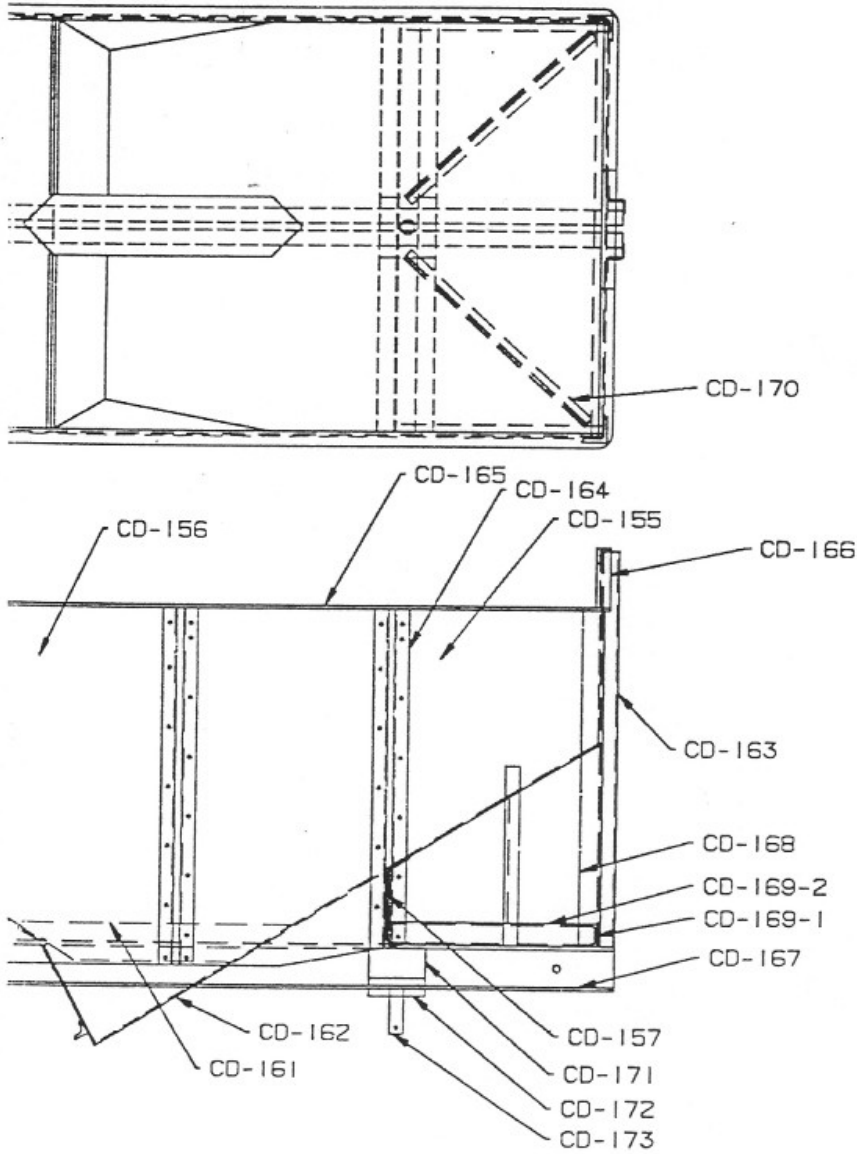
MATERIAL:

PIKE LAKE & EASTERN
Herford Shops

REV	TA	DATE	BY	CHKD	NO.
		11-20-05			N.S.
TITLE					NO.
HOPPER CAR BODY - 2 BAY					CD-176
SYM	ECO	REVISION	BY	DATE	



TACK WELD ALL CORNERS
AND SEAMS



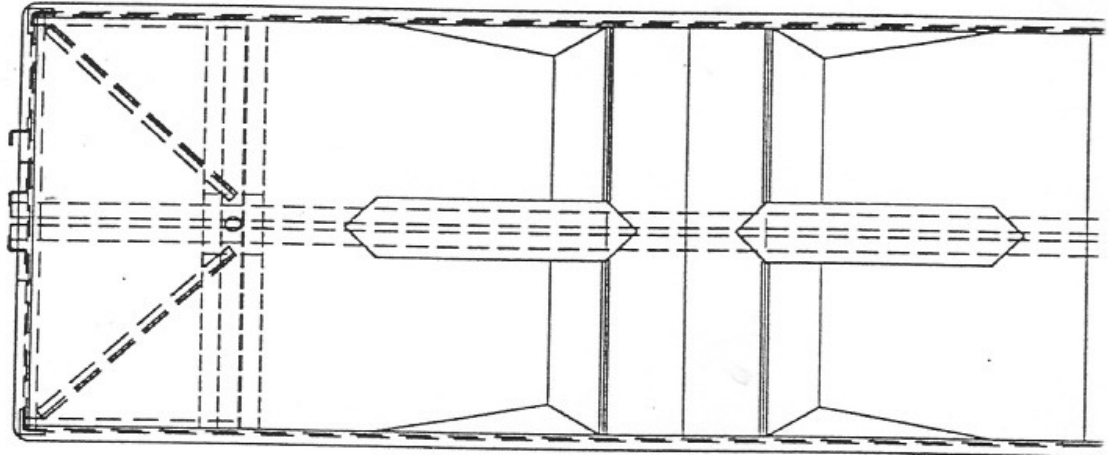
SEE SHEET 2 FOR END
AND CROSS SECTION DETAILS

DO NOT SCALE DRAWING
TOLERANCES
UNLESS OTHERWISE SPECIFIED
ANGLES 90°
DIMENSIONS IN PAGES 1.318

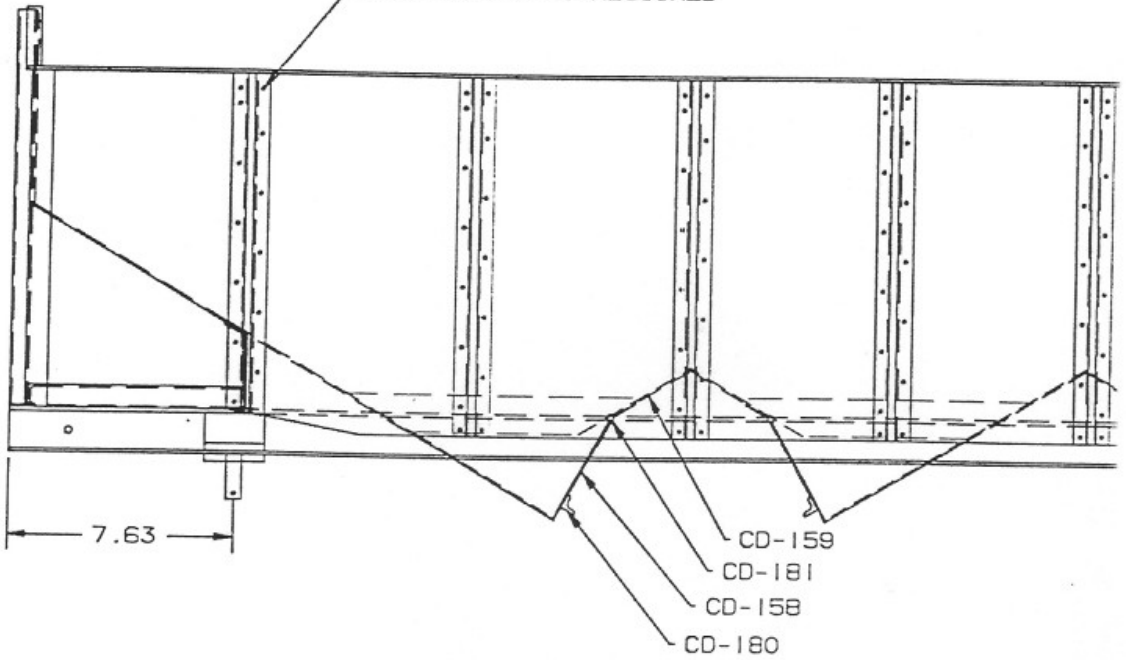
MATERIAL:

PIKE LAKE & EASTERN
Hardford Sheet

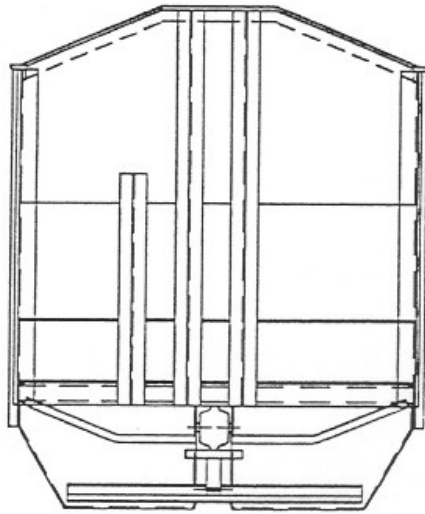
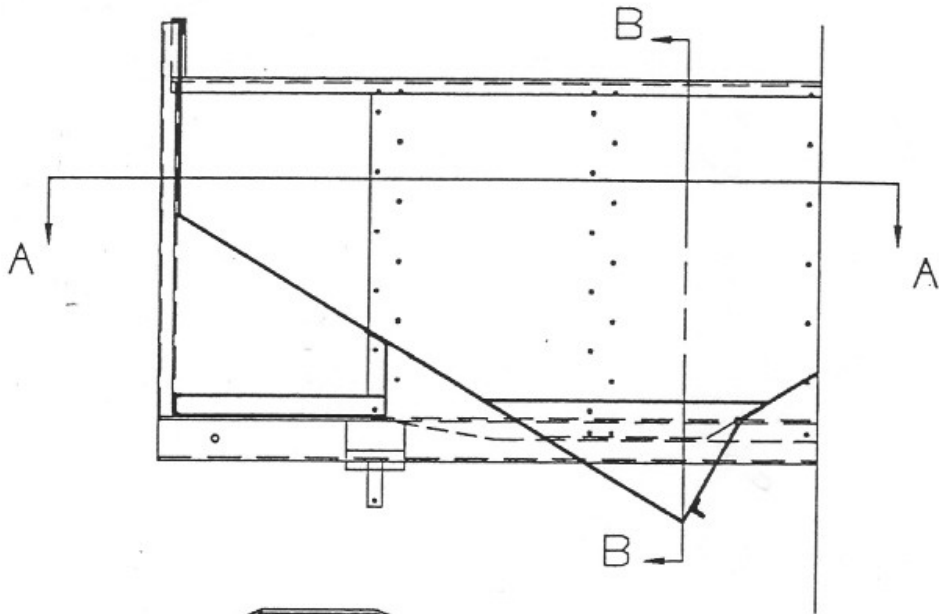
DR	TA	DATE	12-27-05	FILE	NO.
					N.S.
					1-100
SYN	ECO	REVISION	BY	DATE	TITLE
					HOPPER CAR BODY - 3 BAY
					CD-177



1/8 RIVETS AS REQUIRED



TACK WELD ALL CORNERS AND SEAMS



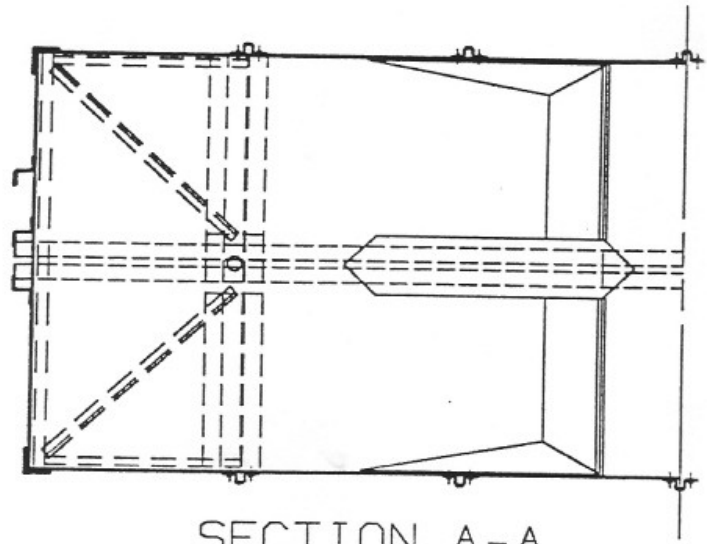
DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED
 FINISH 31"
 DECIMALS 8 PLACES 0.001

MATERIAL:

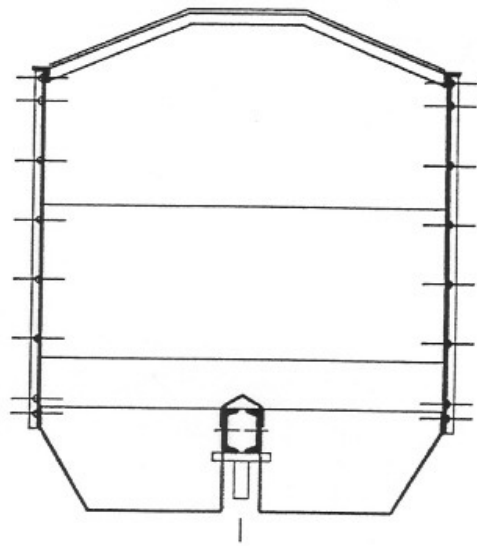
PIKE LAKE & EASTERN
 Montreal Shops

SYN	ECO	REVISION	BY	DATE	DR	TA	DATE	CHK	DATE	CHK	DATE	NO.
							12-27-05					N.S.
												1-100
												NO.
												CD-17B

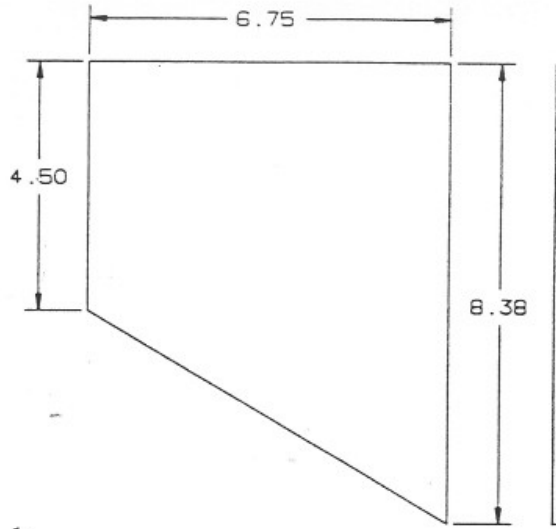
TITLE
 DETAILS, HOPPER CARS



SECTION A-A



SECTION B-B

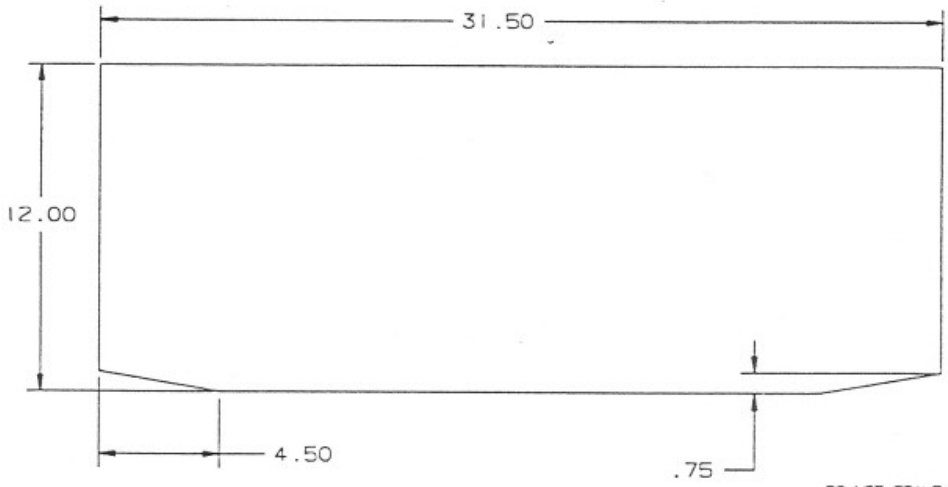


DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES ±1°
 DECIMALS: 13 PLACES ±.005
 12 PLACES ±.015

MATERIAL: 16 GA. STEEL

PIKE LAKE & EASTERN Hartford Shops			
DRN	TA	DATE	SCALE
		7-30-95	1
DOC		DATE	DWG
			1-100
TITLE			NO.
SIDE PANNEL			CD-155

SYM	ECO	REVISION	BY	DATE

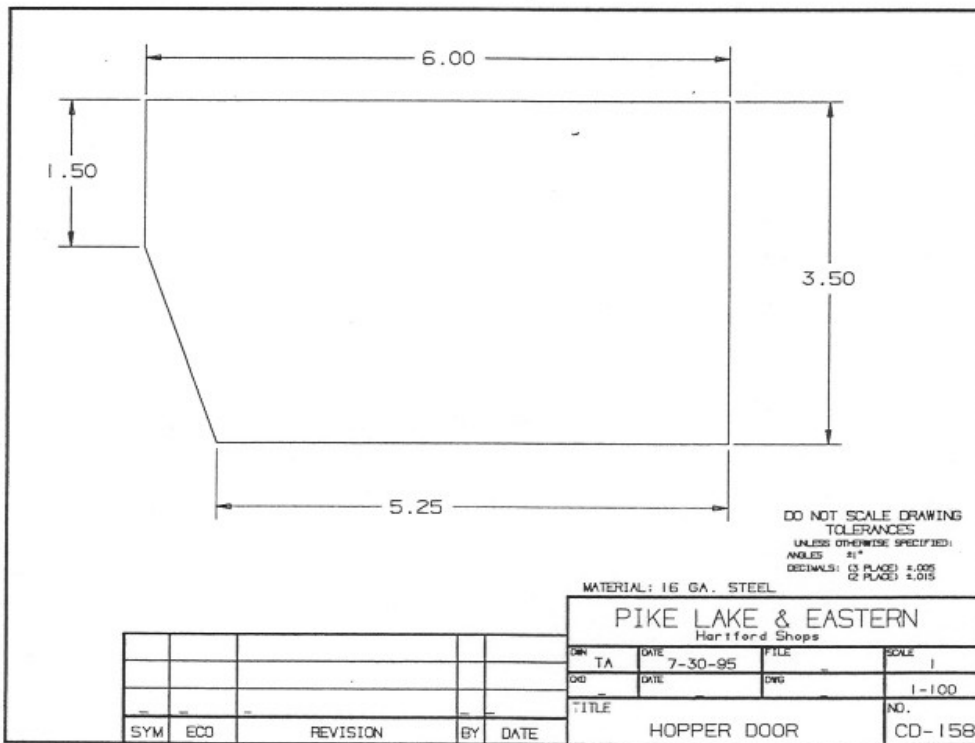
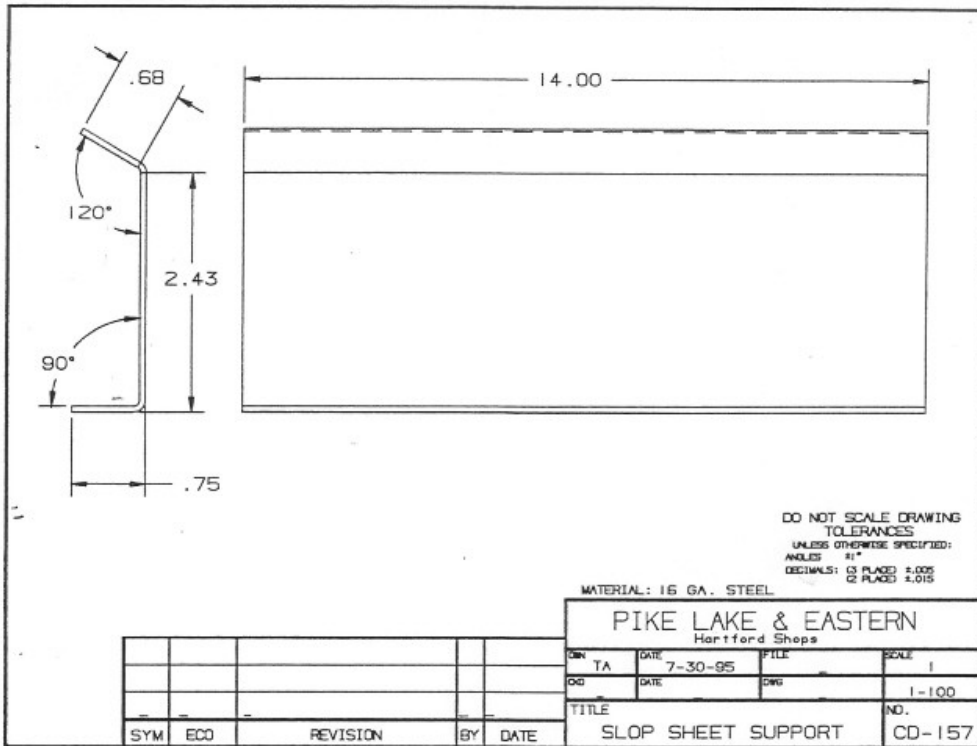


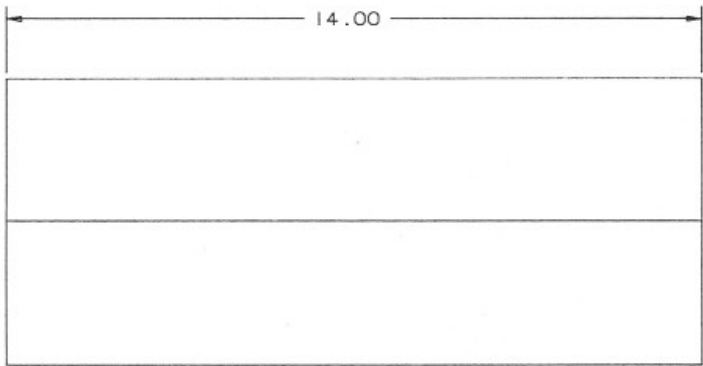
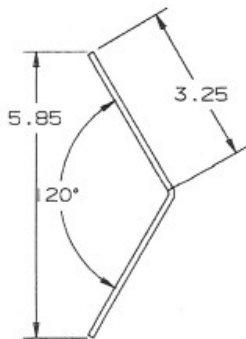
DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES ±1°
 DECIMALS: 13 PLACES ±.005
 12 PLACES ±.015

MATERIAL: 16 GA. STEEL

PIKE LAKE & EASTERN Hartford Shops			
DRN	TA	DATE	SCALE
		7-30-95	1
DOC		DATE	DWG
			1-100
TITLE			NO.
SIDE PANNEL			CD-155

SYM	ECO	REVISION	BY	DATE





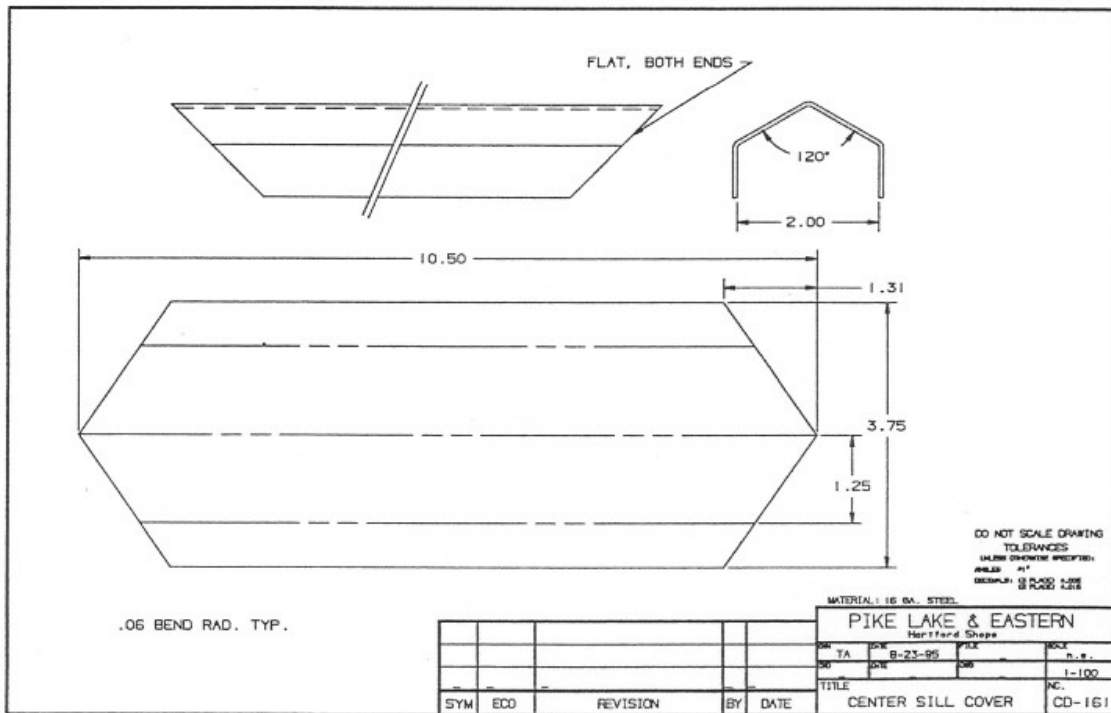
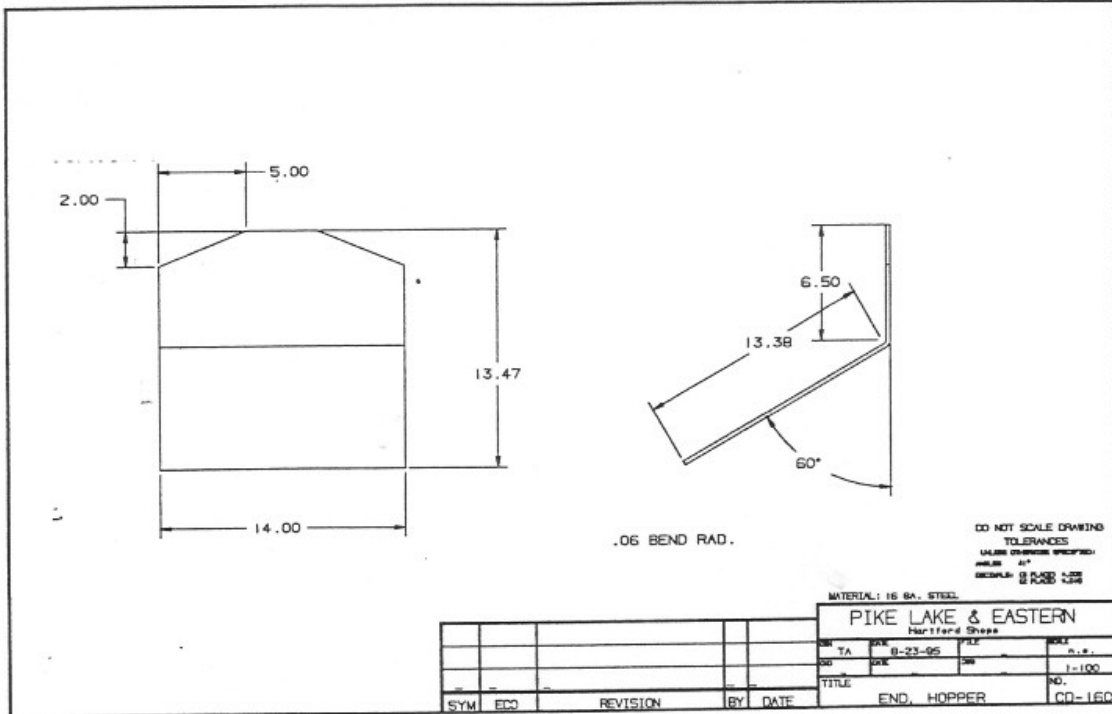
DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES ±1°
 DECIMALS: (3 PLACES) ±.005
 (2 PLACES) ±.015

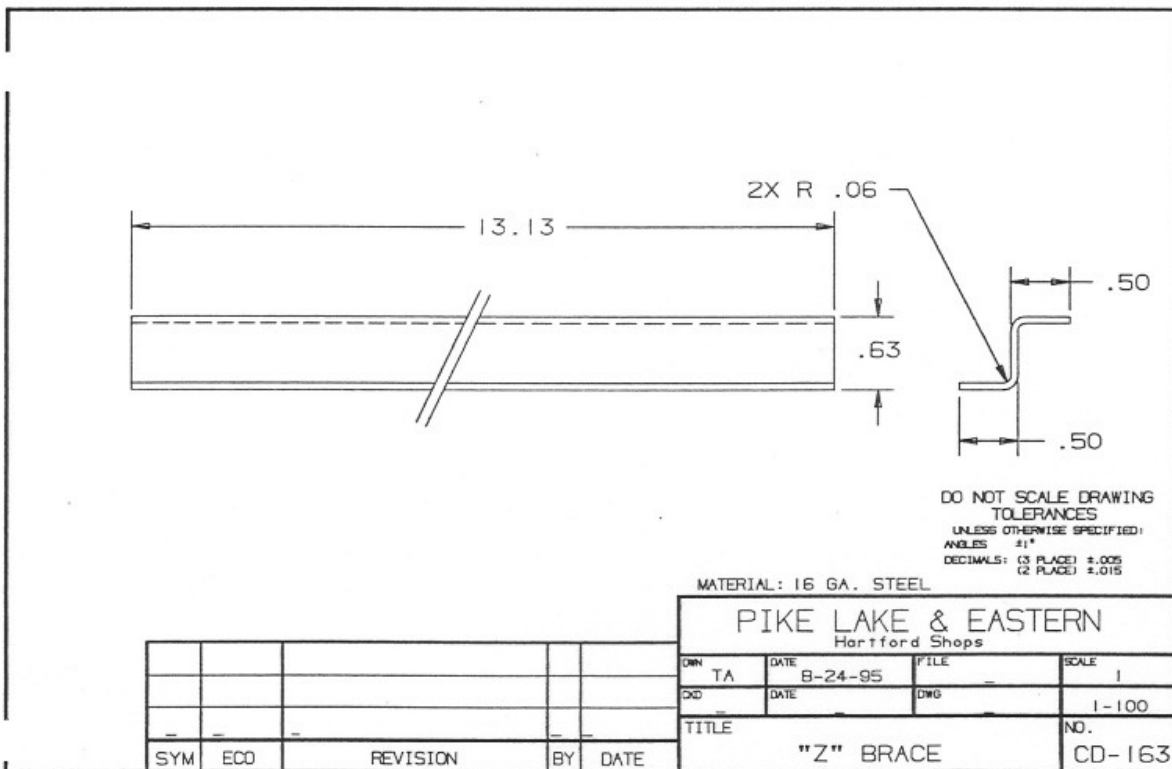
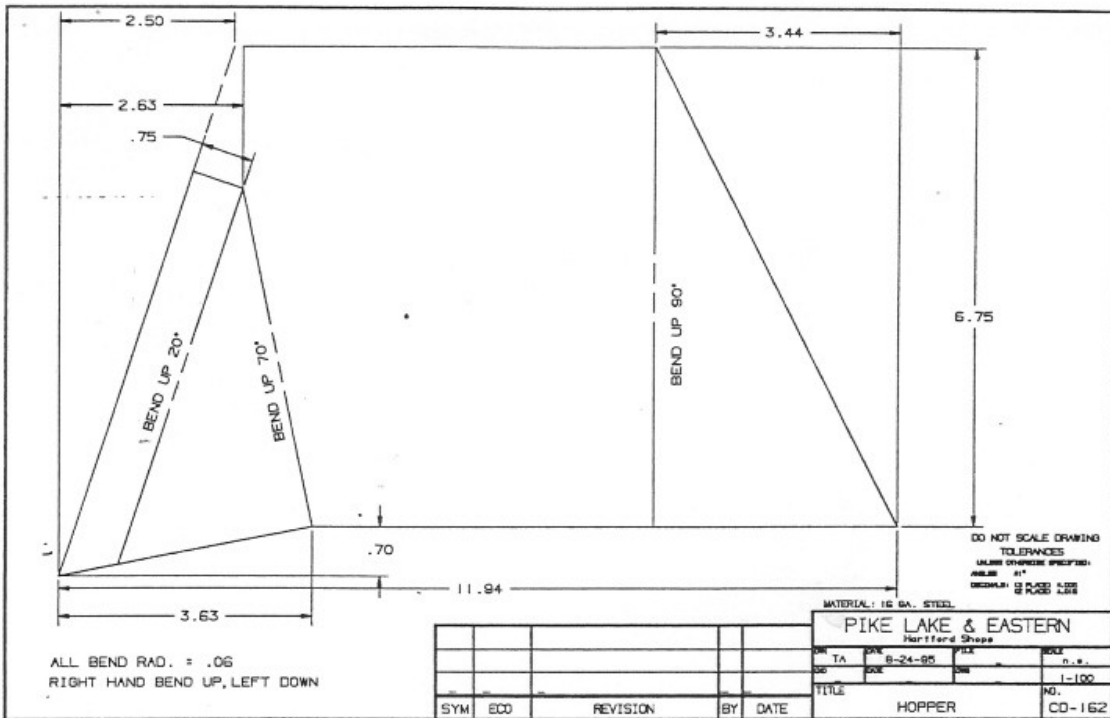
MATERIAL: 16 GA. STEEL

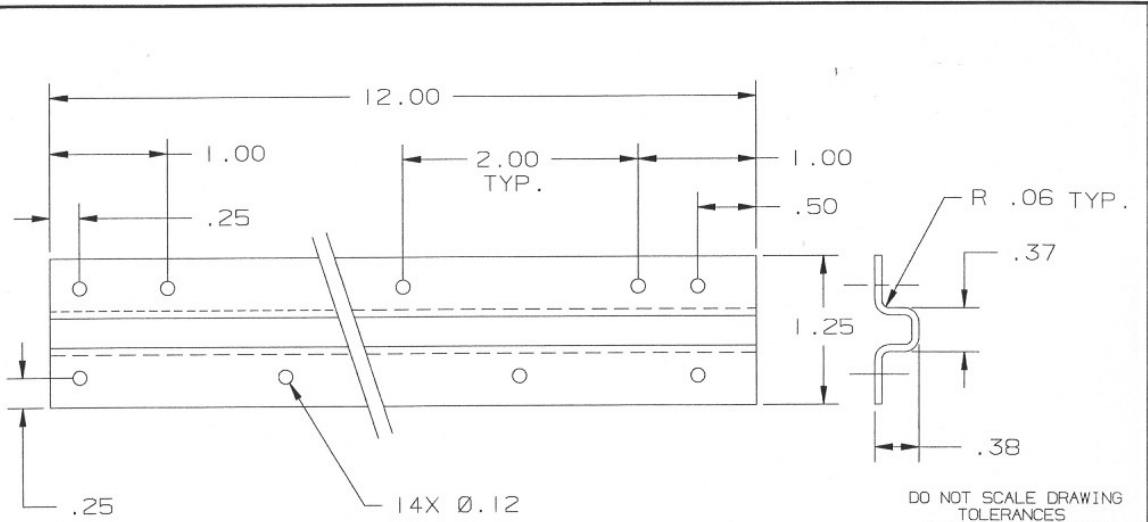
PIKE LAKE & EASTERN
 Hartford Shops

SYM	ECD	REVISION	BY	DATE

DRW	TA	DATE	FILE	SCALE
		7-30-95		1:1
DRG	DATE	DRG	NO.	NO.
				1-100
TITLE				NO.
BOTTOM SHEET				CD-159







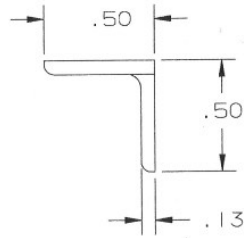
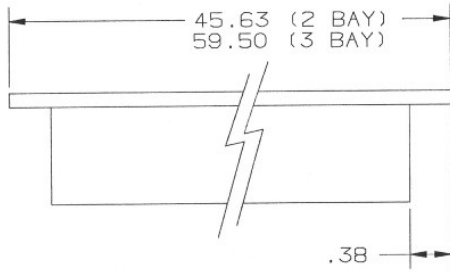
DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES ±1°
 DECIMALS: (3 PLACE) ±.005
 (2 PLACE) ±.015

MATERIAL: 16 GA. STEEL

PIKE LAKE & EASTERN
 Hartford Shops

SYM	ECO	REVISION	BY	DATE

DWN	TA	DATE	8-24-95	FILE		SCALE	1
CKD		DATE		DWG			1-100
TITLE							NO.
SIDE RIB							CD-164



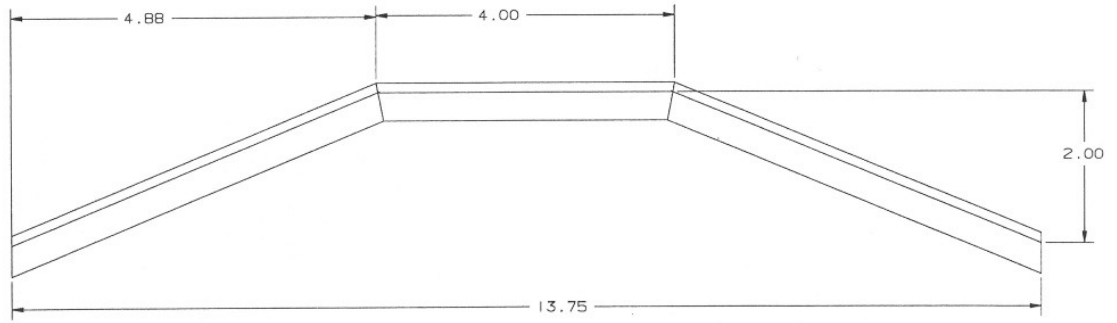
SAW SQUARE AND DEBURR

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

MATERIAL: 1/8 ANGLE

PIKE LAKE & EASTERN
 Hartford Shops

					DWN	TA	DATE	9-27-95	FILE		SCALE	1
					ORD		DATE		DWG			1-100
					TITLE							NO.
					ANGLE, TOP SIDE							CD-165
					SYM	ECO		REVISION		BY		DATE

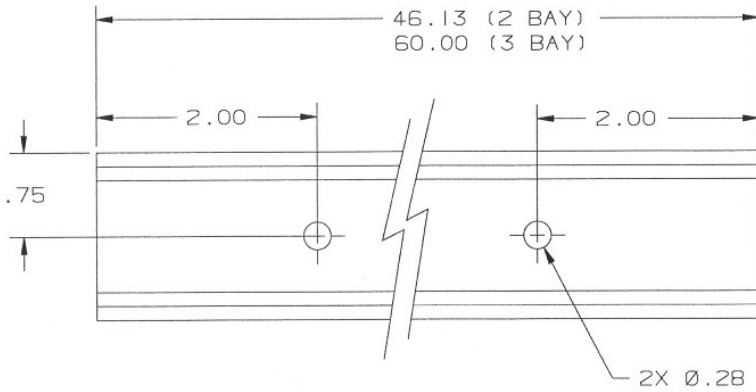


DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES: 1/4°
 DECIMALS: (3 PLACES) ±.005
 (2 PLACES) ±.015

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

PIKE LAKE & EASTERN
 Hartford Shops

SYMBOL	ECO	REVISION	BY	DATE	DATE	DATE	SCALE
					9-27-95		N. E.
							1-100
							NO.
						ANGLE, END	CD-166



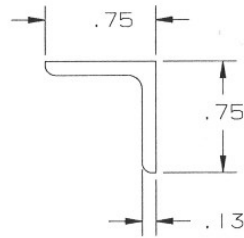
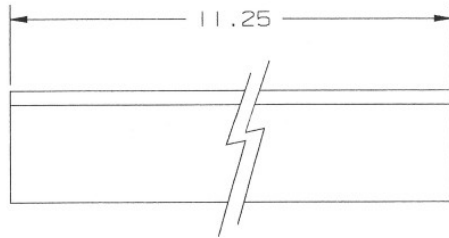
SAW SQUARE AND DEBURR

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

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

SYM	ECO	REVISION	BY	DATE

PIKE LAKE & EASTERN Hartford Shops			
DWN	TA	DATE	SCALE
		9-27-95	1
CRD		DATE	DWG
			1-100
TITLE			NO.
CHANNEL, CENTER SILL			CD-167



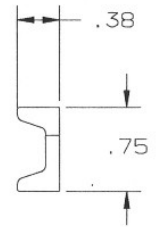
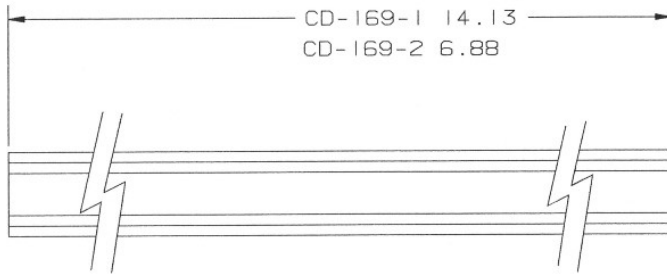
SAW SQUARE AND DEBURR

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

MATERIAL: 1/8 ANGLE

PIKE LAKE & EASTERN
 Hartford Shops

					DWN	TA	DATE	9-27-95	FILE	SCALE	1
					OKD		DATE		DWG		1-100
					TITLE						NO.
					ANGLE, CORNER						CD-168
					SYM	ECO	REVISION	BY	DATE		



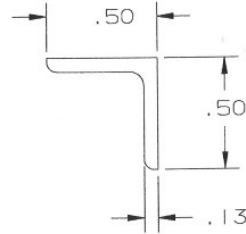
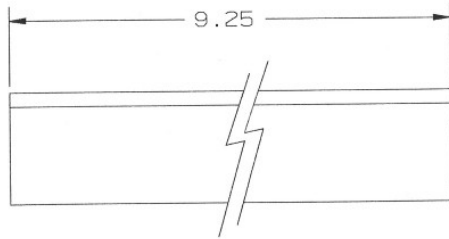
DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES ±1°
 DECIMALS: (3 PLACE) ±.005
 (2 PLACE) ±.015

MATERIAL: 3/4 X 3/8 X 1/8 STEEL CHANNEL

PIKE LAKE & EASTERN
 Hartford Shops

SYM	ECD	REVISION	BY	DATE

DWN	TA	DATE	9-27-95	FILE		SCALE	1
				DWG			1-100
TITLE							NO.
CHANNEL, END SILL							CD-169



SAW SQUARE AND DEBURR

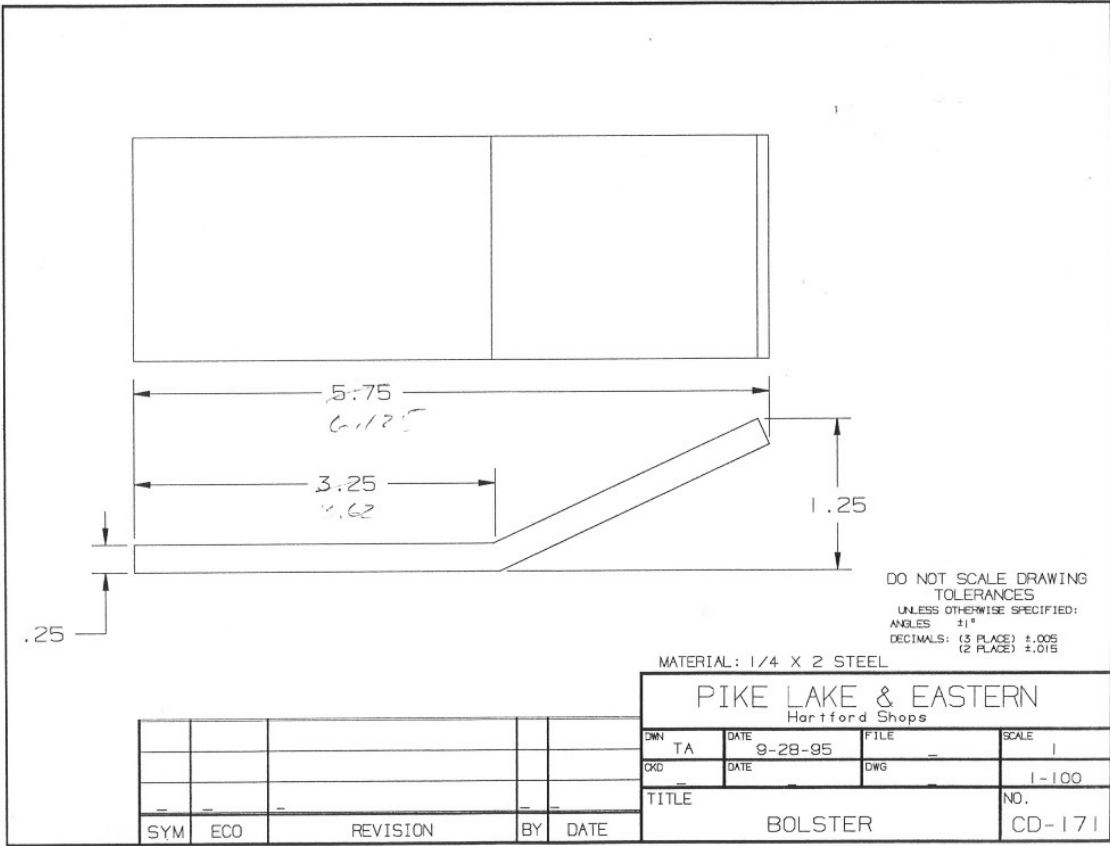
DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES ±1°
 DECIMALS: (3 PLACE) ±.005
 (2 PLACE) ±.015

MATERIAL: 1/8 ANGLE

PIKE LAKE & EASTERN
 Hartford Shops

SYM	ECO	REVISION	BY	DATE

DWN	TA	DATE	9-27-95	FILE	SCALE
					1
					1-100
TITLE					NO.
ANGLE, END BRACE					CD-170



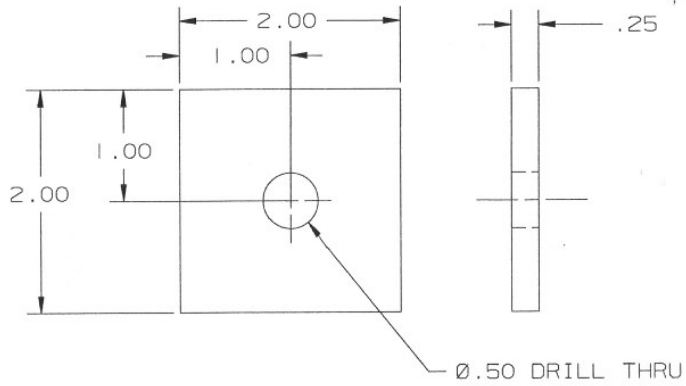
DO NOT SCALE DRAWING
 TOLERANCES
 UNLESS OTHERWISE SPECIFIED:
 ANGLES ±1°
 DECIMALS: (3 PLACE) ±.005
 (2 PLACE) ±.015

MATERIAL: 1/4 X 2 STEEL

PIKE LAKE & EASTERN
 Hartford Shops

SYM	ECO	REVISION	BY	DATE
-	-	-	-	-

DWN	TA	DATE	9-28-95	FILE	SCALE	1
CKD		DATE		DWG		1-100
TITLE						NO.
BOLSTER						CD-171



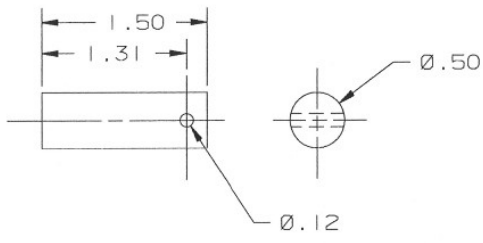
SAW SQUARE AND DEBURR

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

MATERIAL: 1/4 X 2 HR FLAT

PIKE LAKE & EASTERN
 Hartford Shops

					DWN	TA	DATE	9-29-95	FILE		SCALE	1
					CHKD		DATE		DWG			1-100
					TITLE							NO.
					PAD, TRUCK							CD-172
					SYM	ECO		REVISION		BY		DATE



DEBURR BOTH ENDS AND HOLE

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

MATERIAL: 1/2 COLD ROLLED

PIKE LAKE & EASTERN
 Hartford Shops

SYM	ECO	REVISION	BY	DATE
-	-	-	-	-

DWN	TA	DATE	9-29-95	FILE	SCALE	1
OXD		DATE		DWG		1-100
TITLE						NO.
TRUCK PIN						CD-173