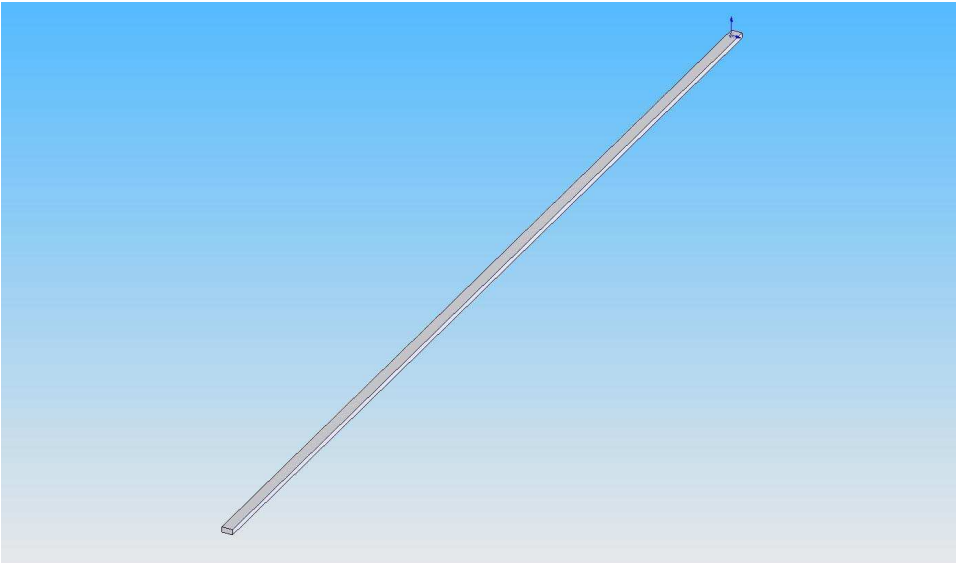
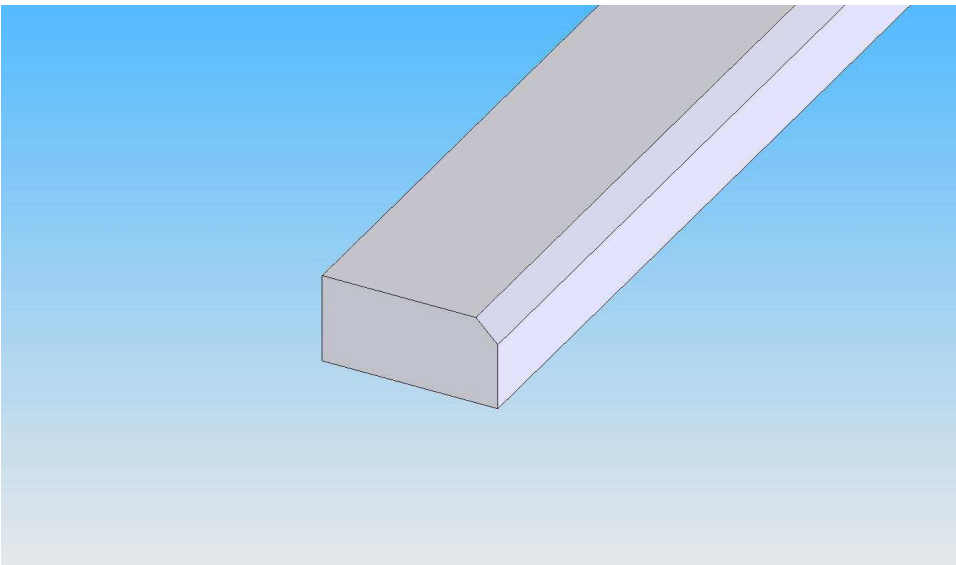


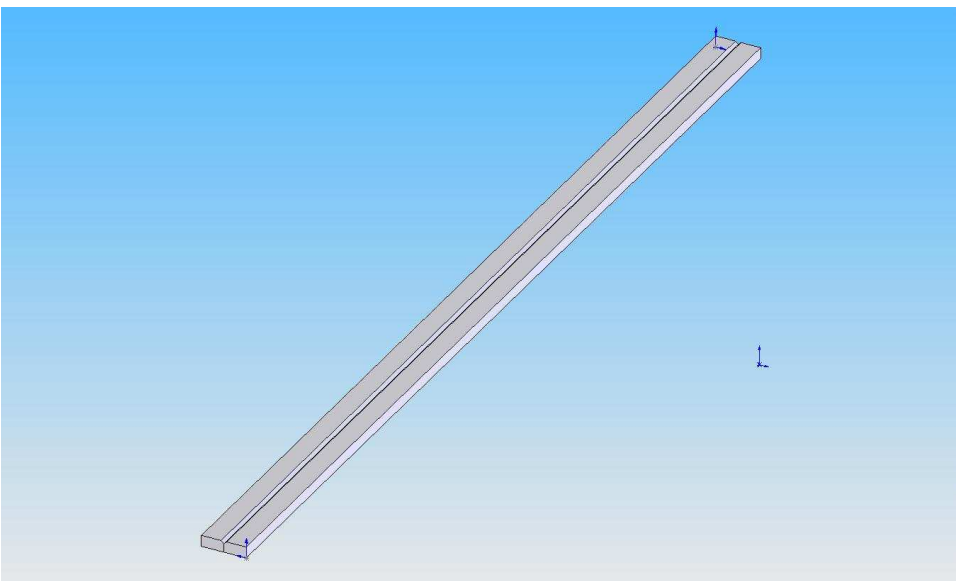
## Self-Aligning Freight Car Ladders



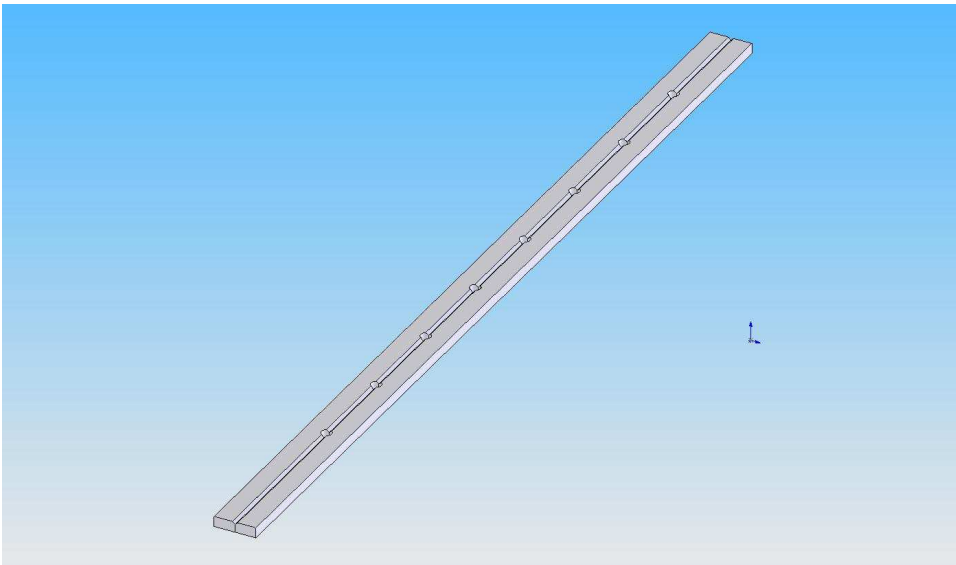
Step 1: Select a length of appropriate stile material, in this case some Evergreen 2x3 strip styrene about 3X the length of your desired ladder.



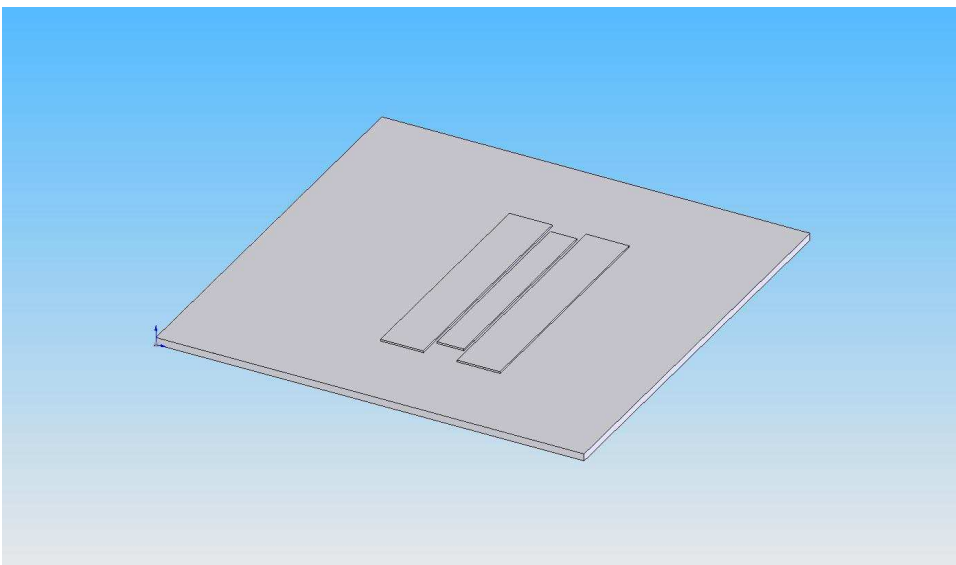
Step 2: Draw a blade along a long edge of the stile material to “break” it slightly. (Shown exaggerated here.)



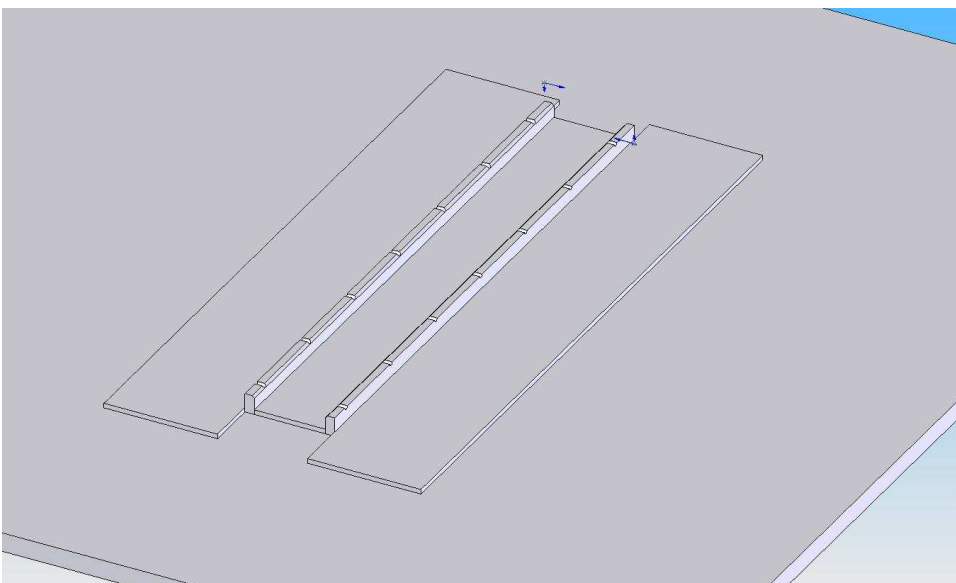
Step 3: Cut the length of stile material in half, glue the two halves together **AT THE ENDS ONLY** with the beveled edges facing.



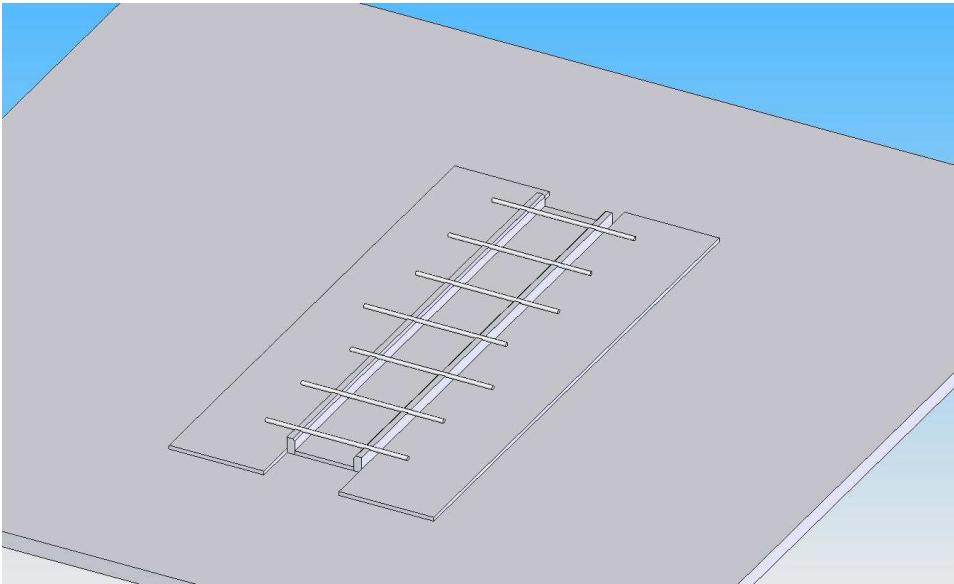
Step 4: Drill #80 holes in rung locations. (Now you see the reason for the bevels.) You might want to make a fixture for this using stile halves that are glued along their full lengths. Drill rung holes in that, glue lengths of styrene to a styrene plate spaced so as to hold the drilled double stile securely in place, then drill through the rung holes all the way through the styrene plate. Now you only have to put stile material between the spacers and drill them from the plate side.



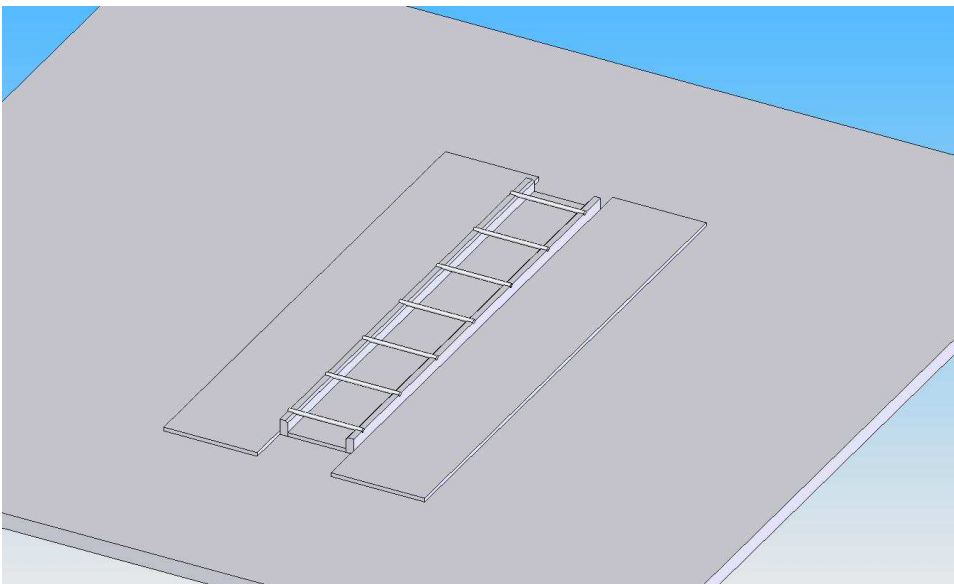
Step 5: Make a rung mounting fixture to hold the stiles upright. Size the center spacer for the desired ladder width.



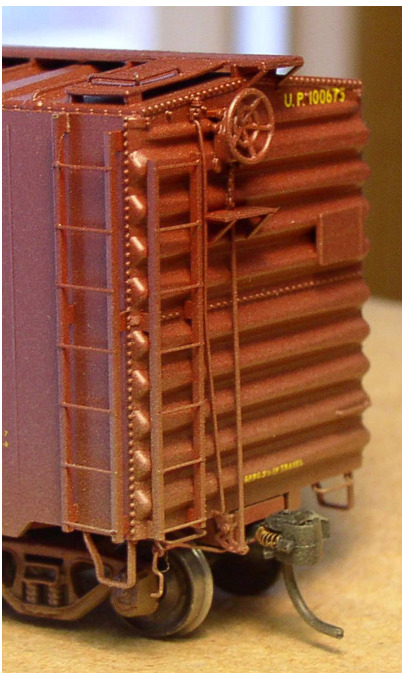
Step 6: Cut the stile halves to length and place in fixture.



Step 7: Cut overlength rungs from 0.010: styrene rod, place them in the half-holes and bond with styrene solvent. Be careful not to get any between the stiles and the fixture.



Step 8: Cut rungs to length. A single edge razor blade works well for this.



Step 9: Mount on car.