TA211 Project Report

Group M6

CABLE CAR

Instructor: Prof. Sudhanshu Shekhar Singh

Lab In-Charge: Mr. Anil Kumar Verma
Course In-Charge: Mr. I.P Singh
Tutor: Prof. Rahul Sarkar

GROUP MEMBERS

1.Dhananjay Dixit (220351)
2.Dhruv Bansal (220359)
3.Dhruv Budhedeo (220360)
4.Dnyaneshwar Ramesh Pawar (220384)
5.Eesha Sihare (220388)
6.Piyush Singh (220769)
7.Gopal Tiwary (220410)
8.Gopika Sivani K S (220411)

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INTRODUCTION

➢ Imagine a country's growth is like a puzzle, and transportation is the piece that completes it. There are many ways to move around, like roads, trains, planes, and even cable cars.

➢ Picture places with big mountains where regular roads face challenges like landslides and floods. In these tricky spots, cable cars come to the rescue. They're like hanging cabins that go up and down mountains, carrying people and things safely.

➢ Although building cable cars can be expensive upfront, they're like shortcuts in the sky. Instead of twisting along the mountainside like roads, they take a direct path through the air, making long mountain journeys easier.

➢ So, we're rolling up our sleeves to create a mini cable car model. It's like a tiny version of the real thing, moving between two stations at different heights. This little model shows why cable cars are awesome for mountain travel.

MOTIVATION

The project involves studying cable car systems to comprehend both their structural and operational attributes. Exploring fundamental tools, techniques, and materials employed in constructing these intricate structures is a primary goal. By applying insights from the TA201A course on manufacturing processes, we gain practical exposure to the workings of such extensive engineering endeavors, bridging theory with real-world applications.

ACKNOWLEDGEMENT

- We sincerely express our gratitude to our lab in-charge Mr. Anil Kumar Verma, and the course staff in-charge Mr. Indra Pal Singh, for their valuable support and advice in this project. Without their moral and technical support, we would not have been able to complete this effortful task.

- We would like to express our gratitude towards all our lab staff (Mr. Anil Kumar Verma, Mr. Indra Pal Singh, Mr. Rakesh Kumar, Mr. Gaurav Mishra, Mr. Bharat Raj Singh, Mr. Gyanendra Singh, Mr. Anurag Prasad, Mr. A. C. Saini, Mr. Pappu) for their constant supervision and vigilant oversight which helped us in the completion of the project.

- Special thanks to our TAs Swati Kumari, Rakesh Maurya, Anish Ash, Vandana Kumari, Ankit Singh Negi and Aman Nigam, for giving us their valuable time.

- Overall, we would like to thank our Course Instructor Prof. Sudhanshu Shekhar Singh, for providing us with this opportunity to learn, explore and make something valuable using different manufacturing processes.

Material Required

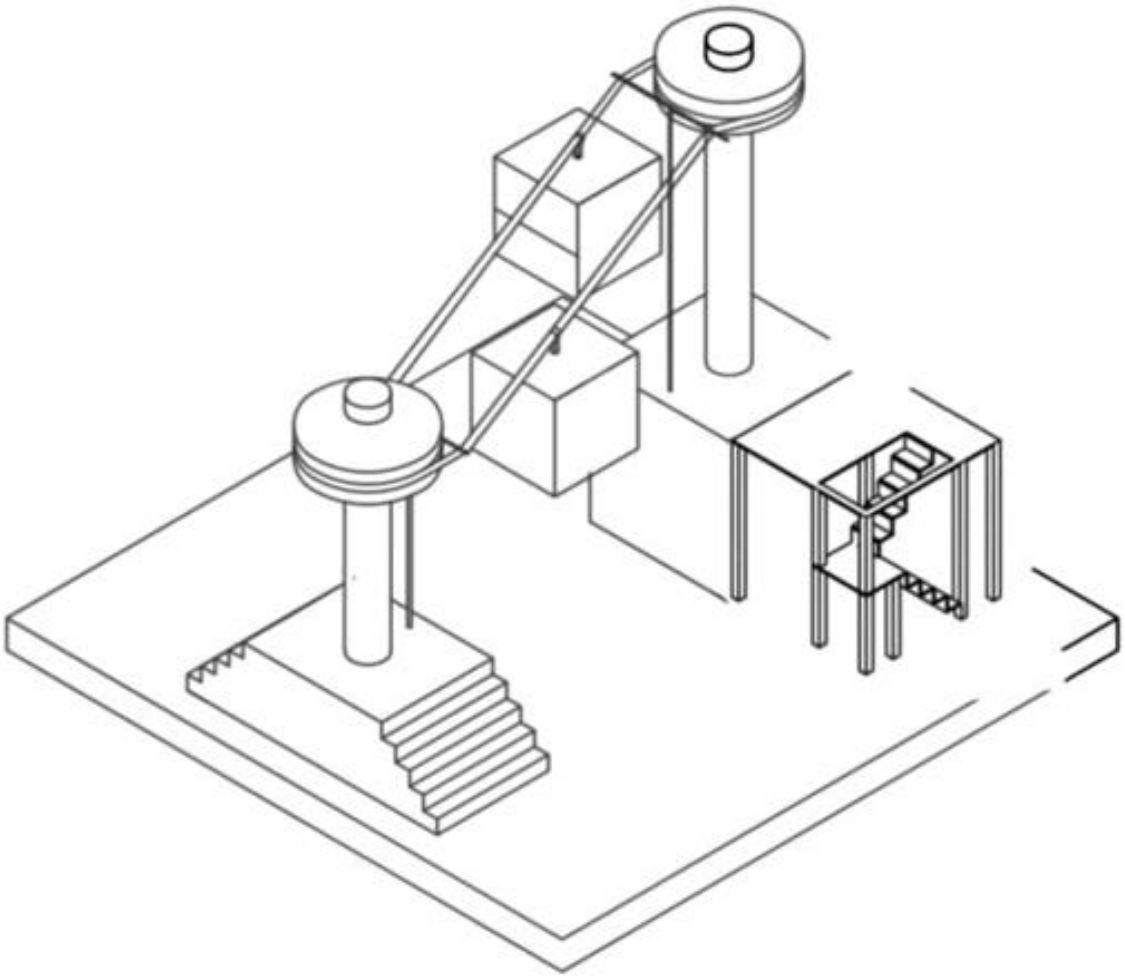
S. NO	Name	Material Required	Quantity	Process Used
1.	Base	Mild Steel 4ft x 8ft x 2.0mm	40cm x 40cm x 40cm	Bracing
2. 3.	Left Platform Right Platform	Mild Steel 4ft x 8ft x 2.0mm	1	Bracing
4. 5.	Left Stairs Right Stairs	Galvanized Iron Sheet 3ft x 8ft x 0.35mm	1	Bracing
6.	Tower Left	Mild steel round rod 25mm dia 10mm dia	1 each	Bracing
7.	Tower Right	Mild Steel round rod 25mm dia	1	Bracing
8. 9.	Pulley Left Pulley Right	Aluminium		Casting
10. 11.	Support Rod Left Support Rod Right	Mild steel round rod 3mm dia	1	Bracing
12. 13.	Cars Car Seats	Galvanized Iron Sheet 3ft x 8ft x 0.35mm	1	Bracing
14.	Platform support	Thermocol 1000cm x 500cm x 74mm	1	
15.		Fevicol	1	
16.	Cable	Rope	1	

Work Distribution

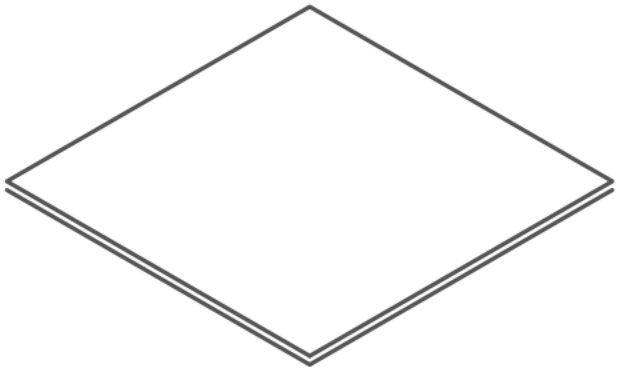
Members	Week 1	Week 2	Week 3	Week 4	Week 5
Gopal	Pulley Formation	Pulley Formation	Pulley Formation	Assembly	Finishing
Gopika	Pulley Formation	Pulley Formation	Pulley Formation	Assembly	Finishing
Eesha	Cabin & Station Formation	Cabin & Station Formation	Cabin & Station Formation	Assembly	Finishing
Dhruv	Cabin & Station Formation	Cabin & Station Formation	Cabin & Station Formation	Assembly	Finishing
Dhruv Budhedeo	Cabin & Station Formation	Cabin & Station Formation	Cabin & Station Formation	Assembly	Finishing
Dhananjay	Tower & Stairs formation	Tower & Stairs formation	Tower & Stairs formation	Assembly	Finishing
Dnyaneshwar	Tower & Stairs formation	Tower & Stairs formation	Tower & Stairs formation	Assembly	Finishing
Piyush	Tower & Stairs formation	Tower & Stairs formation	Tower & Stairs formation	Assembly	Finishing

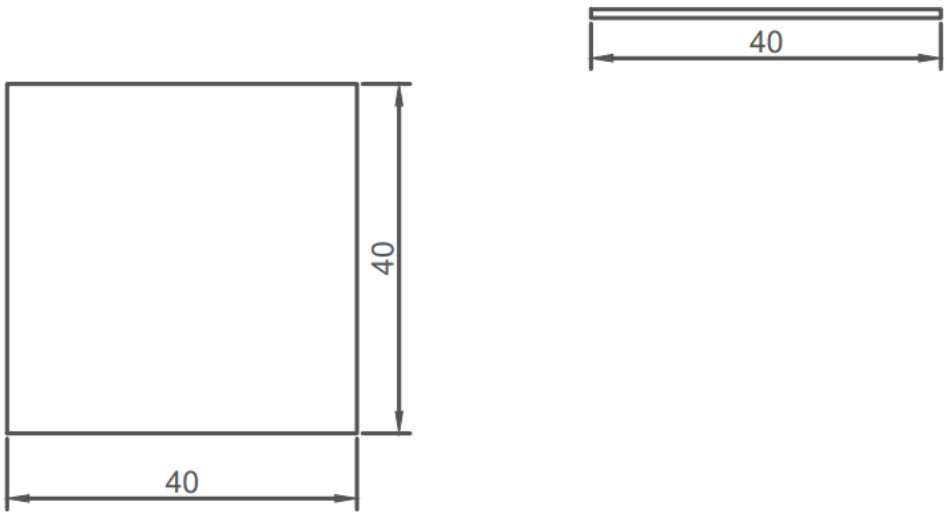
Full Drawing

CABLE CAR

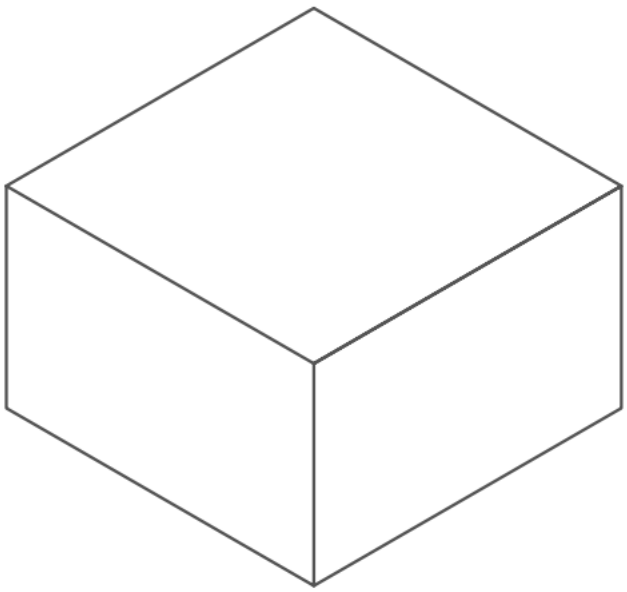


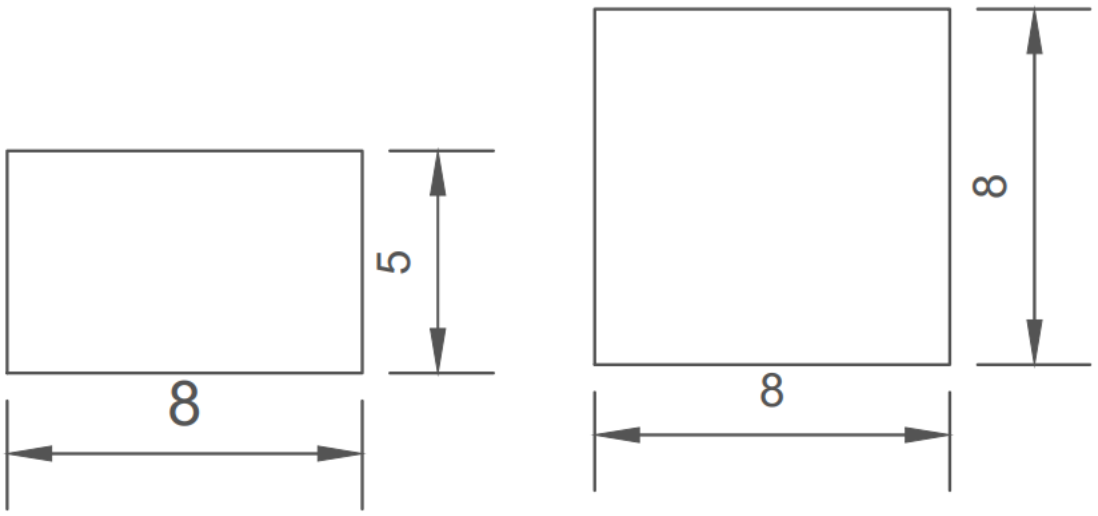
PART NO : 1
PART NAME : BASE
MATERIAL USED : MILD STEEL SHEET
(4ft x 8ft x 2.0mm)
PROCESS USED : BRACING
All dimensions are in mm



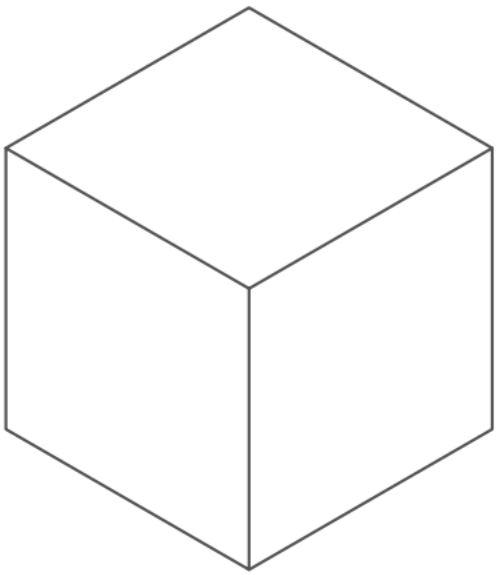


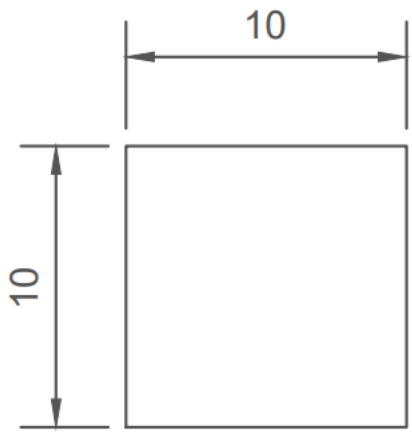
PART NO : 2
PART NAME : PLATFORM-LEFT
MATERIAL USED : MILD STEEL SHEET
(4ft x 8ft x 2.0mm)
PROCESS USED : BRACING
All dimensions are in mm

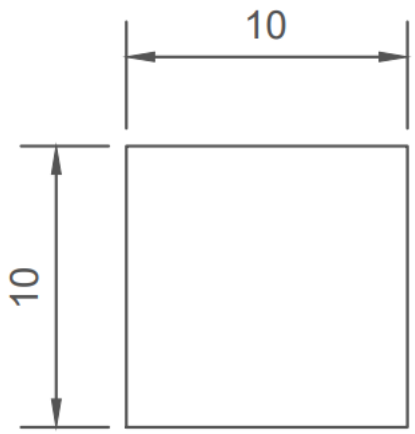




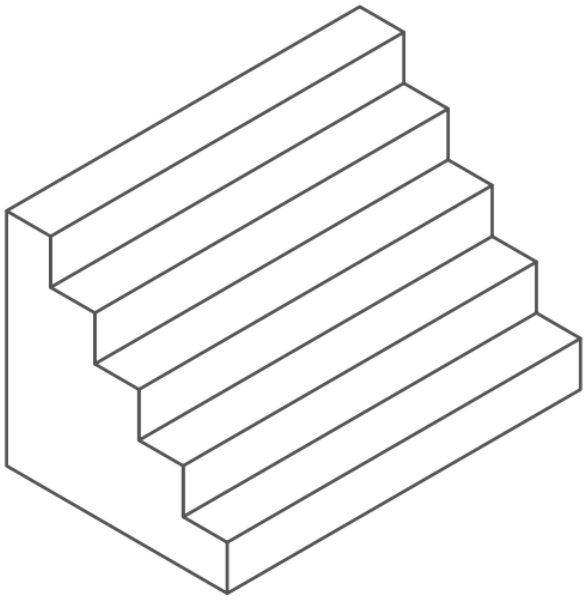
PART NO : 3
PART NAME : PLATFORM-RIGHT
MATERIAL USED : MILD STEEL SHEET
(4ft x 8ft x 2.0mm)
PROCESS USED : BRACING
All dimensions are in mm

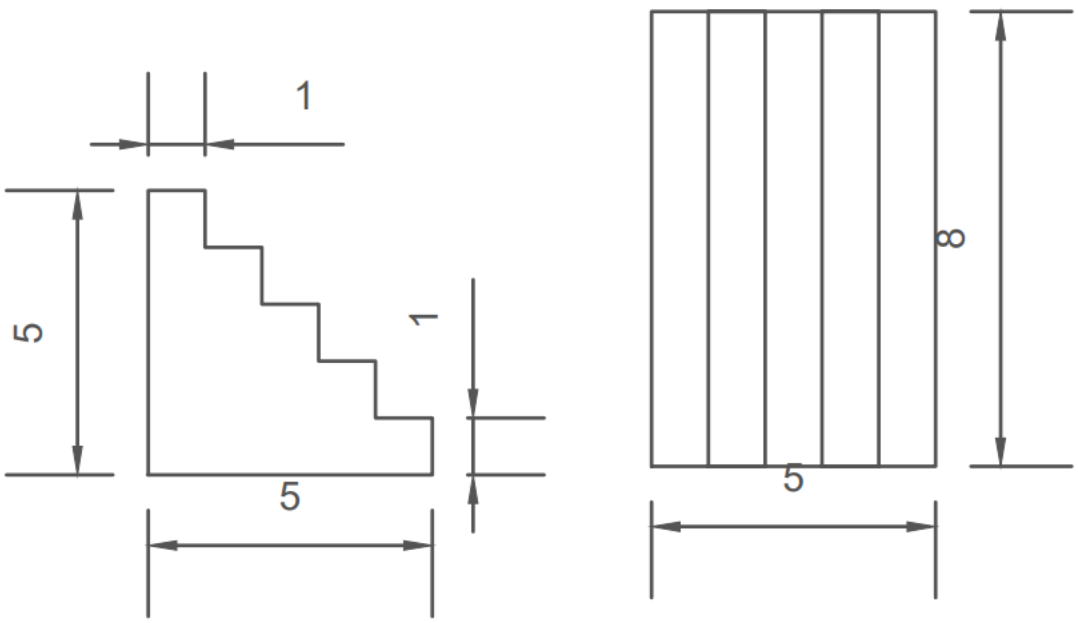




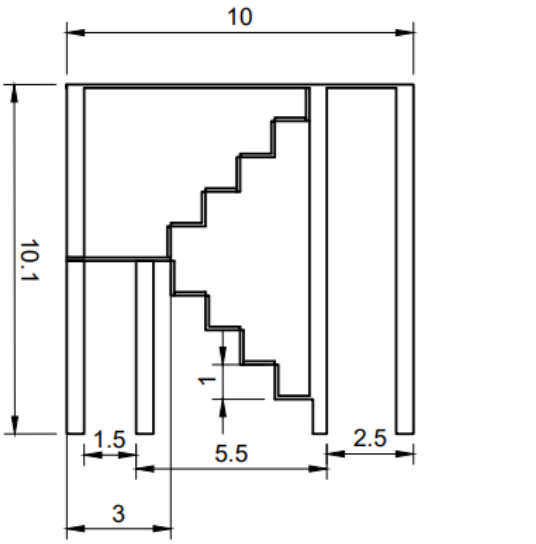


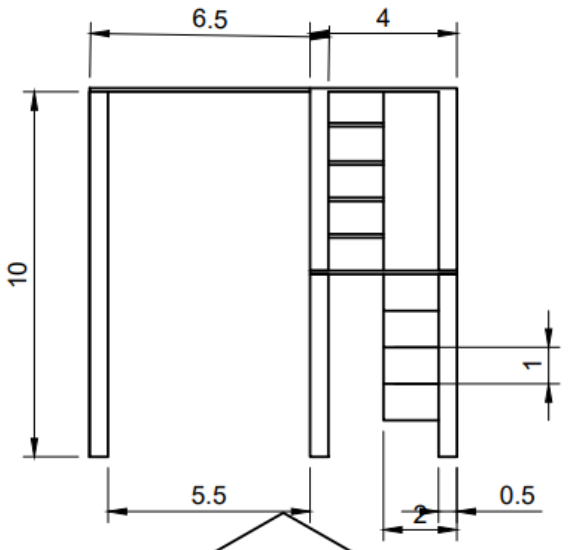
PART NO : 4
PART NAME : STAIRS-LEFT
MATERIAL USED : GALVANIZED IRON SHEET
(3ft x 8ft x 0.35mm)
PROCESS USED : BRACING
All dimensions are in mm

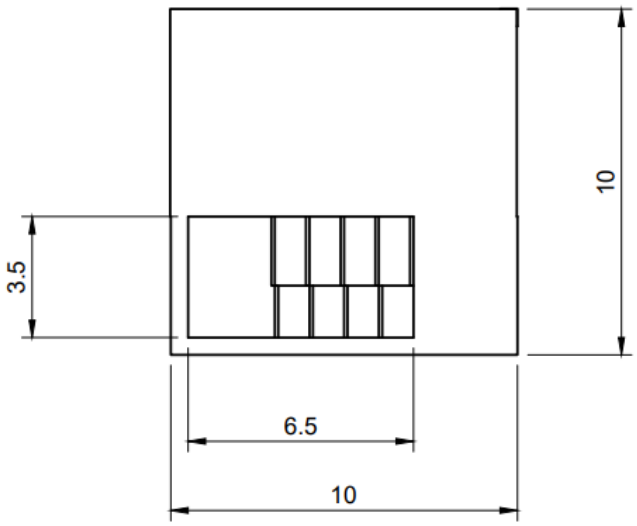


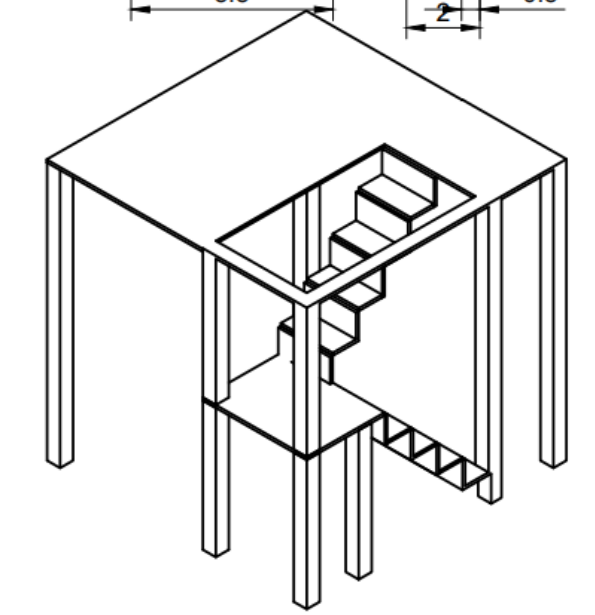


PART NO : 5
PART NAME : STAIRS-RIGHT
MATERIAL USED : GALVANIZED IRON SHEET
(3ft x 8ft x 0.35mm)
PROCESS USED : BRACING
All dimensions are in mm

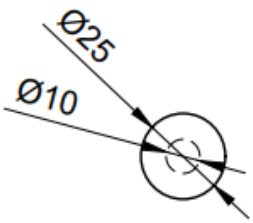


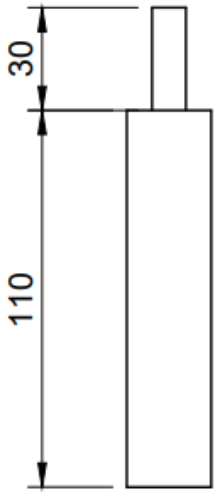


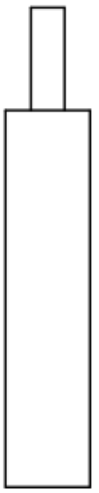




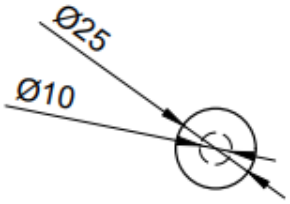
PART NO : 6
PART NAME : TOWER-LEFT
MATERIAL USED : MILD STEEL ROUND ROD
(25mm dia + 10mm dia)
PROCESS USED : BRACING
All dimensions are in mm

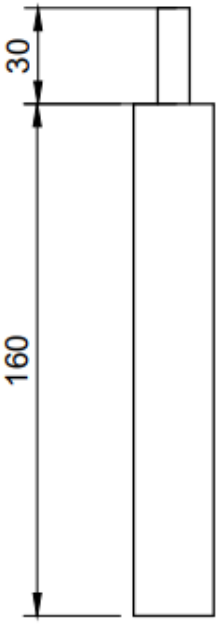




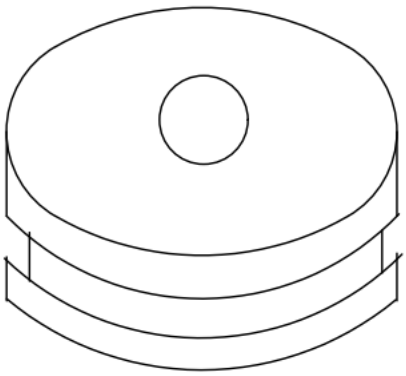


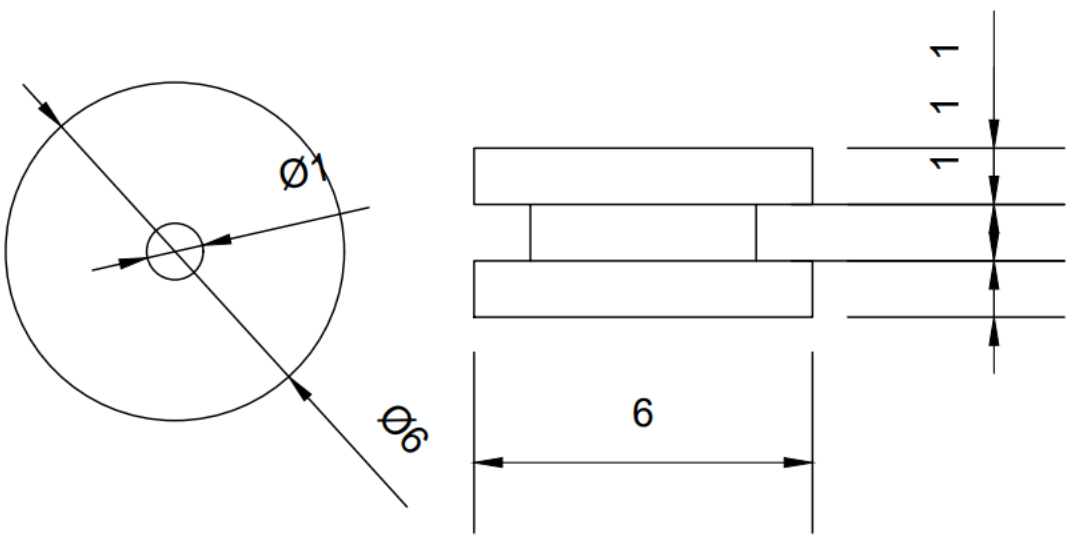
PART NO : 7
PART NAME : TOWER-RIGHT
MATERIAL USED : MILD STEEL ROUND ROD
(25mm dia + 10mm dia)
PROCESS USED : BRACING
All dimensions are in mm



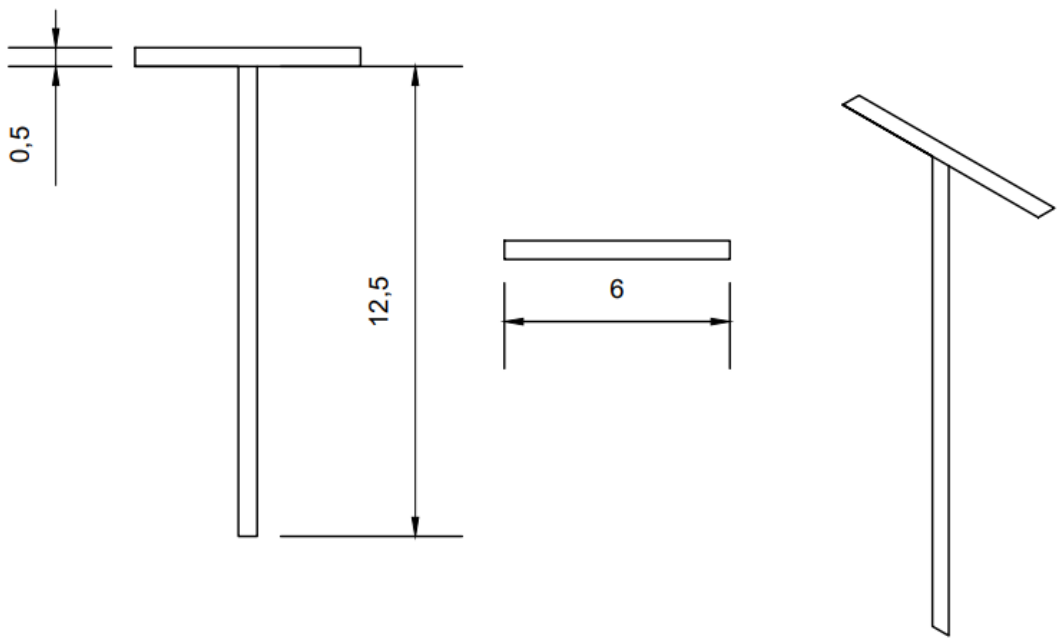


PART NO : 8, 9
PART NAME : PULLEY-LEFT&RIGHT
MATERIAL USED : ALUMINIUM
PROCESS USED : CASTING
All dimensions are in mm

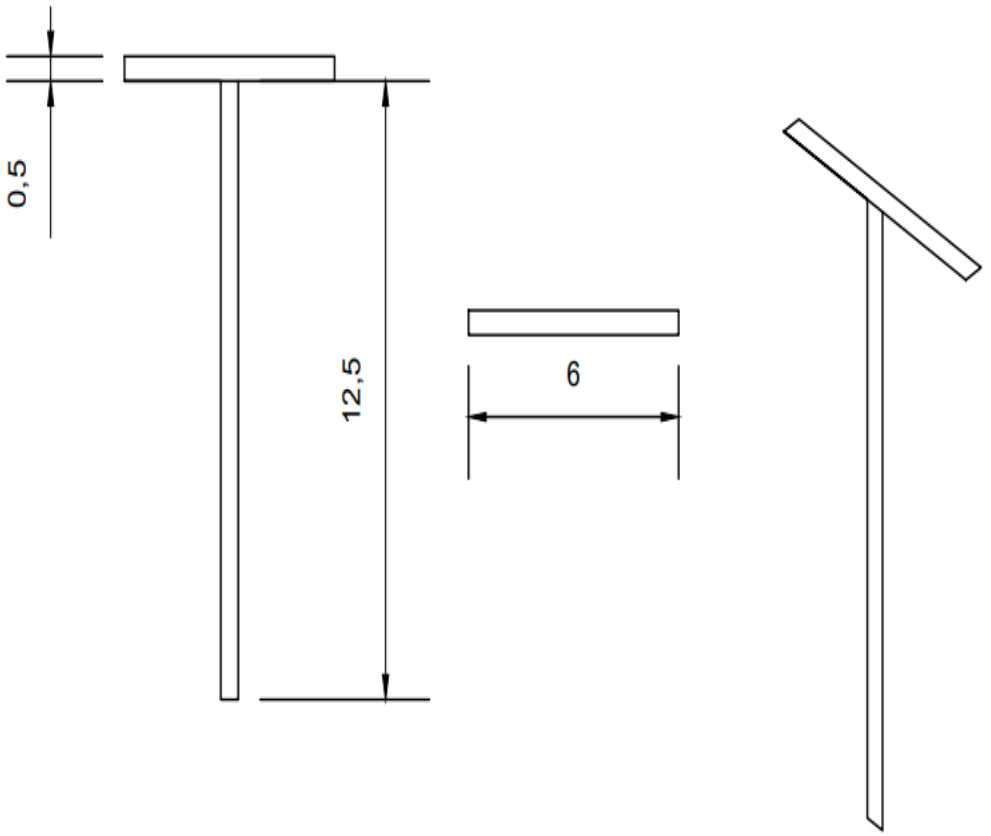




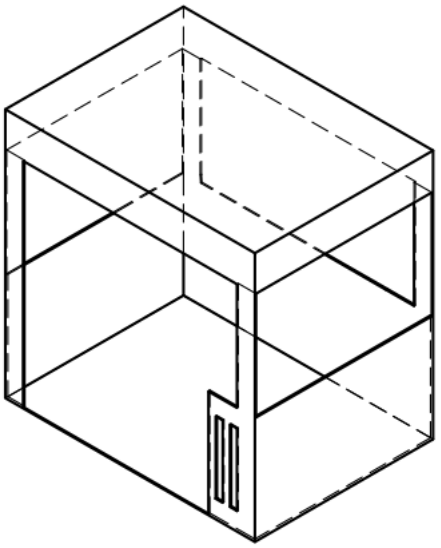
PART NO : 10
PART NAME : SUPPORT ROD-LEFT
MATERIAL USED : MILD STEEL ROUND ROD
(3mm dia)
PROCESS USED : BRACING
All dimensions are in mm

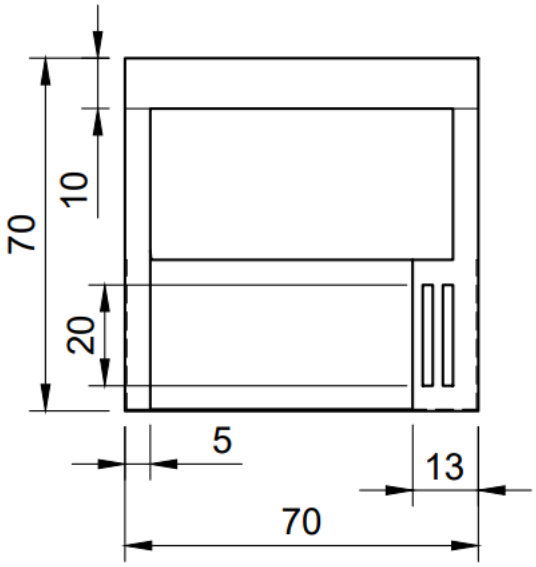


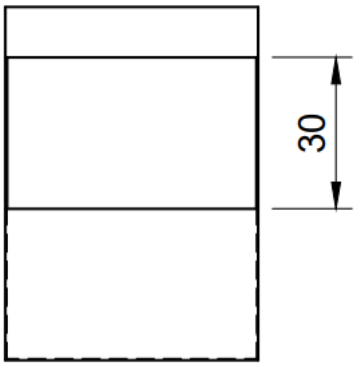
PART NO : 11
PART NAME : SUPPORT ROD-RIGHT
MATERIAL USED : MILD STEEL ROUND ROD
(3mm dia)
PROCESS USED : BRACING
All dimensions are in mm



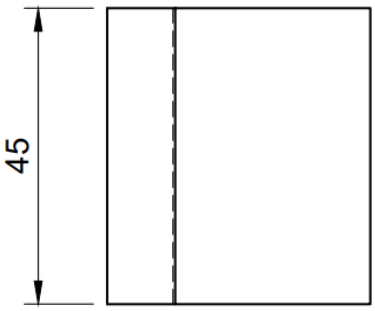
PART NO : 12
PART NAME : CARS
MATERIAL USED : GALVANIZED IRON SHEET
(3ft x 8ft x 0.35mm)
PROCESS USED : BRACING
All dimensions are in mm

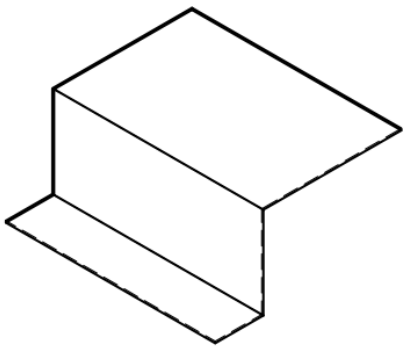


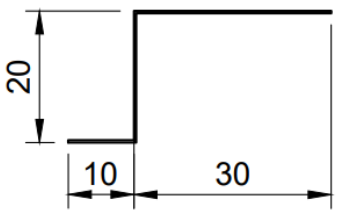




PART NO : 13
PART NAME : CAR SEAT
MATERIAL USED : GALVANIZED IRON SHEET
(3ft x 8ft x 0.35mm)
PROCESS USED : BRACING
All dimensions are in mm







THANK YOU