Bleachers

Bill of Materials
(one bleacher)

Amount	Material
32'	2" x 2" x 3/16" sq. tubing
86'	2" x 2" x 3/16" angle
23'	l"x l"x 1/8" angle
40'	2" black pipe
126	carriage bolts, 3/8" x 2" washers, nuts
34'	2"x 1/8 strap
324 b.f.	2" x 6" Hemp Fix
3 gallons	walnut stain
1/2 gallon	flat red oxide primer
1/2 gallon	royal blue enamel

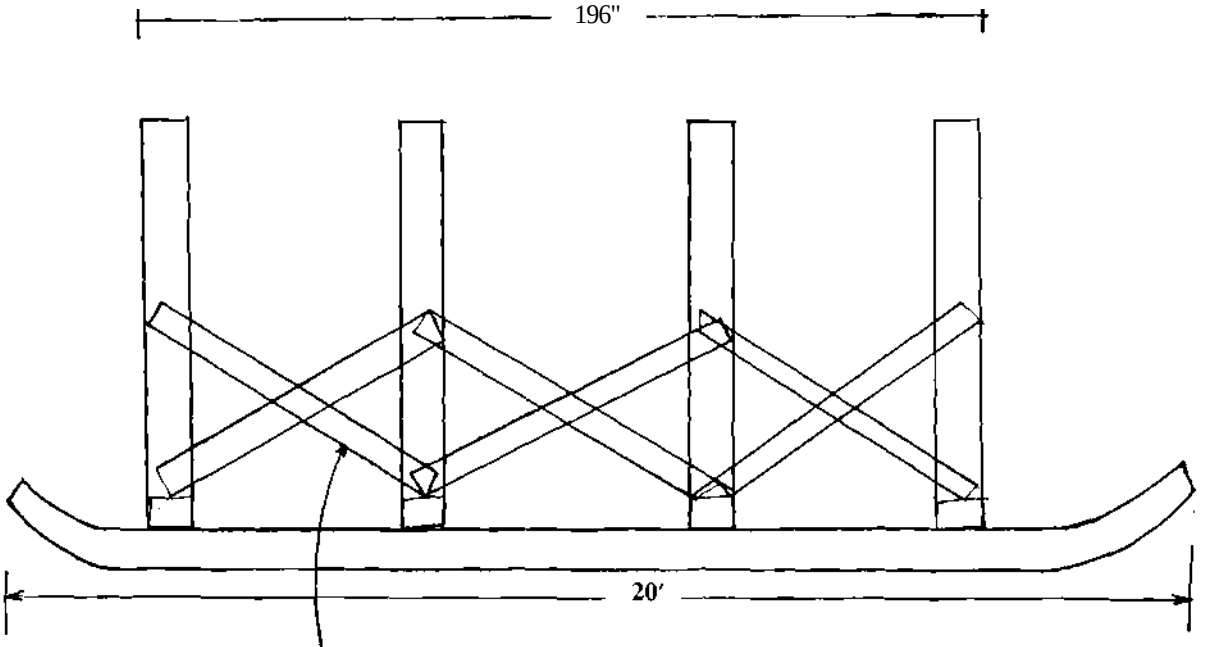
Cut all pieces according to diagrams. Weld one set of legs and braces together. Place a 96" piece of 2" x 2" x 3/16" square tubing on the floor for the bottom brace of the frame. Tack weld each leg to the bottom brace and tack in the foot braces. Make sure that the frame is square and correctly laid out, and weld each part. Build eight leg sections.

Bend both ends of a 20 foot piece of 2" black pipe. The bends are made to 30° so the bleachers can be towed with a tractor easily.

Weld each set of legs to the pipe to form the entire bleacher frame work. Attach a 2"x 1/8" x 63" strap to the back to hold the square.

Clean the frame and prime with flat red oxide enamel. Paint "Royal Blue enamel".

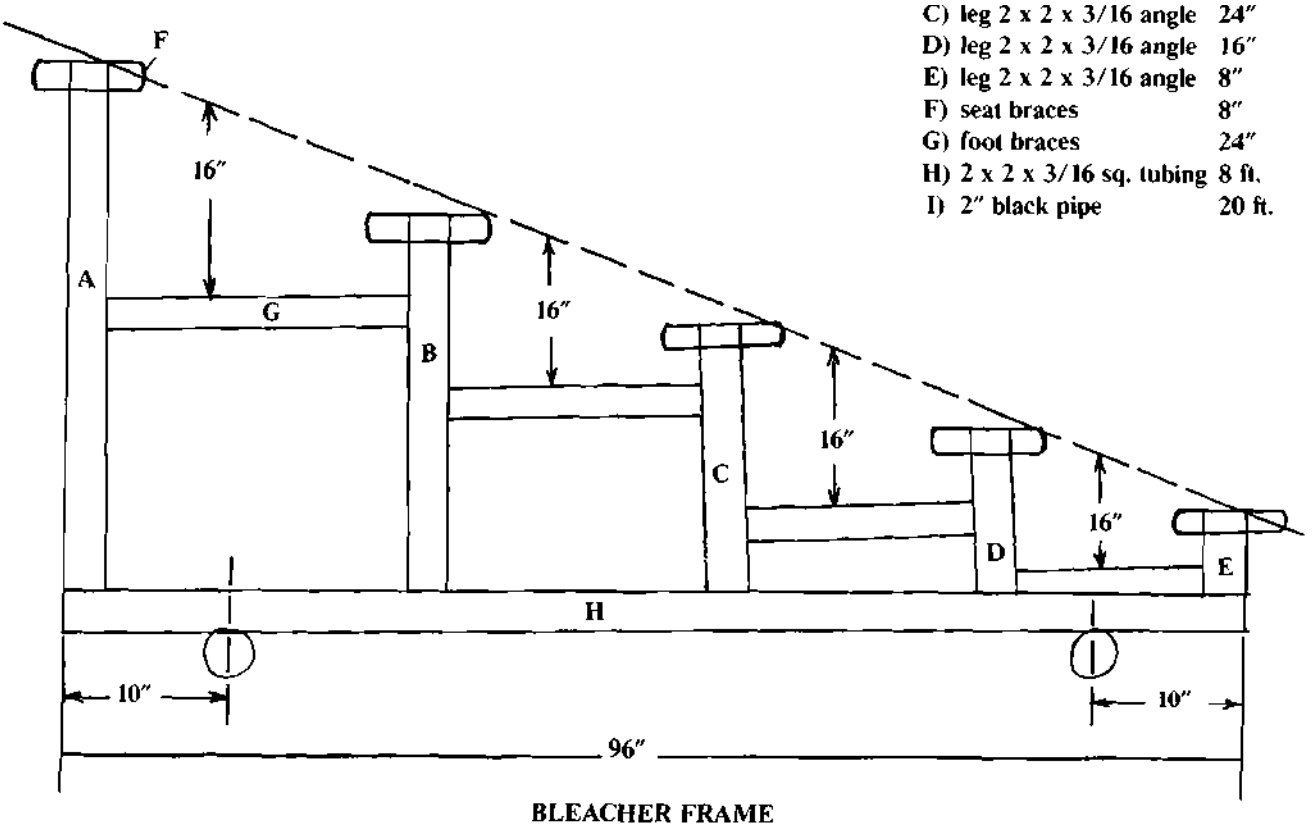
The wood seats are 2" x 6" x 18' Hemp Fir. Treat the seats with two coats of a Walnut stain. Place each board on the frame and bolt with 3/8" x 2" carriage bolts. Place additional braces under each set of boards to add support. These braces are made of 1" x 1" x 1/8" angle and are centered between each set of legs.



BACK BRACES

2" x 1/8" strap 63" long, diagonal brace on back of bleachers

A)	leg 2 x 2 x 3/16 angle	40"
B)	leg 2 x 2 x 3/16 angle	32"
C)	leg 2 x 2 x 3/16 angle	24"
D)	leg 2 x 2 x 3/16 angle	16"
E)	leg 2 x 2 x 3/16 angle	8"
F)	seat braces	8"
G)	foot braces	24"
H)	2 x 2 x 3/16 sq. tubing	8 ft.
I)	2" black pipe	20 ft.



BLEACHER FRAME