



Robot Game Table Building Instructions

2020-2021



Official Table

Place the field on an official robot game table if at all possible. Find one to share, or build one using the instructions below (basic tools and woodworking skills are required). If you cannot find or build a table, you could place your field on a clean smooth solid floor instead, but it is still very important to surround it with the correctly sized border walls.

SPECIFICATIONS (See the sketch below labeled “practice table assembly”)

- Inside wall-to-wall dimensions must be:
 - ▶ **W** = $93\pm\frac{1}{8}$ " (2362 \pm 3mm)
 - ▶ **L** = $45\pm\frac{1}{8}$ " (1143 \pm 3mm)
- Border wall heights must fall within the range:
 - ▶ **H** = 2-1/2" (64mm) min to 4" (102mm) max
- All border walls on any table must have the same height **H** as each other.

MATERIALS

| Material | Quantity |
|--|------------------|
| Challenge set (mission model LEGO pieces, mat, Dual Lock™) | 1 |
| Sanded plywood (or other very smooth board), 96" x 48" x min. 3/8" (2438mm x 1219mm x min. 10mm) | 1 |
| Two-by-three, 8' (2438mm) [actual cross-section = 1-1/2" x 2-1/2" (38mm x 64mm)] | 3 |
| Flat black paint | 1 qt. (1 L) |
| Drywall screws, 2-1/2" (64mm) | 1/4 lb. (1/4 kg) |
| Saw horses, about *24" (610mm) high and 36" (914mm) wide | 2 |

“Two-by-four” border walls are allowed and common, but are being phased out at competitions.

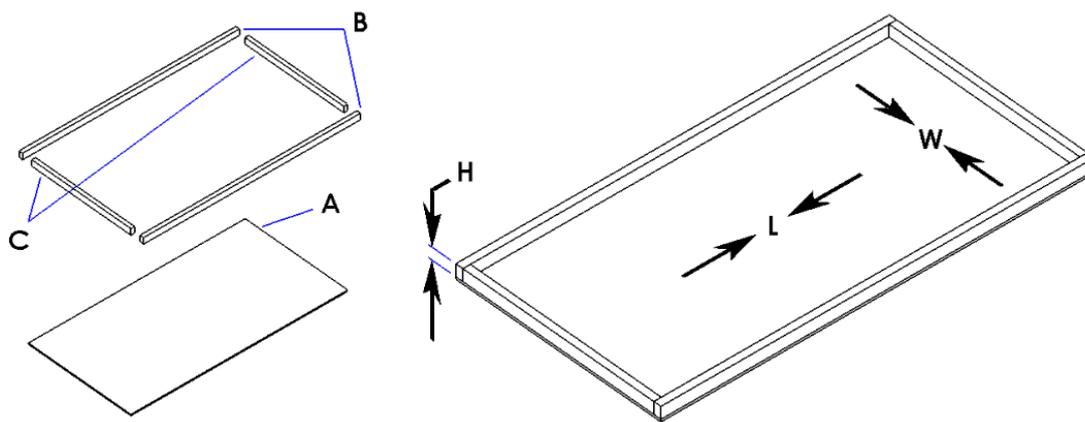
Teams need to be prepared to play on tables with border wall heights anywhere in the range of H.

PARTS

| Part | Make From | Dimensions | Paint | Quantity |
|-----------------------|--------------|---------------------------------|------------------|----------|
| Table surface (A) | Plywood | 96" (2438mm) x 48" (1219mm) | West of mat only | 1 |
| Long border wall (B) | Two-by-three | 96" (2438mm) | Yes | 2 |
| Short border wall (C) | Two-by-three | 45" (1143mm) | Yes | 2 |
| Saw horse | Purchase | H ≈ 24" (610mm) W ≈ 36" (914mm) | No | 2 |

ASSEMBLY

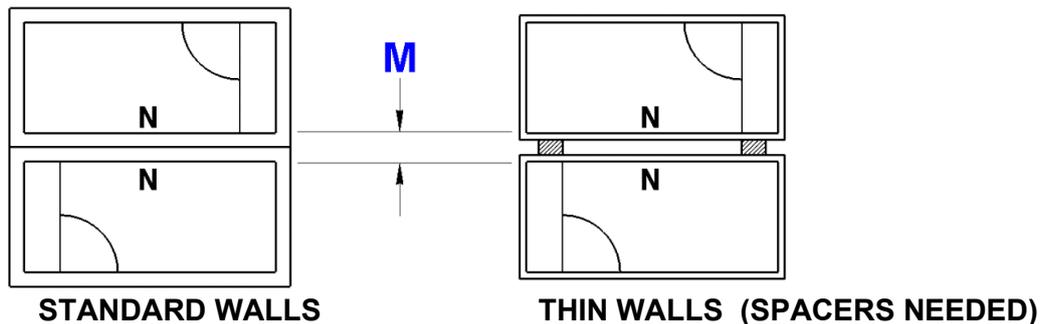
- On the smoothest face of the plywood (A), screw the border walls (B and C) around the perimeter, being sure the wall-to-wall dimensions **W** and **L** are accurate.
- Place the table top border walls up, on short saw horses (or anything else short, level, and solid).



PRACTICE TABLE ASSEMBLY

COMPETITION SETUP - For a competition setup, secure two tables with their north sides together.

- The full/total span "**M**" across both north border walls needs to measure between 3.0" (76mm) and 4.0" (102mm). Place spacers between the tables if needed to get **M** correct.
- All border walls on all tables at a competition must have the same height **H** as each other.
- All pairs of tables at a competition must have the same span **M** as each other.
- Do not attach things to the tops of border walls unless all teams coming to the event have been notified.



FIELD MAT PLACEMENT

STEP 1 – Check the table surface for bumps. Sand or file them away and then vacuum well.

STEP 2 – On the vacuumed table only, unroll and place the mat as shown below. Never fold the mat, and never crush or bend a rolled mat.

STEP 3 – Slide the mat against the south and east border walls. When table size and mat placement are correct, the area west of the mat measures about

X = 13.5 by Y = 45 in. (343 mm by 1,143 mm).

STEP 4 – Optional – To hold the mat in place, you can use thin strips of black tape, covering only the mat's east/west black borders.

LOW TABLE HEIGHT - Small team members, referees, and other volunteers will very much appreciate low table heights, and some people with disabilities may even require it.

- Please do what you can to support your tables at or near 24" (610mm) above the floor, to help all people see and reach as much of the field as they can.
- Instead of using standard folding/banquet tables which are too tall for many participants, consider making your own short saw horses. They will be inexpensive, easy to move, and easy to store!



SAW HORSE BRACKETS (FOLDING)



SHORT SAW HORSE