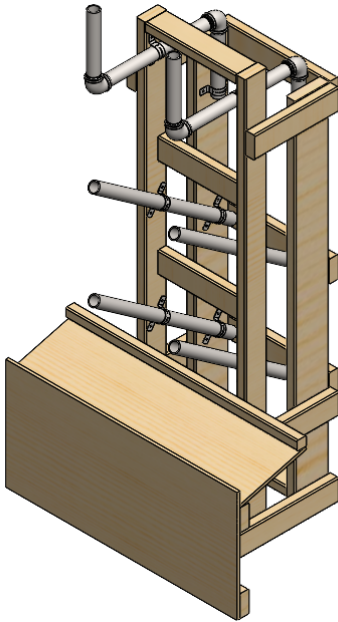


## TE-25300 REEF



**Description:** This is a Reef Section, designed so that teams can practice scoring Coral and removing Algae. This section cannot be easily combined with other sections to simulate a full Reef. If building a larger practice setup, we recommend building [Pipe Bases TE-25350](#) (zip file - automatically downloads) and buying/building Reef Pipes. This Reef is designed for a paper or sticker April Tag to be added.

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 (if building multiple team element designs, plywood and lumber can be consolidated):**

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

- 2" x 2" x 8' Lumber – 1 Pieces (only need 37.25", but most big box stores sell in 8' lengths)
- 2" x 4" x 8' Lumber – 5 Pieces
- 2" x 6" x 10' Lumber – 1 Pieces
- 4' x 4' x 1/2" Thick Plywood – 1 Sheets
- 1-1/4 in. Black Iron Pipe, 18 in. long, Threaded both ends – 2 Pieces
- 1-1/4 in. Black Iron Pipe, 10 ft. long, Threaded both ends – 2 Pieces

Hardware/Other:

- #8 Wood Screws x 1.5" long – Approximately 40 Pieces
- #8 Wood Screws x 2.5" long – Approximately 60 Pieces
- #8 Wood Screws x 4" long – Approximately 20 Pieces
- #8 Fender Washers – 24 Pieces

- 1-1/4 in. Black Iron Pipe Fitting, 90 degree Elbow – 4 Pieces
- 1-1/4 in. Pipe Two-Hole Conduit Clamp – 12 Pieces
- (Optional) – Red Loctite for Black Iron Pipe connections

**Notes about Hardware:** All wood screws can be replaced with nuts and bolts of your choosing to make the design easier to disassemble and store. If this is not a concern for your team, wood screws will make for a sturdier assembly.

### 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, 1/2” 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 1 1/2” x 3 1/2”.

### Example Cut List (All units are Inches):

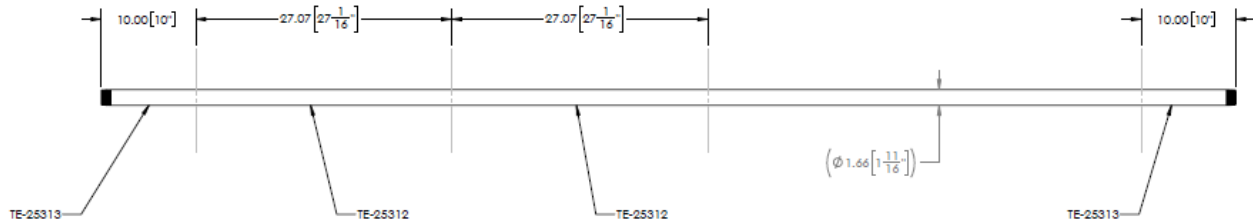
#### 2x2 Lumber:

Layout ID	Processed	Repetition	Stock length	Part length / Label	Qty	Cuts in layout
A	0/1 <input checked="" type="checkbox"/>	1x	96"	37 1/4" / TE-25304	1	The number of cuts 1
						Waste
						Material remnant 58 5/8"
						Cut 1/8"

#### 2x6 Lumber:

Layout ID	Processed	Repetition	Stock length	Part length / Label	Qty	Cuts in layout
A	0/1 <input checked="" type="checkbox"/>	1x	120"	58" / TE-25322	2	The number of cuts 2
						Waste
						Material remnant 3 3/4"
						Cut 1/4"

1-1/4" Black Iron Pipe (Cut as shown for threads to be on correct parts):



2x4 Lumber (Note that Layout C must be cut twice):

Layout ID

A

Processed

0/1

Repetition

1x

Stock length

96"

Part length / Label

Qty

37 1/4" / TE-25303

1

22 11/16" / TE-25324

1

17 5/8" / TE-25306

2

Cuts in layout

The number of cuts

4

Waste

Material remnant

5/16"

Cut

1/2"

37 1/4"

TE-25303

22 11/16"

TE-25324

17 5/8"

TE-25306

17 5/8"

TE-25306

Layout ID

B

Processed

0/1

Repetition

1x

Stock length

96"

Part length / Label

Qty

22 11/16" / TE-25324

3

13 1/2" / TE-25323

2

Cuts in layout

The number of cuts

5

Waste

Material remnant

5/16"

Cut

5/8"

22 11/16"

TE-25324

22 11/16"

TE-25324

22 11/16"

TE-25324

13 1/2"

TE-25323

13 1/2"

TE-25323

Layout ID

C

Processed

0/2

Repetition

2x

Stock length

96"

Part length / Label

Qty

65" / TE-25321

1

14 5/8" / TE-25305

2

Cuts in layout

The number of cuts

3

Waste

Material remnant

1 3/8"

Cut

3/8"

65"

TE-25321

14 5/8"

TE-25305

14 5/8"

TE-25305

Layout ID

D

Processed

0/1

Repetition

1x

Stock length

96"

Part length / Label

Qty

37 1/4" / TE-25303

1

17 5/8" / TE-25306

1

14 5/8" / TE-25305

1

Cuts in layout

The number of cuts

3

Waste

Material remnant

26 1/8"

Cut

3/8"

37 1/4"

TE-25303


17 5/8"

TE-25306

14 5/8"

TE-25305

1/2" Plywood:

Layout ID	Repetition	Stock dimensions	Panel	Qty
A	1x	48" x 48"	37 1/4" x 10 15/16" / TE-25302	1
			37 1/4" x 17 7/8" / TE-25301	1
			Cuts in layout	
			The length of cuts	114 3/16"
			The number of cuts	3