2015 Shocker MINDSTORMS  
Desolation of the Daleks  
Build Instructions

1. Cut 4”X4”, 2”X4”, and 1”X4” to size (see drawings). Centering the boards on the 4”X4”, attach one to each side with 4 2.5” screws (pilot holes recommended).

   Important notes about this step:

2. Be sure to make pole vertical, having the pole slightly above the 2”X4” and 1”X4” once screwed in helps it to set flatter on the ground.

3. Brackets need to be put in place on the 1”X4” side of the board. Place the 12” fencepost centered on the board and mark positions for drilling. Remove fencepost and attach with screws (included with bracket) as shown in the picture. Attach fencepost.

4. Using the screws shown, attach the trapezoid shaped wood piece to the 12” fencepost portion of the course so that the long edge is lined up with the outside edge of the 1”X4” (approx. 0.75” from pole) (top side of fencepost).

5. Cut the two 8.5” long 1”X4” pieces so that the outsides have a 45 degree angle. Using the trapezoid as a guide, attach the boards to the 1”X4” and 4”x4”X12” boards. (Pilot holes are recommended to avoid splitting the 1”X4”s.) Attach the trapezoid wood piece to the two 1”X4” boards.

6. Cut out all four boards and drill .25” holes as shown in drawing and left.

7. Attach four carriage bolts with nuts as shown (tighten them) to one of the larger boards.

8. Put Copper pipe cut at 3” per piece on the four carriage bolts above the nut and add another nut above them (Don’t tighten this one yet).
9. Sandwich the two smaller boards by adding the other larger board to the carriage bolts. Adjust the nut to the correct position and put one on the outside as well. Remove the two smaller boards and repeat the earlier steps to put carriage bolts in. Assemble and tighten.

10. Attach Beams to NXT for proper spacing (Important to use NXT for spacing rather than dimensions). Pilot holes are recommended. The screws used are the extras from the hinges.

11. Attach 3 outside boards together with screws as shown in top left (shorter screws). Attach both 2”X4”s together with screws. (Suggest to attach screws near the ends so they don’t interfere with subsequent drilling.) Attach these 2”X4”s to the frame. Attach the cut Baseboard with screws around the perimeter and down the middle above the 2”X4”.

12. Drill holes with a 1-1/8” bit through the surface of the board in locations specified in the drawings. You will be drilling through the two screwed together 2”x4”s for one of the holes.

13. To cut out the towers/spaceship, use a compass to draw the outer circle and cut it with a saw. Cut out the length of 2”X4” needed for the attachment point of the spaceship. Drill a 1-1/8” hole in the center of these and attach them to the spaceship circles with screws.
14. Cut and drill the 4”X4” fencepost pieces (X2) the same way. They will serve as the basses of the spaceship towers. To attach the fencepost pieces, slide a PVC pipe through the hole and nest the 4”X4” and the plywood together and screw.

15. Cut PVC pipes to length and test their fit in the holes. If they are loose, add some duct-tape to make them wobble less.

16. Put one of the shorter screws in the center at the top of the fencepost. Tie the string to this and cut the string so that it is 2” from the ground. Attach the LEGO cam piece to this with a knot.

5 Soda cans are loaded with 12 pennies with a small piece of duct-tape on top over the hole. Paint three soda cans silver and two red as pictured.

Painting the Tardis can be as simple or elaborate as you want.

17. The Tardis was disassembled and painted blue with spray paint on the outside. After the paint dried, a black sharpie was used to draw the various shapes on it. The windows were masked with painters tape and paper, then spray-painted white. The windows were then marked with a sharpie to look more like windows. Some cardstock pieces were used to make the “Police Box” and sign on the door. These were printed out and then glued on.

18. The pipes holding the spaceship were painted black with chrome black spray paint. The spaceships were painted Silver.

19. The baseboard was painted green with Red squares as dimensioned by drawings. These were painted by surrounding the area with tape and paper and spray painting over the green paint. Below is a close-up showing that there was a slight bleeding in the paint.
20. The pole was painted in multiple stages: The entire base was painted green. The bottom portion of the pole was painted with the sky blue paint up until the point where the checkpoint line is (this spot was left unpainted until the end). The second stage was painted entirely with the sky blue and darker blue on top of the still wet sky blue to give it a “cloudy” effect. (Not a lot, just enough to look cool). Once again, leave a space for the next checkpoint line.

21. The top portion was painted entirely black and then painted with a light dusting of white to give it a “Starry” effect. After these painting stages, red was painted for the checkpoints by wrapping the pole in painters tape and paper to avoid the paint spreading. Note the paint on the field where these lines are, isn’t perfect but is sufficient for judging.

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