

## Tank Car Part III

### BUILDING THE TANK CRADLES

#### BILL OF MATERIALS

QTY	DESCRIPTION
2	1" x 3" x 15" RECTANGULAR TUBING

This section forms the cradles that sit in the frame and support the pipe that forms the tank. As you note this part requires only 2 pieces of 1" x 3" x 15" rectangular tubing. This is the same tubing that you used to make the center sill for the car. Referring to the drawing lay out all the cuts that you need to make to the tubing. I used a jig saw to perform all the cuts required to shape the part.

The first pieces that you need to cut out is the 2" x 2 1/2" areas out of the corners. Now comes the fun one, doing this radius cut with the jig saw is not hard just time consuming. Patience required! Make sure you have a good radius layout line to follow when cutting this. To make the cut easier to start cut into the tubing with the blade 90 degrees to the work. Once the wall is penetrated work the saw into the radius and cut. When the cut comes to the opposite side work the saw blade to a 90 degree cut and exit the work. Clean up the entry and exit cuts with a file to knock off the last bits of the radius.

The next things to do is take the square corners on the top outer edge and cut a bevel into them. This will allow the edge of the cradle to fit up into the deck during assembly. In other words you can do it now or do it later.

The final cuts to make on this piece is on the bottom side. Cut a 9/16" slot thru the wall of the tubing centered on the centerline of the cradle. You only need to penetrate the wall of the tubing so the depth of this slot only needs to be 1/16 th of an inch. This cut forms a handy retainer for the truck kingpin and allows the cradle to clear the head of the kingpin bolt.

Now when all the cuts have been done to the part you will need to drill two holes in the two areas of the part that you still have the wall of the tubing left. Take a 1/4" drill and drill through the wall centered on this flat area. Then shape the hole with the drill bit to allow a 1/4 20 bolt to tilt through about a 40 degree angle. These holes will be used to put eye bolts in to secure the tank to the cradle.

Stay tuned for part IV when we start fitting and bolting together the car frame to the deck and the tank cradles to make this pile of parts start to resemble a car.

# TANK CRADLE

## 2 EACH

