



Robot Game Table Building Instructions



For Australian teams

Why have we created an Australian version of this guide?

When purchasing materials in Australia we use metric measurements so our standard 'cuts' of timber can be different to the US. This can be a pitfall for beginners. For example, plywood in the US comes in 96" x 48" which is (L) 2440mm x (W) 1220mm but in Australia it more commonly comes in a width of (L) 2400mm x (W) 1200mm. This small difference can lead to FLL tables being too small for the FLL mats. Particularly in the internal table width where the competition mats are designed to fit. This results in the mats needing to be trimmed to fit on the tables which is not ideal.



ROBOT GAME OFFICIAL TABLE

For the best experience, set up your Challenge Set on an official robot game table. If one isn't available, you can build your own using the instructions below (basic tools and woodworking skills required). If building or borrowing a table isn't possible, a clean, smooth, and solid floor can be used as an alternative for practice.

The following section outlines all necessary specifications, dimensions, and materials to help you build a table that meets official standards.

SPECIFICATIONS

- The most important dimension to get right - the inside wall-to-wall dimensions must be:
 - o **L** = 2362 ±3mm (with a starting table length of 2400mm + 2 walls of 30mm this dimension cannot easily be achieved hence this dimension will be compromised but this is OK for practice tables.
 - o **W** = 1143 ±3mm (this is the most important measurement to get accurate)
 - All border walls on any table must have the same height and must fall within the range:
 - o **H** = 64mm min to 102mm max
 - Border wall thickness must not exceed 51mm.
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PARTS & MATERIALS

Part	Description	Dimensions	Paint	Quantity
A	Table Surface (A) – Sanded Plywood (or other smooth board)	(L) 2400mm x (W) 1200mm Min Thickness: 10mm	Left/Right of Mat	1
B	Long Border Wall (B) – (Two-by-three)	(L) 2400mm x (W) 30mm x (H) 64 - 100mm Purchased timber may need to be thinned to 30mm Width	Yes	2
C	Short Border Wall (C) – (Two-by-three)	(L) 1140mm x (W) 30mm x (H) 64-100mm	Yes	2

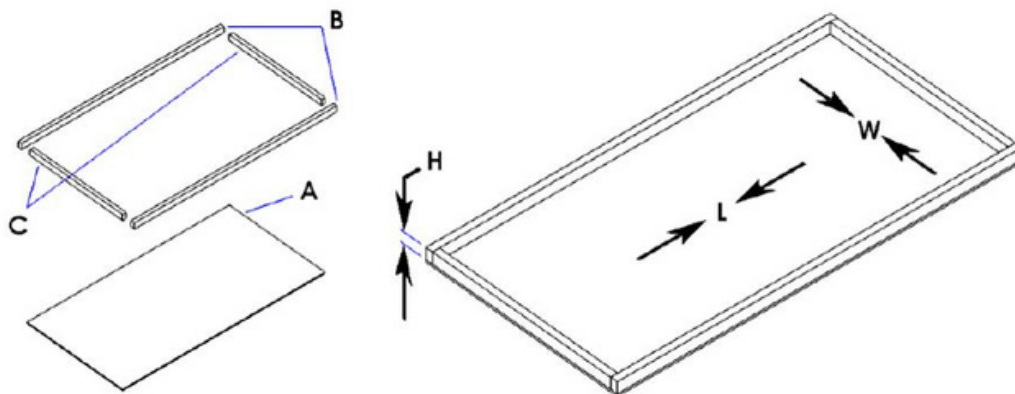
PARTS & MATERIALS (CONTINUED)

-	Wood Screws	2.5" (64mm)	---	1/4 lb. (1/4 kg)
-	Matte Black Paint	---	---	1 qt (1 L)
-	Challenge Set (LEGO® mission models, mat, 3M Dual Lock Recloseable Fastner™)	---	---	1
-	(Optional) Black Tape (Gaffers)	---	---	1 Roll

Notice: As *FIRST* LEGO League continues to grow globally, we recognize that material dimensions vary across regions. Teams should be prepared to play on tables with border wall heights ranging within the standard height “H” (listed above) and wall thicknesses up to 2.0 inches (51 mm).

ASSEMBLY

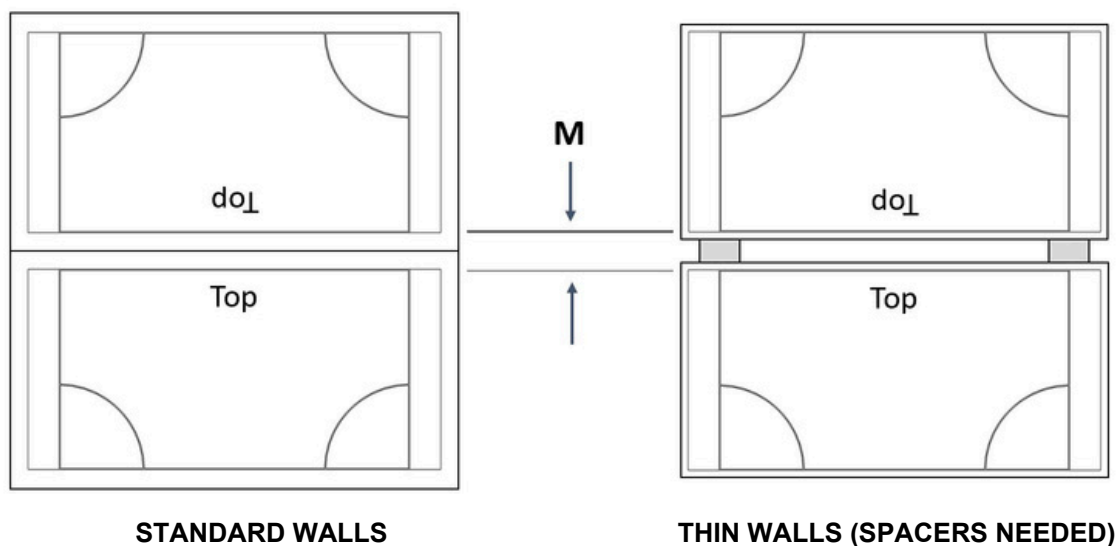
- Set the border walls (**B** and **C**) on the perimeter of the smoothest face of the plywood (**A**) and use wood screws to secure in place, ensuring the internal wall-to-wall dimensions **W** and **L** are accurate



TOURNAMENT SETUP:

At a tournament, two official tables are set against each other as shown in the diagram below.

- The full/total span “**M**” across the border walls must measure between 3.0’ (76mm) and 4.0’ (102mm). Suggestion: Use 20mm spacers to create an 80mm gap if the walls are 30mm thick.
- All border walls on all tables at a tournament must have the same height **H** as each other.
- All pairs of tables at a tournament 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.
- For accessibility, support the tabletop at a height between 24” (710mm) - 36” (910 mm). This helps participants to see and reach the field more comfortably. Consider using trestle tables adjustable tables, or similar solutions that can be set within this range.

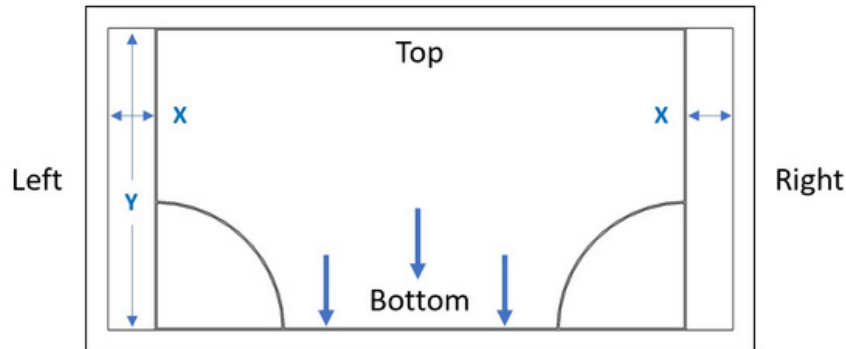


Notice: In competitions, volunteers work hard to get the fields just right, but you should expect and design for rare imperfections such as bumps under the mat, minor gaps, or changes in light.

MAT SETUP INSTRUCTIONS:

1. Check the table for any bumps or uneven areas. Sand or file them down, then vacuum thoroughly to remove all debris.
2. On the clean tabletop surface, unroll and place the mat as shown below. (**Notice:** Do not fold or bend the mat, as this may cause permanent damage to the mat surface. When storing, roll the mat instead.)

- Slide the mat against the bottom border wall and align it centrally. There should be no gaps except for one at the top wall of about 9 mm. When table size and mat placement are correct, the areas to the left and right of the match each measure about $X = 181\text{mm}$ x $Y = 1140\text{mm}$.



- Optional:** To hold the mat in place, you can use thin strips of black tape along its edges, ensuring that the color border of the mat is at least partly visible (Recommended: matte black gaffers tape).

Some options to consider:

When trying to make EXACT competition level tables:

You can find AU retailers that sell sheets of ply in the US dimensions (Sheet Size: 2440 x 1220mm). You may want to consider with a black melamine finish that is hardwearing and reduces the amount of painting involved. You might want to look locally in your area, but here is an example in Melbourne. The surface is ever so slightly stippled and they can edge it for you.

Choose the Black + 18mm thick for rigidity

Melamine on Birch Plywood

Given the side lengths of the tables will likely be over 2400mm, depending which side length abuts the other, the standard metric lengths of 2400mm will not suffice. However cutting a 3600mm length of timber to size and allowing for the thickness of sides will allow the remainder of the timber to be used for the shorter sides of 1143mm + or -3mm.
ie $3600\text{mm} = 2440\text{mm} + 1143\text{mm} + 17\text{mm}$ (leaving a 17mm cutting buffer)

Depending on your base, ie 2440 x 1220mm or 2400 x 1200mm you may need to thin the walls to get the dimensions correct.

Remember to plan it out, measure twice and cut once.