

Multi-Use Car Plans



Plans and Photos by Tom and Steve Waterfall

While operating it became obvious that we needed both riding cars for passengers and boxcars for switching moves. This is not an unusual situation but our solution was rather unique. Our answer was to build one car that does both! We made a flat car, put a box and upholstered seat on it, and built a boxcar shell that fits over the seat. Its' frame rests on the flat car floor while the sides extend down the flat car sides. The shell is not bolted on and simply lifts off when a riding car is needed ([click thumbnail image to enlarge](#)).



We built the flat car frames from 2in. channel (above). All parts were welded. Stake pockets were not added, so the box car shell sides would slide down over the flatcar sides. Frame dimensions are: 60in.x15in.x2in. 1/2in. plywood with pine edging was used for the floor.

See Drawing 1

The box and the seat base are made from 3/4in pine Dimensions are: 58inL.x8in.wx10in.H. The wood was then primed and painted. The box is bolted to the flat car top. We had the seat upholstered. The seat top lifts off and allows storage inside. The riding car seat decals were made at a local shop. Vinyl stick on letters and numbers were used on the frame sides (see photo at the top of the article).

See Drawing 2



The frame for the boxcars is made from 3/4in.x1 1/2in. Pine boards, glued and screwed together with 3in. deck screws. It is a 1/8th of an inch larger in width and length than the flat car.

See Drawing 1

The frame rests on top of the flatcar floor while the Masonite sides extend down the sides of the flatcar, covering the metal frame.

1/4in.tempered Masonite was used for the boxcar sides, ends, and roof and ribs. The ribs were rounded with a router.

See Drawing 4





Metal trim pieces (brake platform, brake rod and ladders) were made by Tom. Ladders were two pieces of square stock that were drilled and round stock pressed into the holes. No welding was done on these as it was a tight fit. We purchased the brake wheels from Precision Steel Car Co.

See Drawing 5

All wood pieces were glued with carpenter's glue and nailed together with a brad gun.

See Drawing 6



Nail holes were spackled and all surfaces were primed. We then used a semi-gloss latex paint. It took four coats on some cars (depending on color) to not show streak marks. Use the best brush possible for semi-gloss paint to avoid too many coats.

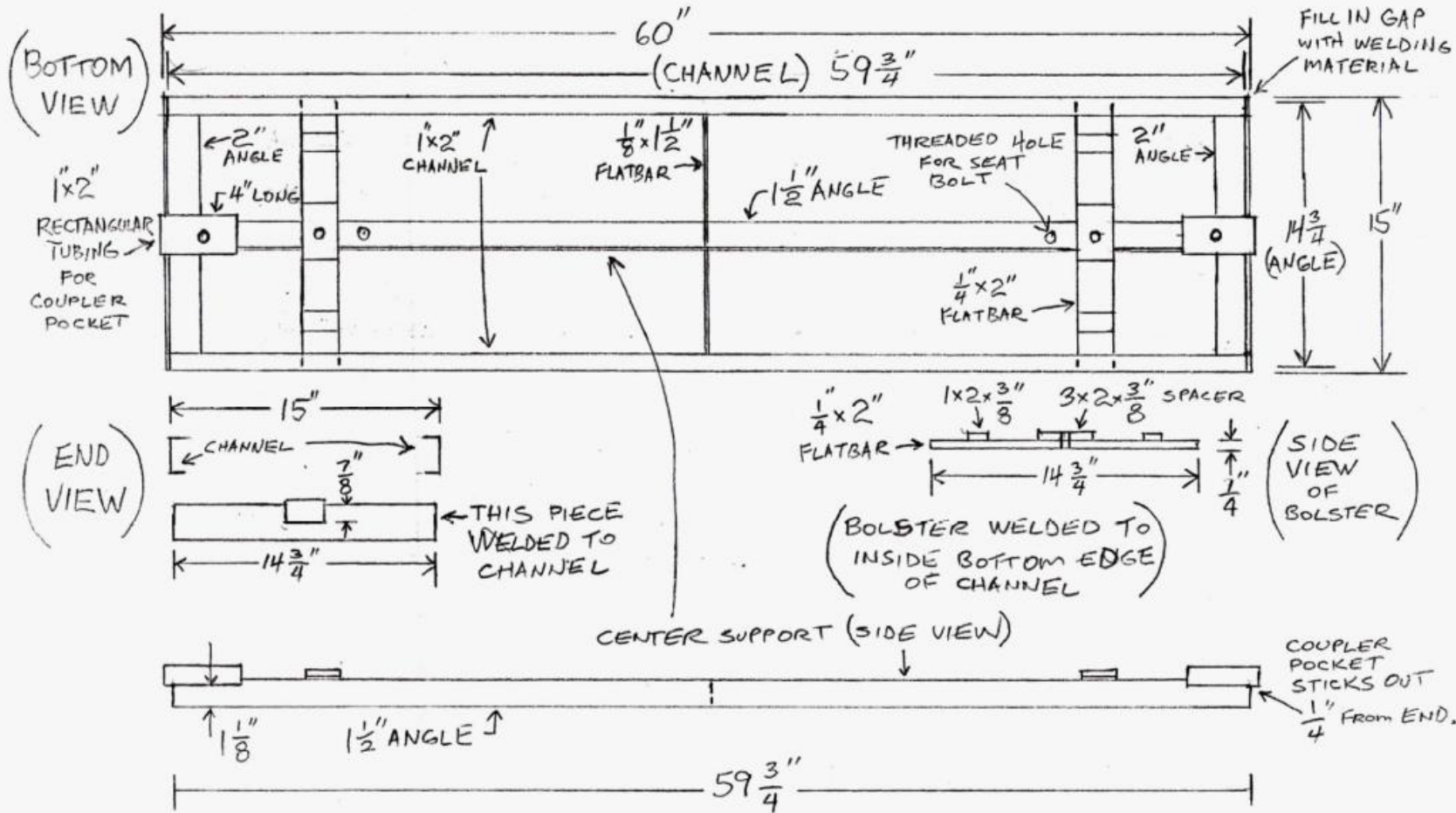
Box car final touches were decals from Miracle Graphics.



Total cost of materials for three cars (trucks and couplers are extra not included in price breakdown).

Pine	\$144
Plywood	\$44
Masonite	\$51
Aluminum	\$32
Steel	\$90
Brake wheels	\$17
Paint and brushes	\$73
Logo decals	\$60
Box car decals	\$210
Screws	\$8
Upholstery	\$150
TOTAL	\$879*

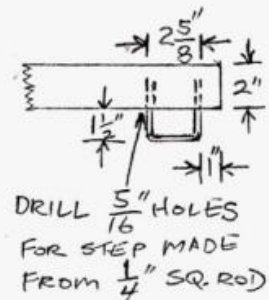
Drawing 1



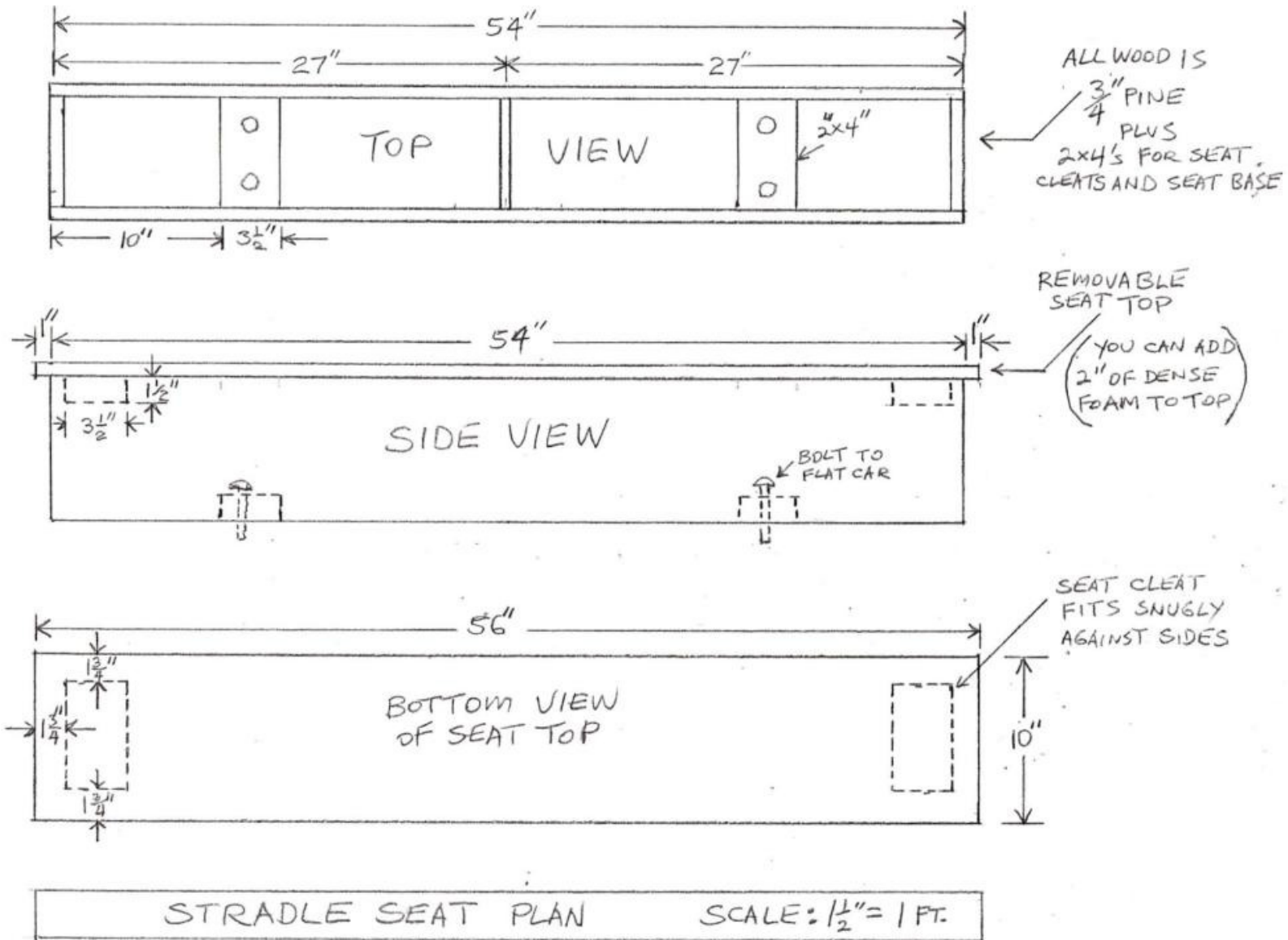
*NOTE: HEIGHT OF SPACERS ON BOLSTERS SHOULD MAKE CENTER LINE OF COUPLERS 4 7/16" FROM TOP OF RAIL. THIS CAR USES TRUCKS FROM MOUNTAIN CAR CO.

FLAT CAR FRAME DRAWING

SCALE 1 1/2" = 1 FT.



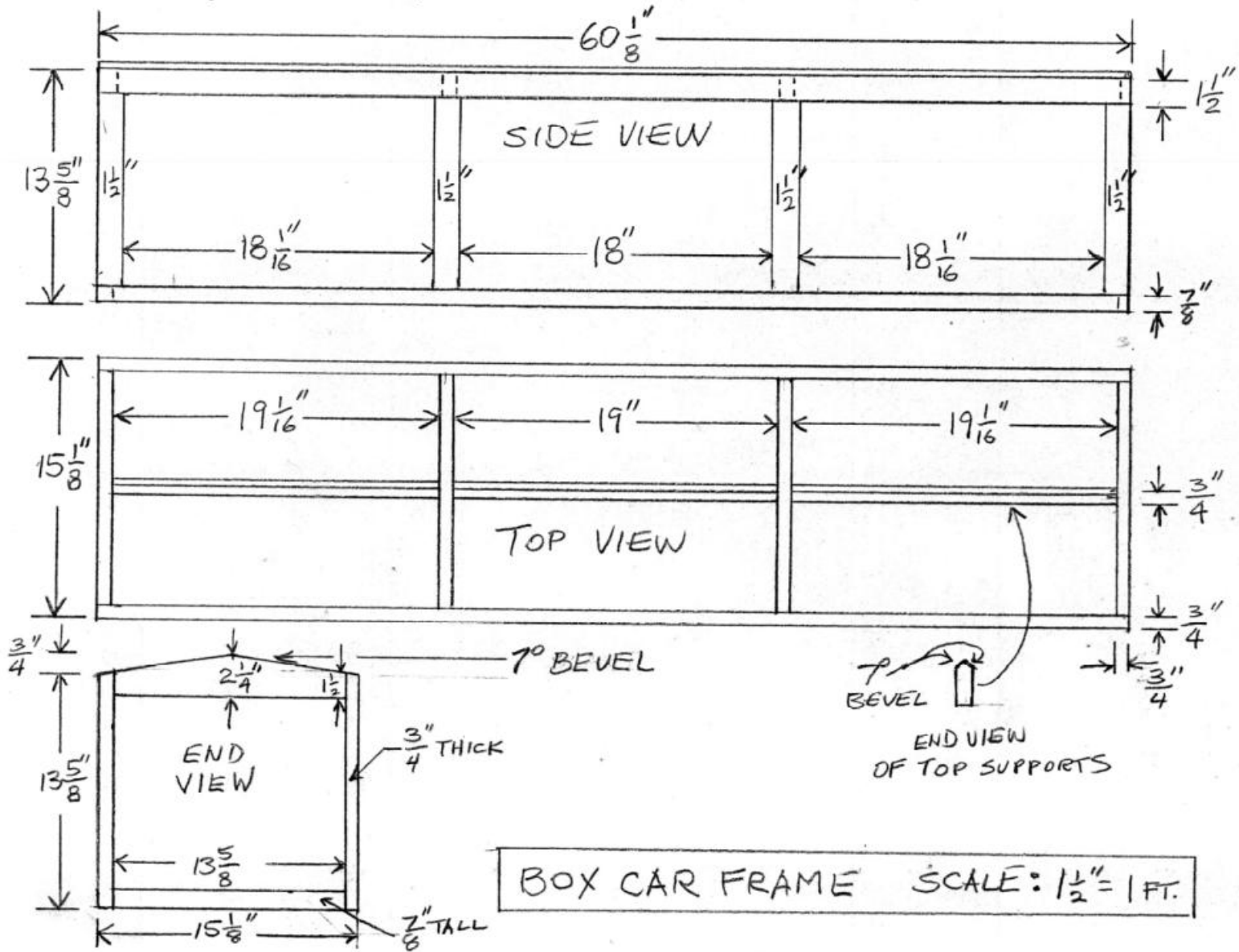
Drawing 2



Drawing 3

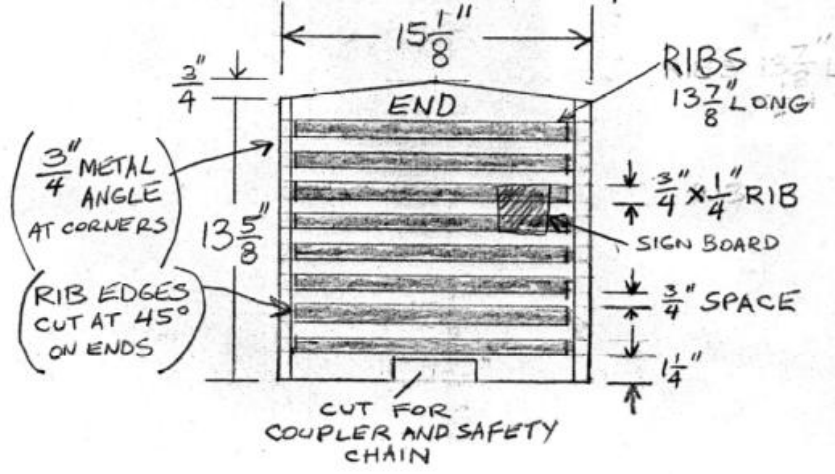
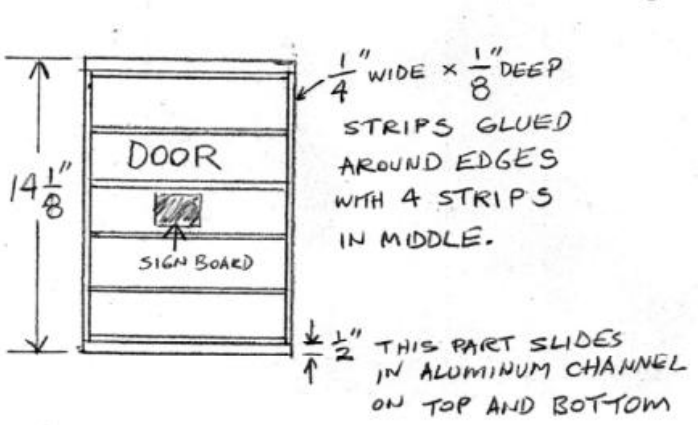
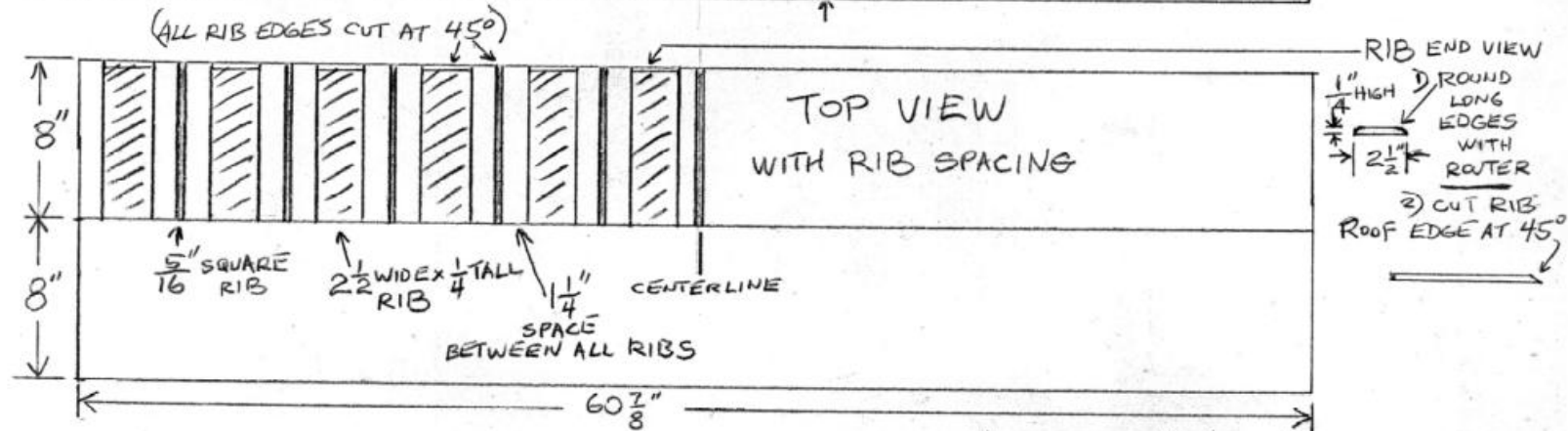
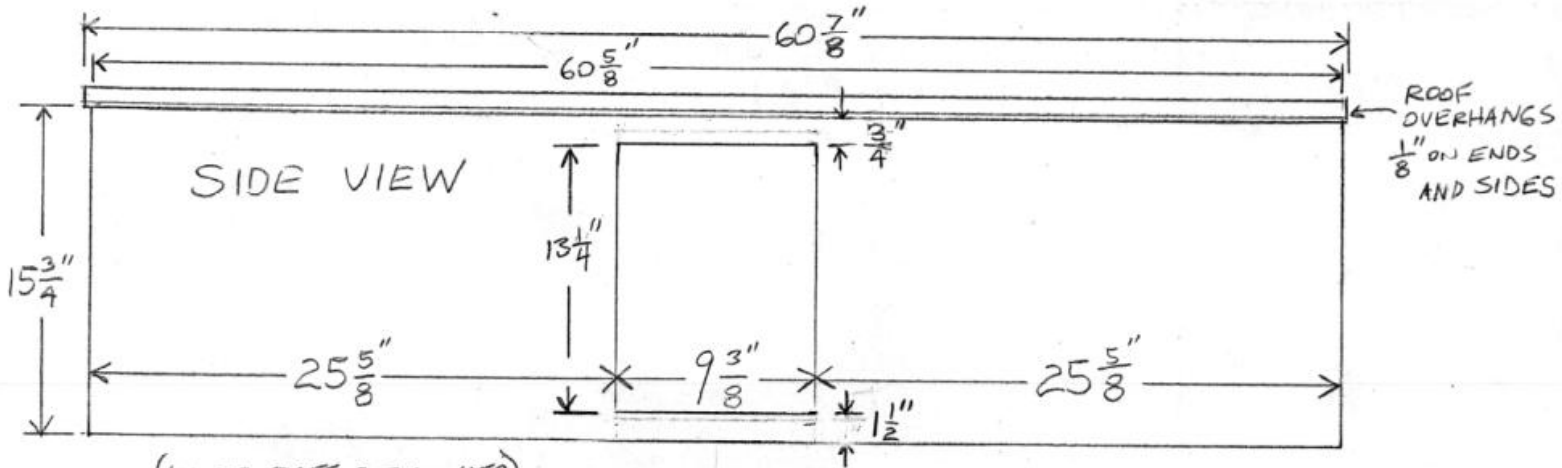
(BOX CAR FRAME IS $\frac{1}{8}$ "
WIDER AND LONGER THAN
FLAT CAR (15" x 60"))

ALL WOOD IS $\frac{3}{4}$ " PINE.

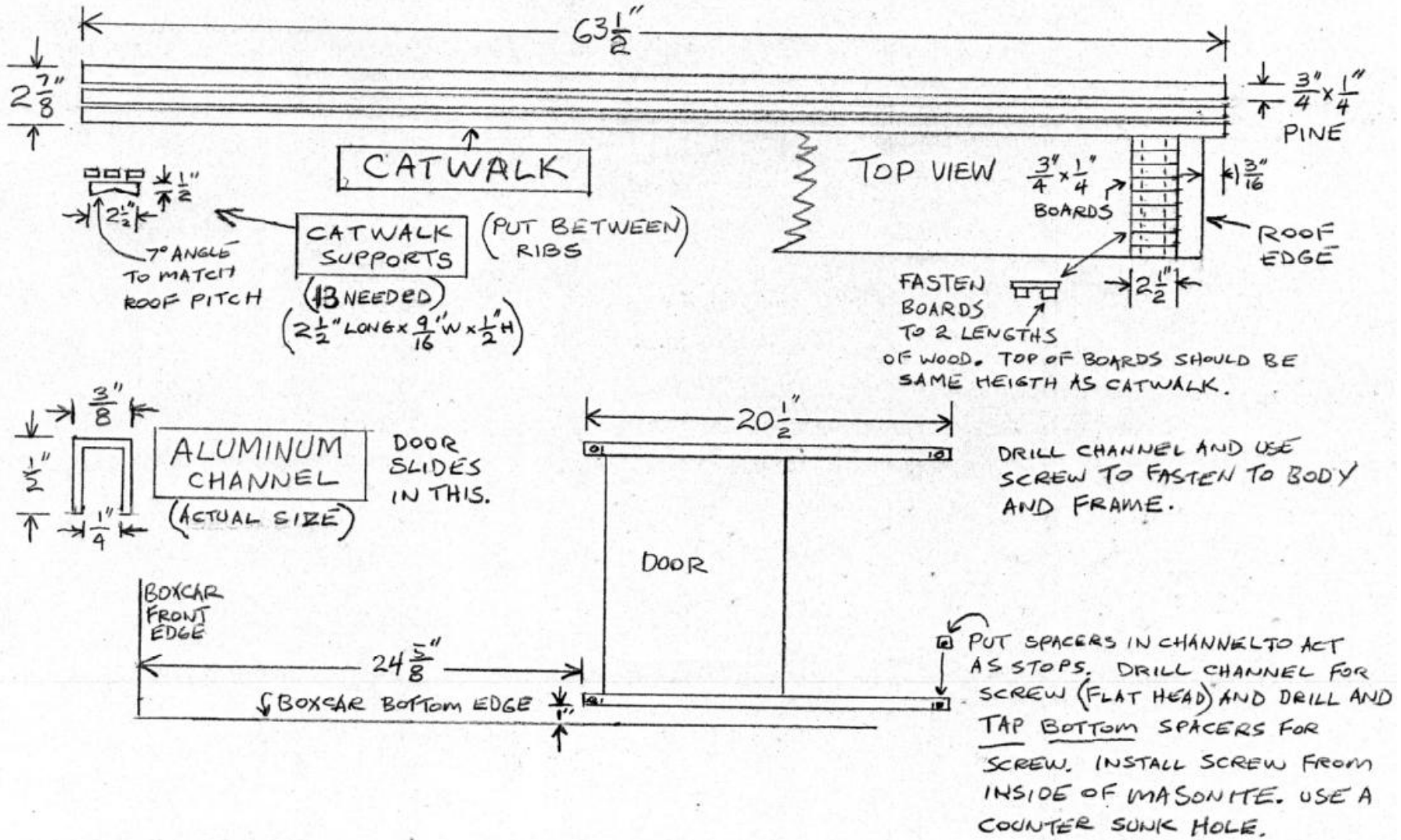


Drawing 4

MASONITE SCALE 1/2" = 1 FT.

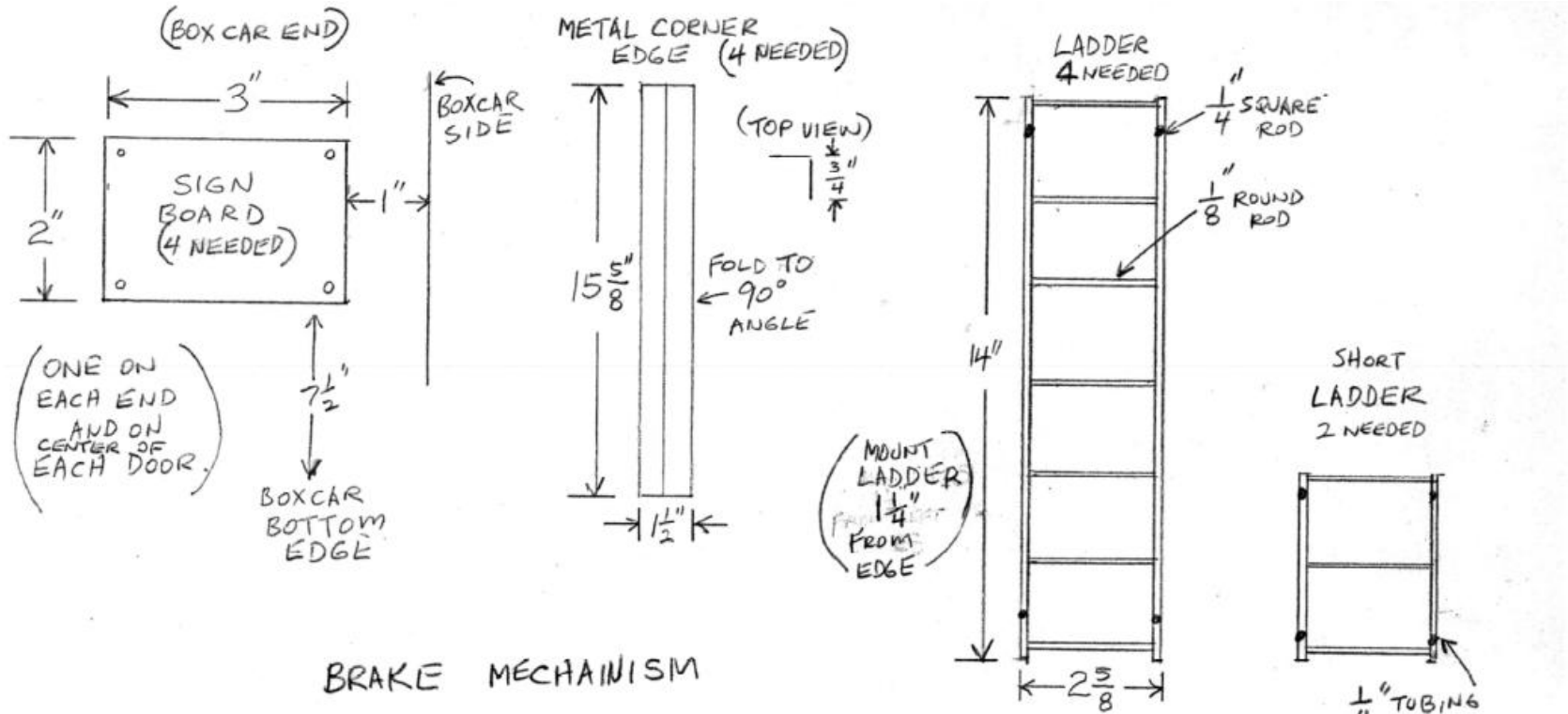


Drawing 5

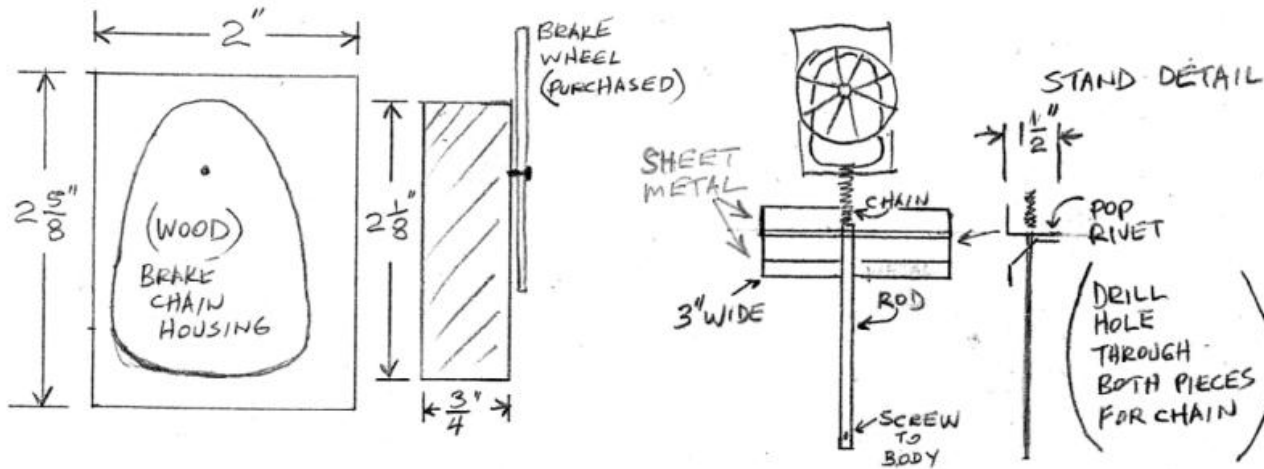


CATWALK AND DOOR DETAILS SALE: 1 $\frac{1}{2}$ " = 1 FT.

Drawing 6



BRAKE MECHANISM



DETAILS (NOT TO SCALE)