

# Kerf-Cutting Radius Corners

ABC's "Easy Sheet" series on building extruded aluminum sign frames - 1/01

# 8

Any radius corner, whether on a steel or aluminum cabinet will be more costly compared to a square cornered sign. So, to provide radius corners on a sign inexpensively, ABC offers a wide selection of radius corner kits for a the A/Flexframes and five of their Conventional frames, (see EASY SHEET 3).

For large radius corners, cutting saw kerfs in the frame and rolling it over a jig works exceptionally well.

Turn the frame on the saw table upside down, (fig. 1), and adjust the blade height so it cuts through the frame just above the drain channel. Do not cut into the drain channel.

The saw cuts will leave gaps in the frame, and by having the proper distance between the gaps, the sections will close back together when rolled around a jig.

To help determine how far apart the saw cuts should be, ABC has a simple formula, (see below).

Weld channel supports to the frame to keep the channels uniform while rolling the frame, and to prevent the frame from spreading open under face tension and wind load on the frame, (fig.2).

Mark the cut locations on the inside of the frame. Always leave at least 6" unkerfed on either side of the rolled radius. Radius sections can either be bolted or welded to straight sections in the sign.

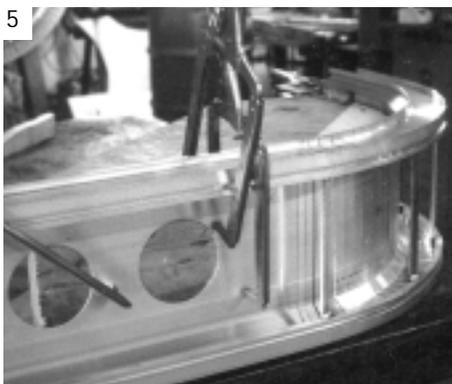
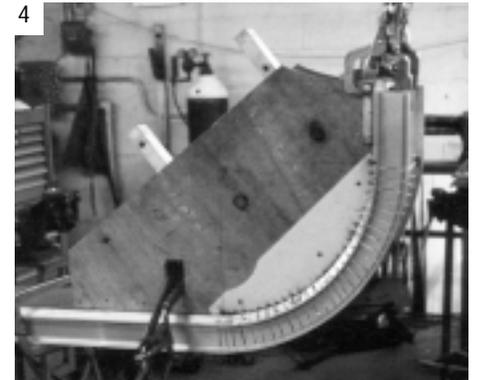
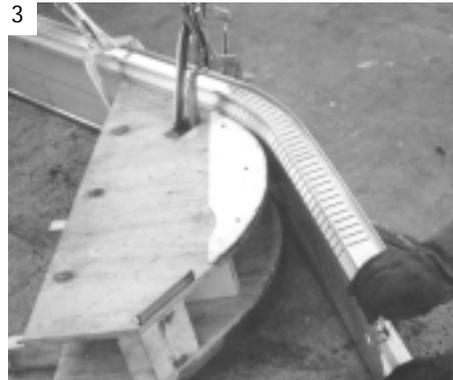
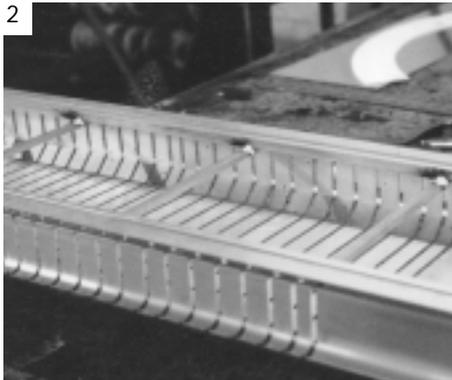
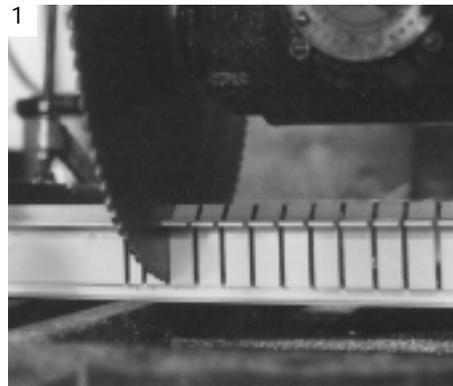
After cutting, the frame should bend smoothly around a jig into the radius, (fig's. 3 &4). Use long clamps to hold the frame closed over the jig, (fig. 5).

Shear .063 aluminum wide enough to completely cover the kerf-cuts on the inside bottom of the frame and weld it to the frame.

This provides strength and helps keep water out of the wireway. Finish waterproofing by using a latex quick caulk around the frame's side walls, (fig. 6).

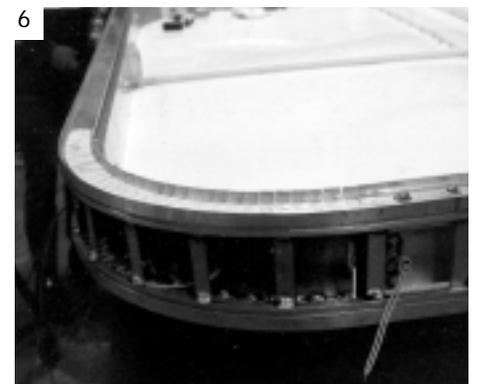
Kerf-cutting can be done to most any ABC Frame Assembly, including the Retro Frame and Bleedface Saddle.

**OVER**



**KERF-CUT FORMULA**

1. Take the Outside Perimeter of the radius and subtract the Inside Perimeter. This gives the amount of frame to be removed.
2. Divide this amount by the thickness of the saw blade. This gives the number of saw cuts.
3. Last, divide the Outside Perimeter of the radius by the number of saw cuts. This gives the distance between saw cuts.



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The parts described on this page are covered by one or more of the following patents:  
U.S. 4,007,552 4,265,039  
CANADIAN 1,021,565 1,149,159 1,170,048 1,170,049 1,170,050



# Radius Flat Retainer Fabrication

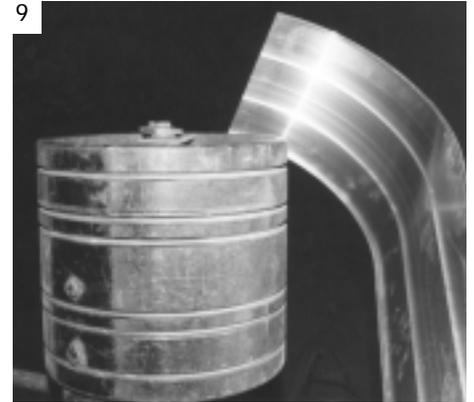
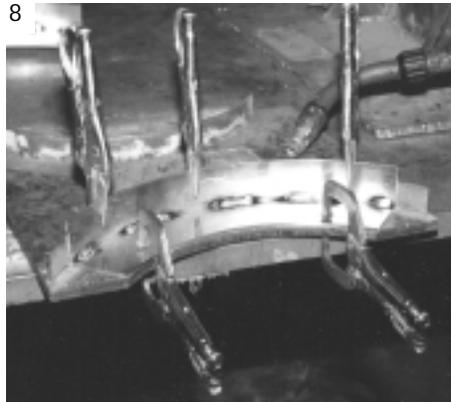
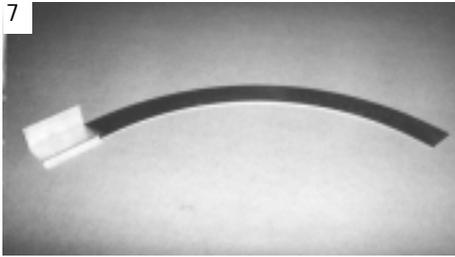
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Fabricate the retainers to match the ABC Flat Retainer, and to fit any desired radius. Cut .080 Aluminum sheet, using either a band saw or router, (fig. 7).

Then weld right angle flanges to the curved retainers, also matching the extruded retainer, (fig. 8).

Covers can easily be rolled or hand formed to fit large radii, (fig. 9).

This technique, when done proficiently is much faster than doing a similar job with sheet metal and angle iron.



*Example of a Large A frame with a kerf-cut radius top*

