

## Install a Sharp R-820 Microwave/Convection Oven (FD)

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Upgrade the standard microwave to a microwave / convection oven.



Installed on 200 FD

"The R820 Double Grill Convection 900 Watt convection microwave from Sharp features new enhanced browning and crisping abilities with "double" grills which emit radiant heat both over and under food."

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**APPROX. MODIFICATION TIME:** 2 hours

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### **PART LIST**

All prices are pre tax.

See current TechRally Schedule for availability and price of ModKit.

Sharp R-820 Microwave/Convection Oven	≈ \$250
1-1/2"W X 3/4"H steel tubing 16 inches long	\$5
1/8"thick X 1-1/4" wide flat steel 36 inches long	\$5
*Various sheet metal screws	\$2
POP Rivets 36ea. 1/8" and 5ea. 3/16"	\$2
Medal flashing 6" to 12" wide X short as possible Comes in a roll available at local hardware stores or try <a href="http://doityourself.com/store/rollvalleyandflashingsaluminum.htm">http://doityourself.com/store/rollvalleyandflashingsaluminum.htm</a>	\$5
Flat black spray paint	\$2
<b>APPROX. TOTAL COST OF PARTS</b>	<b>≈ \$21</b>

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### **TOOLS**

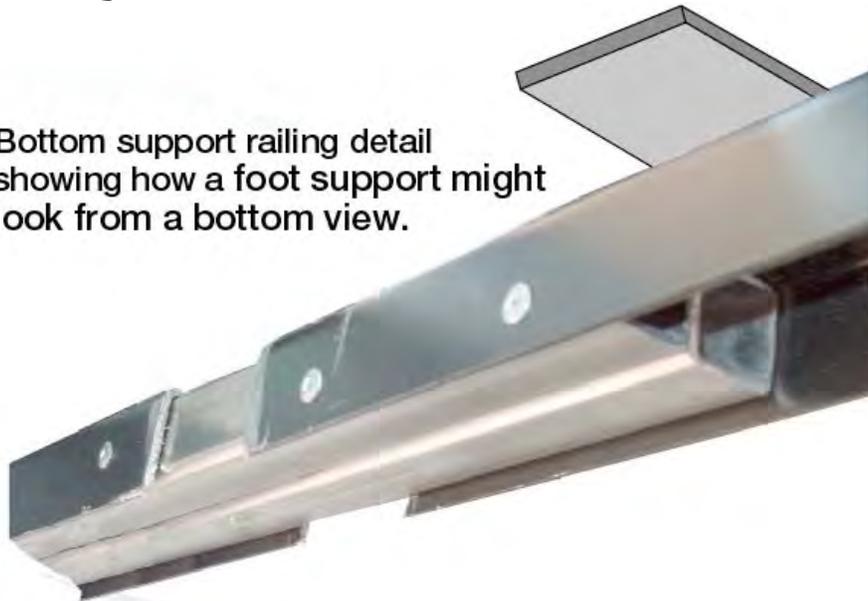
Drill, Electric Screwdriver, Saber Saw w/ metal cutting blade, Metal Punch, Pop Rivet Gun, Tin Snips, Square, 3/16" and 1/8" drill bits, Vice Grips or C-clamps

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## INSTRUCTIONS

- Remove the microwave oven but not the metal frame (frame) at this time.
- The frame needs to be moved to the front of the edge of the wood sides as far as practical.
- I measured mine from the front of the frame to the back edge of the plastic molding. In my case it was 1-9/16". This measurement is critical and will be used many times in this project. I will refer to this measurement as "XXX."
- Remove the frame saving all screws.
- Using the Saber saw cut the 1-1/2 X 3/4" [steel tubing] into two 8" lengths. Note: 3/4" square tubing may be used, just double up.
- Measure the depth of the frame and divide by two and cut the bottom support railings at the halfway point. The two halves of the frame will be joined back together using the steel tubing.

**Bottom support railing detail  
showing how a foot support might  
look from a bottom view.**

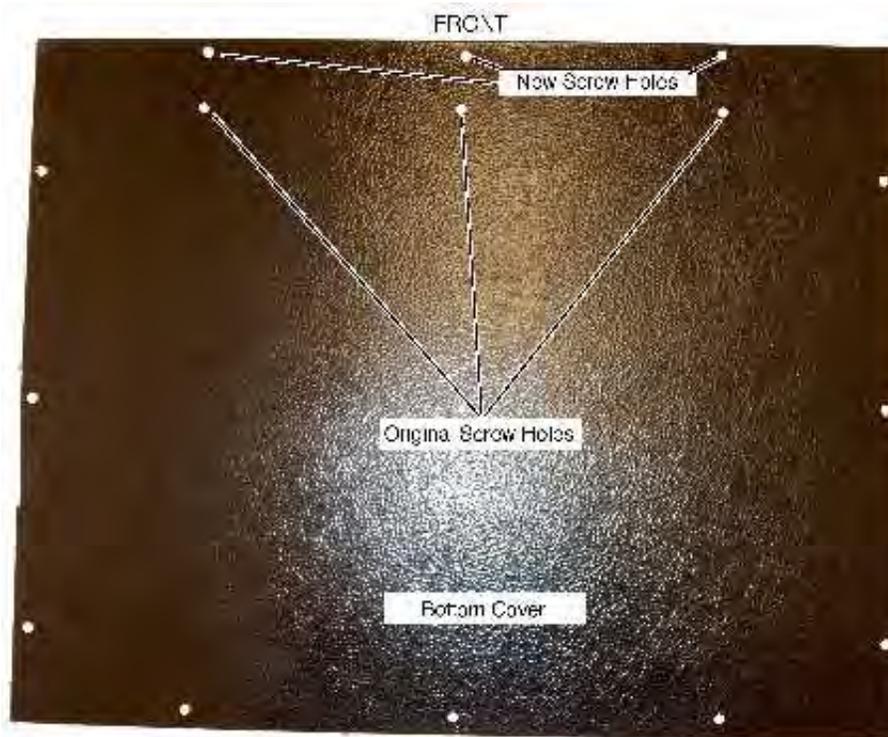


- Slide the steel tubing in one side of the support railing about 2 inches and clamp.
- Slide the other end of the tubing in the other side and adjust the distance between the two halves of the frame to the "XXX" measurement and clamp.
- Do the same to the other side.
- Double-check the "XXX" measurement.
- Then, using 1/8" drill and pop rivets attach two sides together. I used 8 rivets on each end. (16 per side).
- Repeat on the other side.
- Draw a line down the center of the 1/8 X 1-1/4 X 36 inch flat bar.
- Cut 5 pieces three inches long.
- Starting at one end, use the punch to mark a point 3/8" from the end on the centerline.

- Measure from that point "XXX" and mark another point.
- Repeat on all 5 pieces.
- Drill a 3/16" hole at both places on all 5 pieces. These pieces are used to extend the top mounting holes of the frame by "XXX" so that the original mounting holes in the ceiling can be used.
- Using 3/16" pop rivets, rivet the 3/8" ends of the five pieces by placing the rivets through the top of the frame then place the pieces on the bottom and "pop." The use of rivets allows some movement of the extensions from side to side for ease of installation.
- Mount the medal frame using the original hardware. Leave the top screws a little loose.
- Using a pair of scissors or tin snips cut pieces of aluminum flashing to fit between the hole extensions to cover the ceiling fabric. When the screws are tightened the hole extensions will hold the aluminum flashing in place.
- Cut 4 pieces of the 1-1/4" flat bar 3 inches long. These will become the foot supports.
- Temporarily set the R-820 in the frame. The width of the support rails is too close together for proper support. Mark on the railings the center of where the feet would be if the width were correct.
- Remove the R-820.
- Set one of the flat bar pieces on the top of the support rail centered on one of the marks made in the last step.
- Align one of the 1-1/4" sides flush with the inside edge of the support rail.
- Clamp, drill and pop the flat bar to the support rail.
- Repeat for the other three foot supports.
- I used two 1/8 rivets per support.
- Re-attach the wood panels to both sides. The panels will end up being in the same physical location as when we started but the frame will now be nearly flush with the front edges. New screw holes are required.
- Temporarily set the R-820 in the frame.
- Next is the top and bottom trim/vent installation. I used the trim that was used on the old microwave. The top piece fit beautifully. Set it in place and mark the front edge on the top of the R-820.
- I used the screw from the old microwave to attach the top trim. Be careful when drilling holes in the R-820. Damage could result if you drill too far. Check the depth of the hole with a probe to make sure the screws are not too long.
- The bottom trim piece requires a bit more work. First, for cosmetic reasons, mask and paint a flat black 6-inch strip on the bottom front of the R-820.



- As before, set the bottom trim piece in place and mark the front edge.
- Using a combination of trimming and flat washers as spacers, fashion to fit and attach as above.
- The bottom cover was a surprise since it required very little to make it fit. Using a square measure from the center of the front mounting holes forward "XXX" and drill  $3/16$ " holes.



- Replace the bottom using the original screws.

Updated  
Friday, September 24, 2004