



How to Create a Base Model Rubber Band Car

This handout supports the special exhibition *Detroit Style: Car Design in the Motor City, 1950–2020*.

1. **Take the paper towel roll and punch two holes on one end.** Use a ruler to line up the holes. It is helpful if the holes are lined up and square with each other: front to back and side to side. The axle will go through these holes, so it is necessary that they line up.



2. **Enlarge the holes.** Use a jumbo paper clip to enlarge the axle holes in the paper towel roll. If you only punch a pencil through the hole, it will be too tight to turn freely. Where the pencils fit into the wheels needs to be a tight fit. Where the pencil goes through the tube/body needs to be a loose fit. (It seems obvious, but it can be a common design problem).





3. **Create the front wheels and axle.** Cut two cardboard circles, 3" in diameter. Poke a pencil through the center of the circles so that the pencil fits tightly. It should turn freely in the paper towel tube holes.



4. **Use a ruler to measure two holes for the back wheels and axle.** They should line up with the front end. Use your hole punch to punch two matching holes on the back end.



5. **Punch the second pencil through those holes. Again,** make sure to enlarge them with the paper clip.



6. **Use masking tape to “build up” the holes on this end.** Add or subtract tape to adjust until the holes fit snugly with the CD.



7. **Use 5 rubber bands to make a rubber band chain.** Place one rubber band over another rubber band. Then loop the top rubber band under the other rubber band and through itself to create a knot and a small chain. For best results, use #14 rubber bands, not ones that are too thick.



8. **Attach the rubber band chain to a paper clip.** At this point, you might need to experiment with 5 rubber bands; you may need to add or subtract one or two.





9. **Secure the rubber band.** Use the weight of the paper clip to wrap the rubber band chain around the front axle (cardboard wheel end). You can flip the car over to pull the paper clip back through the other side.

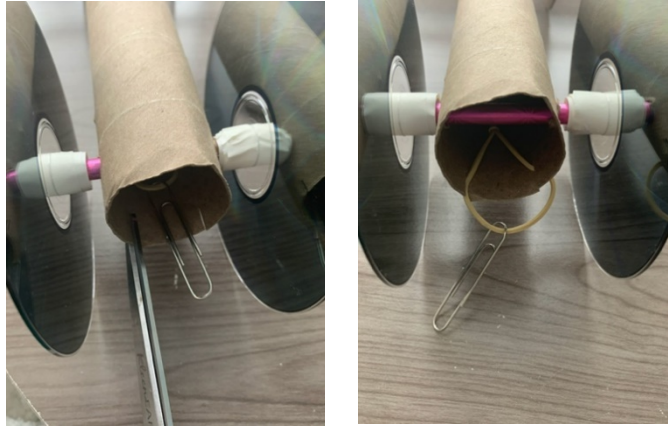


10. **Thread the paper clip through** the back axle (CD wheel end) and pull the rubber band chain through.





11. **Cut two slits into the back end of the paper towel roll to secure the rubber band.** Once the rubber band is secure in the slits, remove the paper clip. Make sure the rubber band sits underneath the axle, not above! If the rubber band is not wound the correct way, it will not go!



12. **To wind up the car, wrap the rubber band around the axle.** Secure the ends in the slit again, after wrapping it around, to secure the band, otherwise, it can be tough to grip it in the hole with your fingers. Twist the rubber band around by twisting the pencil, counterclockwise, towards you (remember: you are twisting the pencil in the opposite direction of which it will go).

