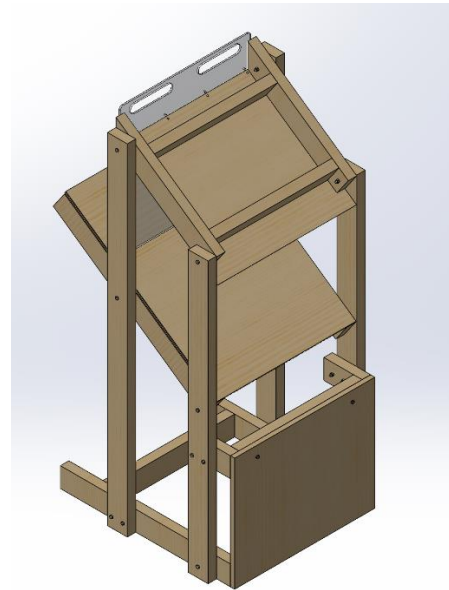


TE-23100 SINGLE SUBSTATION



Description: This is a Single Substation, designed so that teams can practice collecting game pieces from a Human Player.

FILES INCLUDED

In this compressed folder, you will find all of the drawings, CAD Files and STEP Files for this design.

Drawings: For your convenience, all drawing files have been exported to PDF Format. Each major field assembly will have both assembly drawings and component drawings.

CAD Files: All SOLIDWORKS files required to build or modify the assembly.

STEP files: STEP files of the assembly are included for the convenience of non-SOLIDWORKS users.

SHOPPING LIST

Plywood and Lumber (Example Cut List is at end of Readme):

- 2" x 4" x 8' Lumber – 6 Pieces
- 4' x 8' x 1/8" Thick Hardboard – Less than 1/2 of a Sheet
- 4' x 8' x 1/4" Thick Plywood – Less than 1/4 of a Sheet
- 4' x 8' x 3/4" Thick Plywood – Less than 1/4 of a Sheet

Hardware:

- 1/4-20 hex head bolt 2.5" long – 2 pieces
 - 1/4-20 hex head bolt 3.5" long – 18 pieces
 - 1/4-20 nylock – 20 pieces
- OR
- #8 Wood Screws x 1.5" long – Approximately 10 Pieces
 - #8 Wood Screws x 3" long – Approximately 60 Pieces

NOTE ON HARDWARE: All nuts and bolts can be replaced with approximately 70 #8 wood screws. The design uses nuts and bolts to allow itself to be broken down into a much smaller footprint for packing. If this is not a concern for your team, wood screws will make for a sturdier assembly.

Other:

- 1/4" polycarbonate – 23" x 23" (optional)

Notes about materials:

- Plywood and Hardboard Sheets – quality of plywood is up to the user. Plywood of lower qualities may contain voids and may warp more than high quality plywood. All dimensions listed are “nominal”. For example, ½” plywood is typically 15/32”.
- Lumber - quality of lumber is up to the user. Please keep in mind that lumber of lower qualities may warp more than high quality lumber. All dimensions below are the “mill cut” dimensions. For example, 2” x 4” lumber is really 1½” x 3½”.

Example Cut List (All units are Inches):

2x4 Lumber:

Repetition 1x	Stock length 96"	Part length / Label	Qty	Waste	
		21.75" / TE-23102	3		Material remnant 0.25"
		30" / TE-23110	1		Cut 0.5"
		21.75" / TE-23102	21.75" / TE-23102	21.75" / TE-23102	30" / TE-23110

Repetition 1x	Stock length 96"	Part length / Label	Qty	Waste	
		21.675" / TE-23103	1		Material remnant 0.325"
		60" / TE-23115	1		Cut 0.5"
		21.675" / TE-23103	60" / TE-23115	6.75" / TE-23112	6.75" / TE-23112

Repetition 1x	Stock length 96"	Part length / Label	Qty	Waste	
		32.5" / TE-23106	2		Material remnant 0.625"
		30" / TE-23110	1		Cut 0.375"
		32.5" / TE-23106	32.5" / TE-23106	30" / TE-23110	

Repetition 2x	Stock length 96"	Part length / Label	Qty	Waste	
		21.75" / TE-23102	2		Material remnant 2.875"
		49.25" / TE-23114	1		Cut 0.375"
		21.75" / TE-23102	21.75" / TE-23102	49.25" / TE-23114	

Repetition 1x	Stock length 96"	Part length / Label	Qty	Waste	
		21.675" / TE-23103	1		Material remnant 14.075"
		60" / TE-23115	1		Cut 0.25"
		21.675" / TE-23103	60" / TE-23115		

1/8" Hardboard:

Repetition	Stock dimensions	Panel	Qty
1x	96" x 48"	24.5" x 21.75" / TE-23104	1
		32.625" x 24.5" / TE-23108	1

1/4" Plywood:

TE-23107 is of quantity 1 and dimensionally 24.5" x 32.625".

3/4" Plywood:

TE-23113 is of quantity 1 and dimensionally 24.75" x 20".

1/4" Polycarbonate:

TE-23118 is of quantity 1 and dimensionally 23" x 23" (optional)