

# Roll Over

## A homemade rotisserie is nothing to spit at

text and photography by Jeff Lilly

Restorations are fun to a point. Then there's crawling on the Garage floor trying to unbolt a component or spraying undercoat-ing. The tight quarters and lack of adequate light can take the wind out of your restoration sail. A frame rotisserie would sure be a big help because you could rotate the car to the position that's most convenient. Yes, they're expensive, but an alternative is to build one yourself. And the time saved on a project, not to mention the quality of the restoration will be worth the time and money invested. You could even rent it to friends

and make your money back!

To begin, you will need 27 feet of 2.5-inch square tubing with a 1.88-inch wall thickness and 38 feet of 2.0-inch 11-gauge square tubing, which will slide inside the larger tube. Look for used stock because new is only sold in 20-foot sections and you'll only need two feet of each size. Purchase two feet of 5/8-inch threaded rod with nuts to be used to keep round rotating stock together. Be sure and slide all square and round tubing into each other to be sure of fit before purchase.

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2 After the square stock has been cut, number the pieces to keep them organized. We numbered ours as follows:

- #1. Main standing supports. Two five-foot lengths needed from 2.0 tubing.
- #2. Arms that rotate and are for width. Two four-foot lengths needed from 2.0 tubing.
- #3. Wheelbase bottom extensions for connecting the rotators. Two foot-long lengths needed from 2.0 tubing.
- #4. Attaching arms to make L-shaped adjusting sliders for in-and-out and up-and-down movement. Eight 11-inch lengths needed from 2.0 tubing.
- #5. Center outside connectors for attaching both ends of rotator. Two six-foot lengths needed from 2.5-inch tubing.
- #6. Wheelbases on which tires will be attached. Two four-foot lengths needed from 2.5-inch tubing.
- #7. In-and-out adjusters. Four six-inch lengths needed from 2.5-inch tubing.
- #8. In-and-out adjusters (short). Four three-inch lengths needed from 2.5-inch tubing.
- #9. Height adjustment sliders. Two foot-long lengths needed from 2.5-inch tubing.
- #10. Main center connector. One seven-foot length needed from 2.0 tubing. Round Stock
- #11. Large round stock. Two eight-inch lengths from 3.5-inch diameter with 3/16-inch wall stock.
- #12. Small round stock. Two eight-inch lengths from 3.0 stock.
- #13. Threaded rod. Two 11-inch lengths needed from 5/8-inch stock.

Note: We will refer to each piece by the number above.



#1 You'll need a chop saw and I recommend the model 2730 Black and Decker Industrial chop saw model. Because of its high horsepower motor, it is the best of many others I have used and it will cut through big stock easily without bogging. You will need two 14-inch cut off blades to do the job.





**3** Drill the holes for all the pieces. It is very important the holes are centered perfectly. Mark all the pieces first, then drill the holes with a drill press. Use a  $29/64$ " bit. The tiny starter tip gives a more accurate alignment. The measurements for each piece are as follows:

#1. Measure six inches from one end and drill  $29/64$ " holes at least every six inches. For more adjustments, drill every three inches. #2. A total of five holes on each end starting two inches from the end and spaced two inches apart and  $1-5/8$ " hole in the center for attaching the unit to the large round stock during assembly. #3. No holes.

#4. Two pair. The first set contains four holes, two inches apart, the second set contains one hole two inches from the end on all four sides to be used as mounting holes to the frame and body. #5. One hole on each end two inches from the end. Weld a  $7/16$ " nut for tightening the bolt in place. #6. No holes.

#7. One hole centered  $1-1/2$ " mark from end. #8. One hole  $1-1/2$ " from the end. #9. One hole two inches from end. #10. No holes.

#11. Drill a  $29/64$ " hole two inches from the end of each large round tubing and weld a  $7/16$ " nut on the end as seen in photo 22 to be used as a holding device.



**4** You can see how this #1 piece has holes drilled every six inches and we are grinding all holes and ends lightly until they're smooth and free of burrs.

**5** Welding time! Put the main post up against the base bottom (#1 and #6) for welding. Hold the square in place and put paint sticks under the bar to hold it in the middle of the larger base. Make sure it is level. Use a Mig welder of at least 100amps for best results and a 0.30 wire and infinite heat control for deep penetration.

**6** The finished weld. See how the weld does not overlap the top. This is important because the connector will be attached at this point and in order for it to rest flat, the top edge must not overlap.

**7** See #1 main slider for all the height adjustments. The holes should be running parallel. Then you have #6 for the base for the tires and now we are adding #3 which is the extension connector on top of it. Use a vise grip to hold it in place and a square to make sure it is level. Tack weld it on each side. Check it for accuracy and then weld it up solid.

**8** Pictured are two #4s. The piece with the hole on one end is the piece that will bolt to the frame or body. The piece with four holes in it will slide up and down as the adjustment piece against the main arm of the rotator. After you get the L-shaped pieces squared up, weld where you see the tape measure. (Where the two pieces meet.) As you first tack weld, make sure the square stilt fits precisely and there are no gaps

**9** Take #8 and #7. They should overlap on one end and be flush on the other (see arrow). These pieces combined will give the #4s just welded the adjustment and bolt holding ability when connected to the arms #2

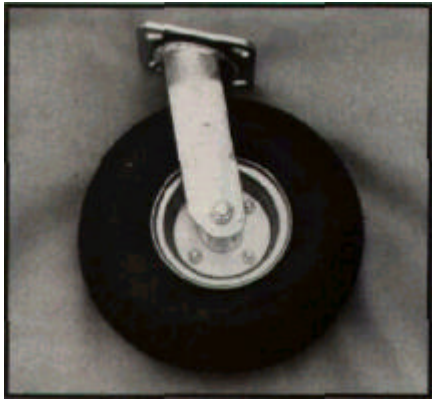
**10** Take your slider #9 six-inch piece along with 5/8" threaded rod. Drill a 5/8" hole in the center of this piece to insert the rod. Place the rod 1/8" into the hole. Be careful not to go past the inside wall or you will not be able to slide this tubing for adjustment. Weld the rod in the hole straight up flush in the hole...

**11** Now place the large round tubing over the rod and center it. Then weld it 360 degrees

**12** Take the small round tubing and place it dead center on the #2 arms and weld it all around.



**13** Weld a 5/16" nut (with bolt threaded through it) in the hole for centering on the large round tubing and the #5 piece that keeps the center of the rotisserie together once adjusted for the body or frame.



**14** For mobility, you need tires. Two ten-inch swivels for the front and two ten-inch rigids for the rear. They need to support 500 pounds each, giving you a total of 2,000 pounds capacity. Weld or bolt them to #6. This rotator was built for semi-stripped down bodies and not 6,000-pound school buses.



**15** The additional support bracket was welded to the bottom. If you feel you need it, use a 1" x 1" square tube (see arrow). Spray the entire rotator with a rust inhibitor or paint to prevent oxidation.



**16** For better access for pointing or sandblast-ing, spacers added where the rotisserie bolts to the body or frame will add clearance.

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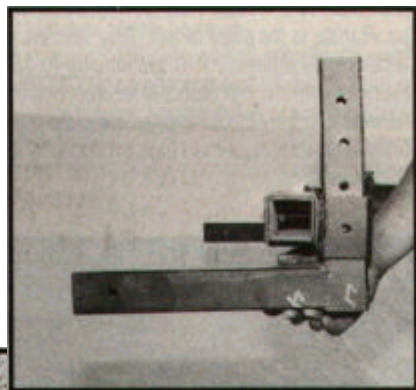
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**21** Place the adjustment sliders #7 and #8 onto the arms #2.



**17** Depending on your application, during assembly use 3/8" three-inch long bolts with nuts and try and get the center round rotating stock to a height that would be in the center of your body or frame. This will promote easiest rotating. Slide the adjustment slider #9 onto the main standing support #1.



**22** Slide the L-bracket into place and make sure they are pointing toward the center of the rotator and attach a bolt to hold.



**18** Take the #5 outside extension connector and slide it onto the end of the rotator at the wheelbase bottom connectors #3.



**19** Attach the main center connector #10 to the outside connectors number #5.



**23** Now attach to frame or body. Attach one end at a time. That's it! Your done.

**20** Slide the arms with the small round stock into the main large stock assembly. Place a nut on the end of the stud that came all the way through. This will keep it together.



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