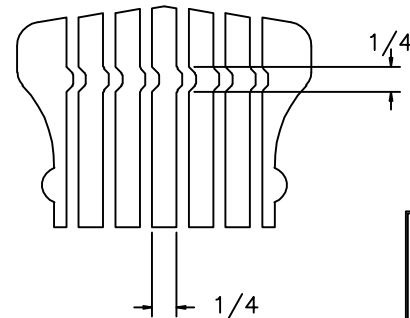
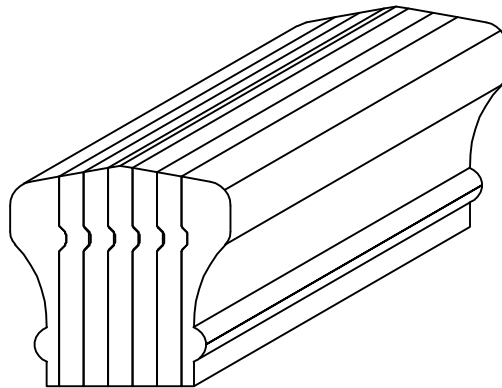
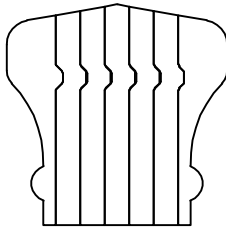


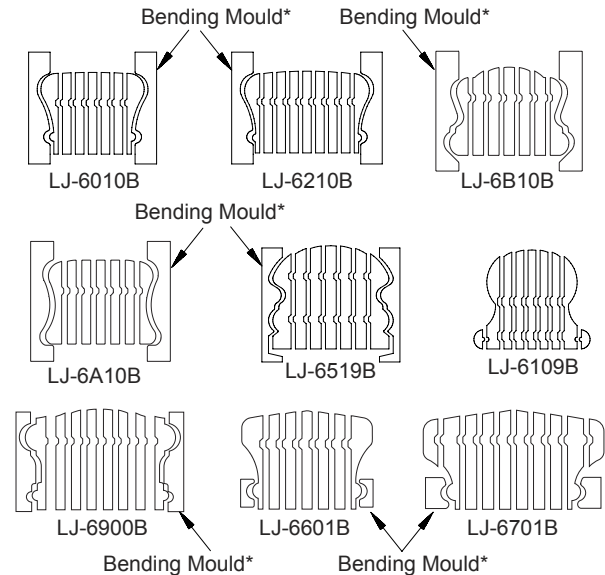


NOTE: STANDARD LENGTHS ARE  
8', 10', 12', 14', AND 16'.  
NOTE: MINIMUM BENDING RADIUS IS  
30" ON THE RAKE AND 36" ON THE LEVEL.

|                                                                                                                                                                                                                          |                         |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------|
|  <b>L.J. Smith</b><br><i>Stair Systems</i>                                                                                          |                         |          |
| 35280 Scio-Bowerston Road<br>Bowerston, OH 44695-9731<br>Phone (740) 269-4111 FAX (740) 269-9047<br><small>This drawing is the property of L.J. Smith Co. Do not use or copy without permission from L.J. Smith.</small> |                         |          |
| Drawing Name                                                                                                                                                                                                             |                         |          |
| LJ-6601B                                                                                                                                                                                                                 |                         |          |
| Date                                                                                                                                                                                                                     | Scale                   | Drawn By |
| 11/25/98                                                                                                                                                                                                                 | DO NOT SCALE            | KJP      |
| File Name                                                                                                                                                                                                                | DESTROY PREVIOUS PRINTS |          |
| LJ6601                                                                                                                                                                                                                   | LJ6601B<br>11/25/98     |          |

L.J. Smith Bending Rail is designed for making curved railings on most curved staircases and balconies at the jobsite. These instructions are to be used in conjunction with the L.J. Smith Balustrade Installation Guide (LJ-0694 INST).

**IMPORTANT: Please read instructions thoroughly before beginning.**



\*Bending Mould sold separately

**Below are conditions that should be met for best results:**

## Rake Rails on Staircases

1. The Run, Rise, and Radius must be constant on that part of the stair where bending rail is to be used.
2. The minimum recommended radius to use bending rail successfully is LJ-6010B (30"), LJ-6109B (36"), LJ-6210B (30"), LJ-6A10B (30"), LJ-6B10B (36"), LJ-6519B (54"), LJ-6601B (30"), LJ-6701B (30"), LJ-6900B (54").

## Level Balcony Rails

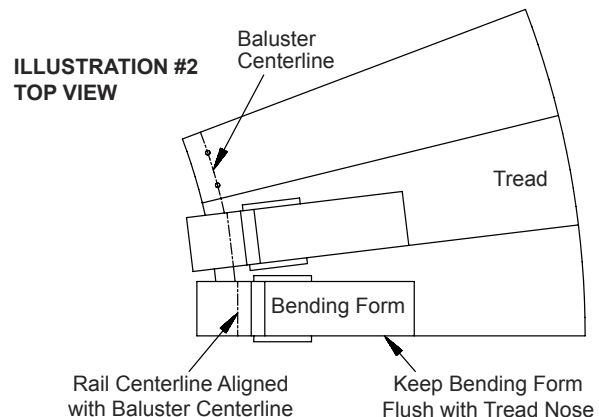
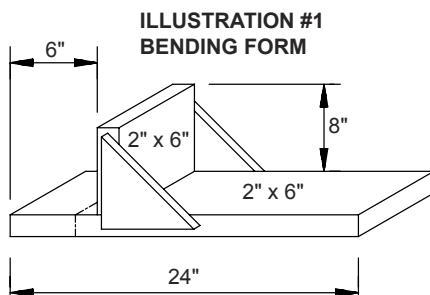
1. The minimum recommended radius to use bending rail successfully is LJ-6010B (36"), LJ-6109B (48"), LJ-6210B (36"), LJ-6A10B (36"), LJ-6B10B (48"), LJ-6519B (60"), LJ-6601B (36"), LJ-6701B (36"), LJ-6900B (60").

**NOTE: Due to the irregularities in wood, it is possible that more than one attempt will be required to bend a tight radius successfully.**

## Constructing the Bending Forms

**Step 1** - Construct the bending forms as shown in ILLUSTRATION #1 below, one for each tread.

**Step 2** - Measure the total width of the bending rail, including the bending mould, then divide the total width in half to find the centerline of the rail. Mark the centerline of the rail on the bending forms. Cover the treads under the bending area to catch glue drippings. Attach the bending forms to the stair treads, aligning the rail centerline marks over the baluster centerline. Keep the front edge of the bending form flush with the nose of the tread. See ILLUSTRATION #2. Follow a similar procedure around the edge of a curved balcony.



### **Preparing & Bending LJ-6010B, LJ-6210B and LJ-6519B Rails**

**Step 1** - Cover the inside of the bending mould with wax paper or plastic wrap. This will keep the glue from sticking to the mould. When using L.J. Smith LJ-6910BM ENDUROMOLD on LJ-6010B or LJ-6210B this step is eliminated.

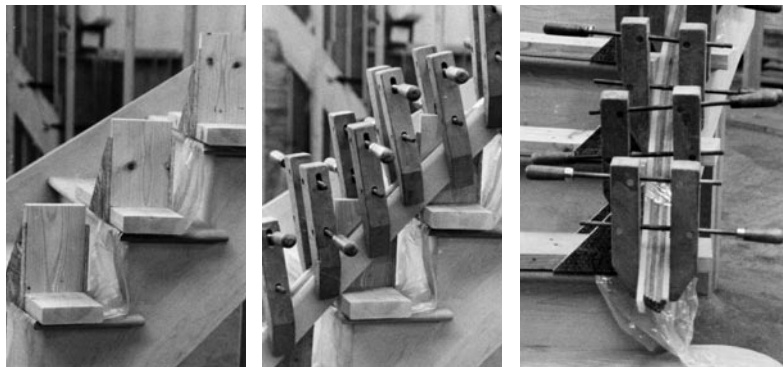
**Step 2** - When a rail is required to be longer than 16', two shorter rails will be spliced together. This splice is made by making a butt joint with each layer of the rail. A 12" long strip of filament tape (or Scotch Wood Joiners No. 0) across each butt joint will hold the pieces together during bending. The joints should be staggered about 24" to prevent a bulge in the rail and provide strength at the joint. See ILLUSTRATION #3.

**Step 3** - Using a paint roller, put a thin even coat of glue on all contact surfaces of the bending rail. L.J. Smith recommends Franklin Titebond 50 or an equal substitute.

**Step 4** - Assemble the bending rail in one half of the bending mould as you glue each piece, finishing with the other half of the bending mould.

**Step 5** - Wrap the bending rail assembly with filament tape about every 4' to hold the rail together while forming it to the curve. See ILLUSTRATION #4.

**Step 6** - Using bar clamps or Jorgensen clamps, start forming the rail to the curve by clamping at one end. Gradually pulling the rail to the forms and clamping as you go, work to the other end of the rail. Force the bending rail down on the front edge of each bending form. Put a clamp on each bending form and put clamps on the bending rail in between the forms. Clamps should be no more than 6" apart. It is very important to clamp the rail as closely together as possible to get good glue adhesion and a uniform bend in the rail. SEE PHOTOS BELOW.



**Step 7** - Most handrails are ready to remove from the forms in 24-48 hours. However, when bending a very tight radius, it is advisable to allow more drying time. Take the rail assembly off of the bending forms and remove the bending mould. Remove the excess glue with a hand held belt sander.

**Step 8** - Use normal methods for installing fittings, balusters, and newels. It is best to install and finish railing immediately.

### **Preparing & Bending LJ-6109B Rail**

**Step 1** - Remove the outside bead pieces. See ILLUSTRATION #5.

**Step 2** - Same as **Step 2** above.

**Step 3** - Same as **Step 3** above (except outside bead pieces).

**Step 4** - Clamp to the studs using a 2" x 6" board and bar clamps or Jorgensen clamps. See ILLUSTRATION #6. Clamps should be no more than 6" apart.

**Step 5** - Same as **Step 7** above.

**Step 6** - Glue the outside beads to the handrail. See ILLUSTRATIONS #7 and #8.



ILLUSTRATION #5

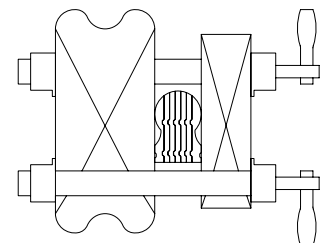


ILLUSTRATION #6



ILLUSTRATION #7

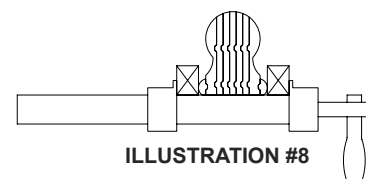


ILLUSTRATION #8