



National
Qualifications
2025

X835/77/11

**Graphic Communication
Supplementary sheets**

WEDNESDAY, 30 APRIL

1:00 PM – 3:30 PM

Supplementary sheet 1 for use with question 1, supplementary sheets 2 and 3 for use with question 3 and supplementary sheet 4 for use with question 5.



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BIKE BUILDER CUSTOMISATION

◀ ROAD BIKE ▶

3D INTERACTIVE VIEW

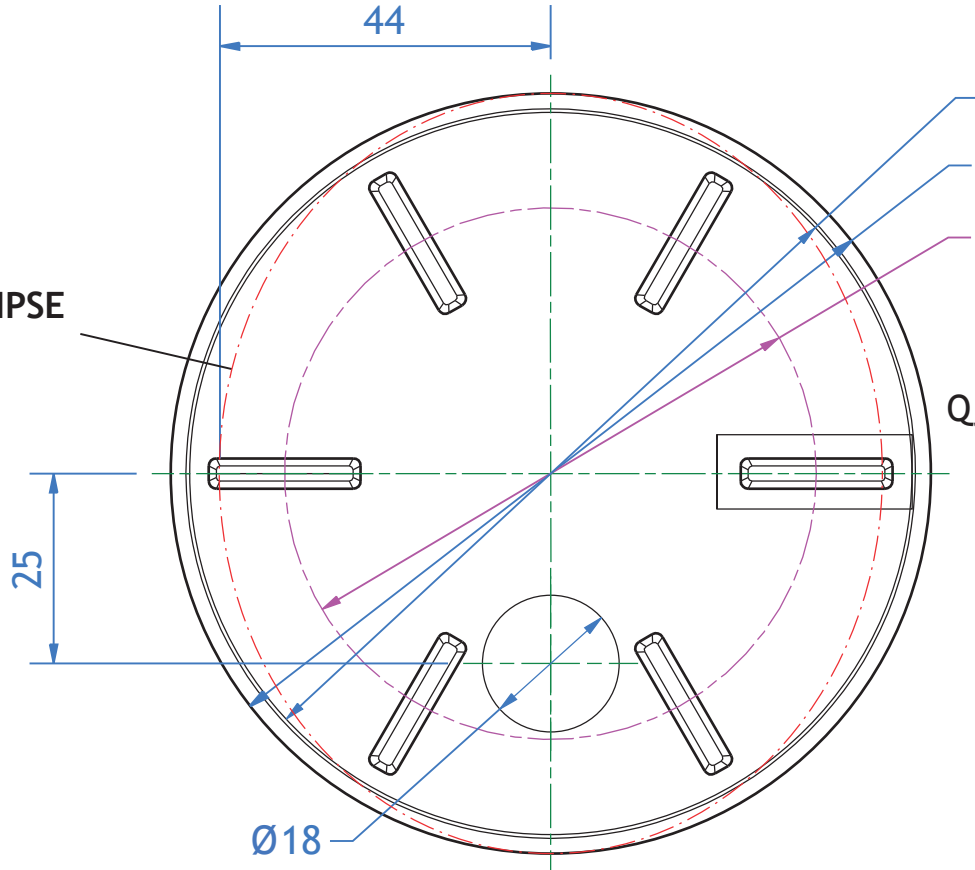
<p>Small</p> <p>5' 5" - 5' 7" 165 - 170cm</p> <p style="background-color: #e67e22; color: white; padding: 2px 10px;">SELECT</p>	<p>Medium</p> <p>5' 7" - 5' 10" 170 - 178cm</p> <p style="background-color: #e67e22; color: white; padding: 2px 10px;">SELECT</p>	<p>Large</p> <p>5' 10" - 6' 1" 178 - 185cm</p> <p style="background-color: #e67e22; color: white; padding: 2px 10px;">SELECT</p>
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Frame Colour

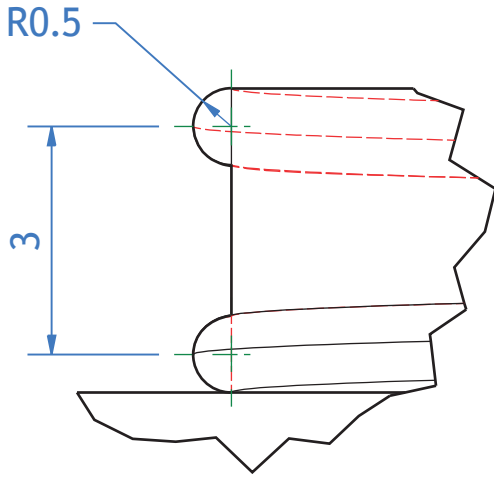
			
Cyan d'Azur Flip	Voodoo Bronze Flip	Reflex Green Flip	Reflex Blue Flip

COMPONENT A

POSITION of ELLIPSE
PROFILE SKETCH



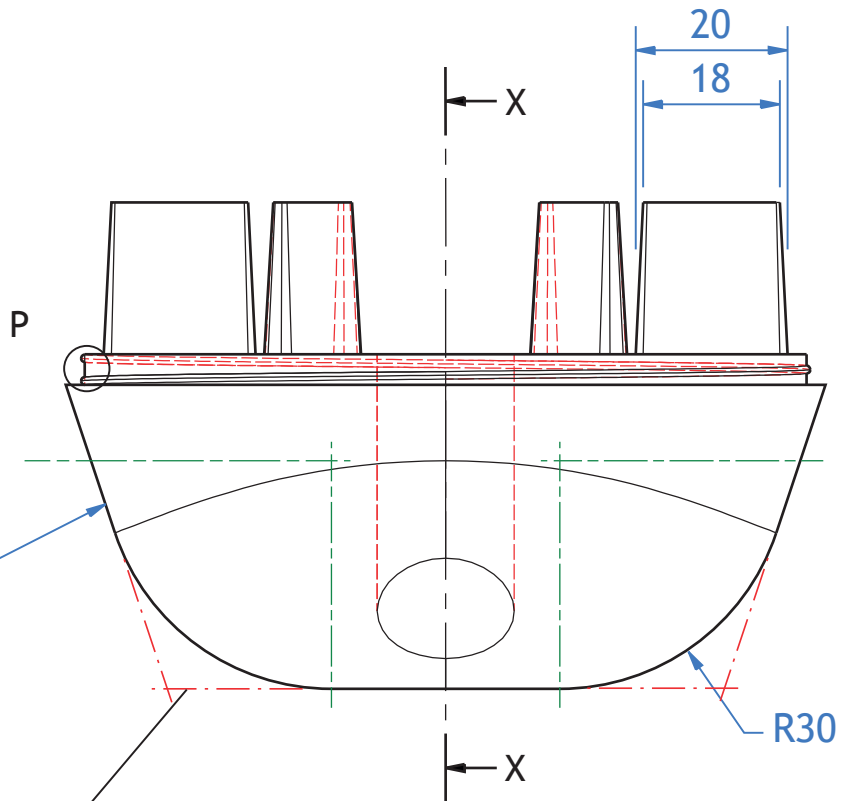
PLAN



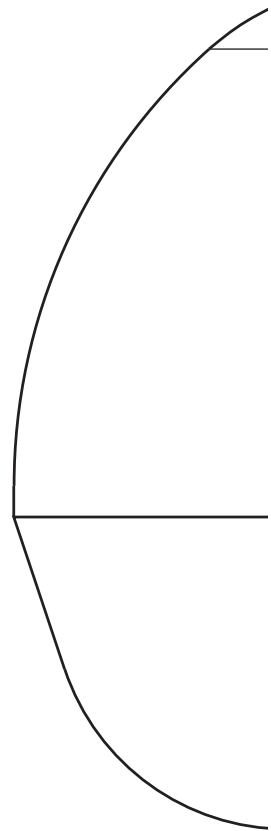
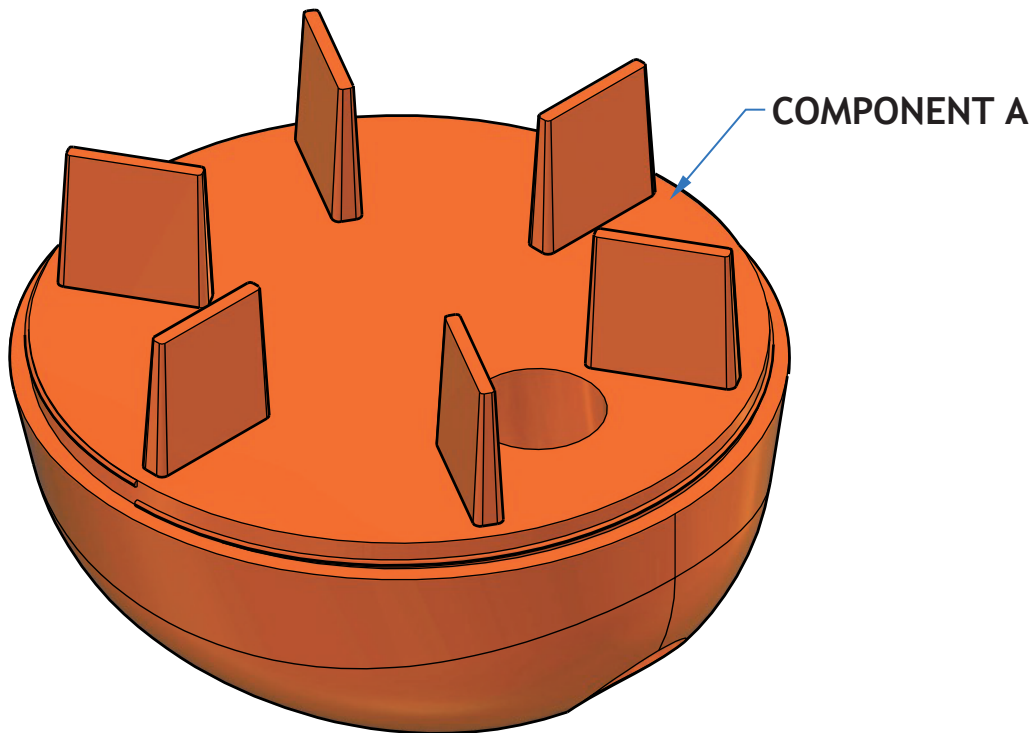
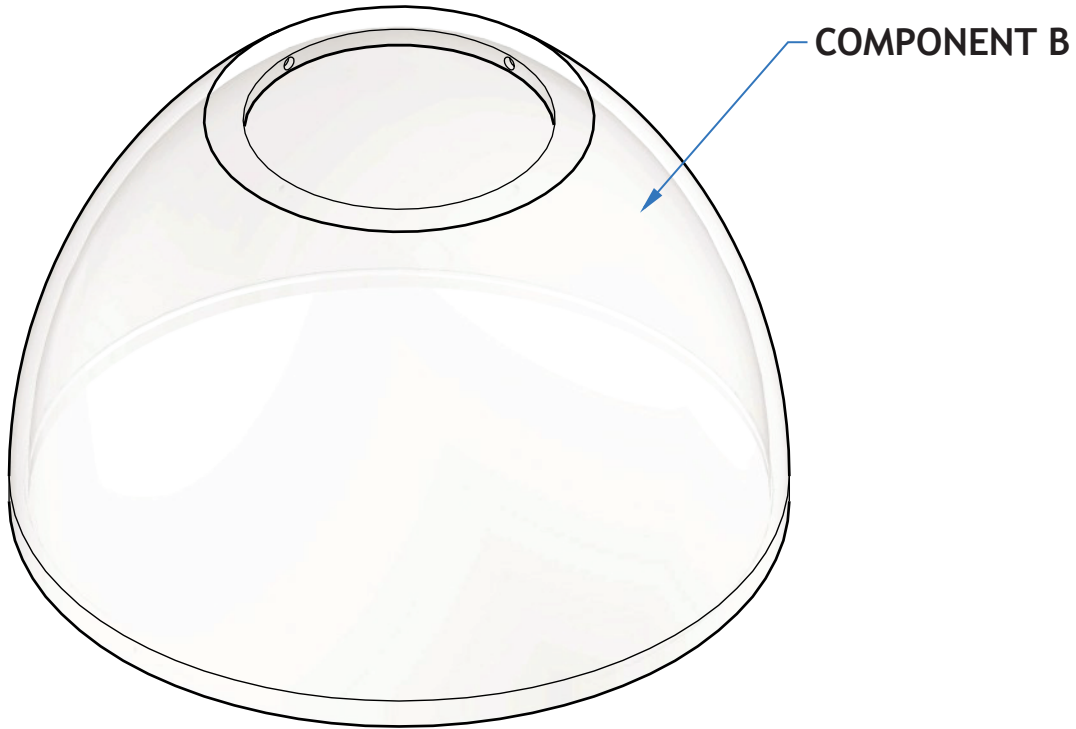
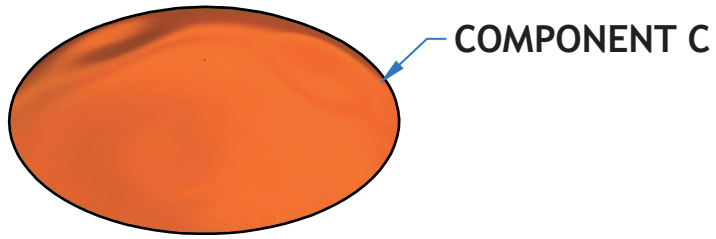
ENLARGED VIEW P SCALE 10:1

SYMBOL D

POSITION of ELLIPSE
PROFILE SKETCH



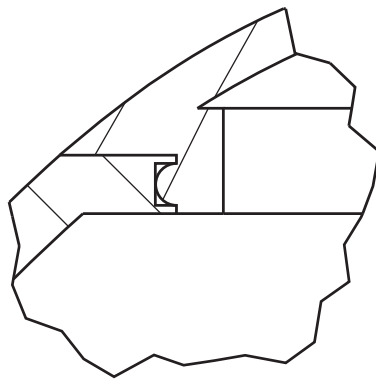
ELEVATION



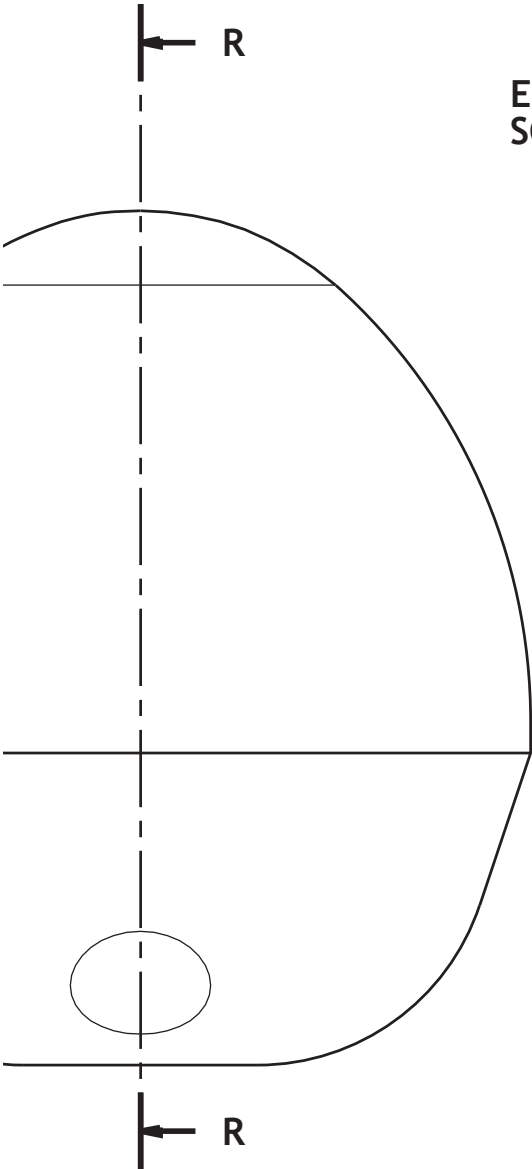
EXPLODED

ASSEMBLED

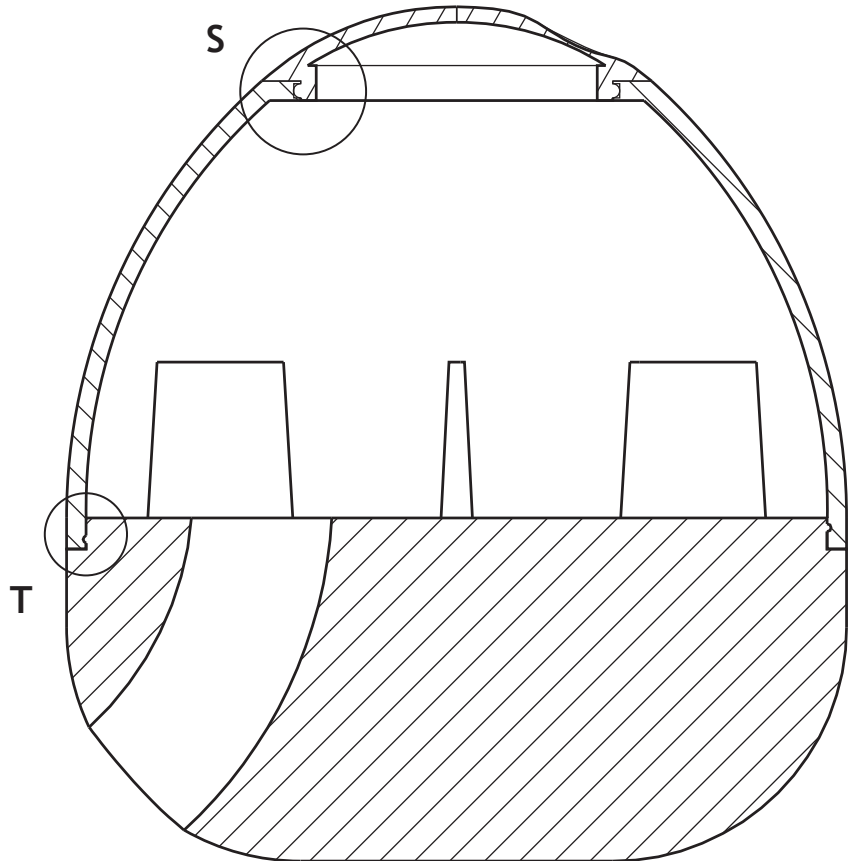
CENTRE LINES HAVE BEEN REMOVED FOR CLARITY



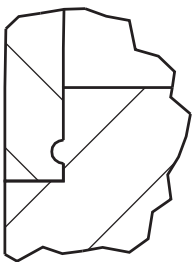
ENLARGED VIEW S
SCALE 4:1



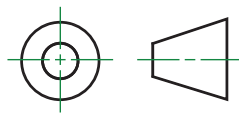
ELEVATION



SECTION R-R



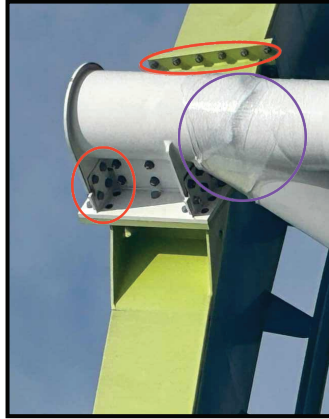
ENLARGED VIEW T
SCALE 4:1

TITLE: DOG TREAT TOY	
DRAWING NUMBER: 2	
EXPLODED AND ORTHOGRAPHIC VIEWS	SCALE: 1:1
AUTHOR: A.NON	DATE: 10/10/23

Specification

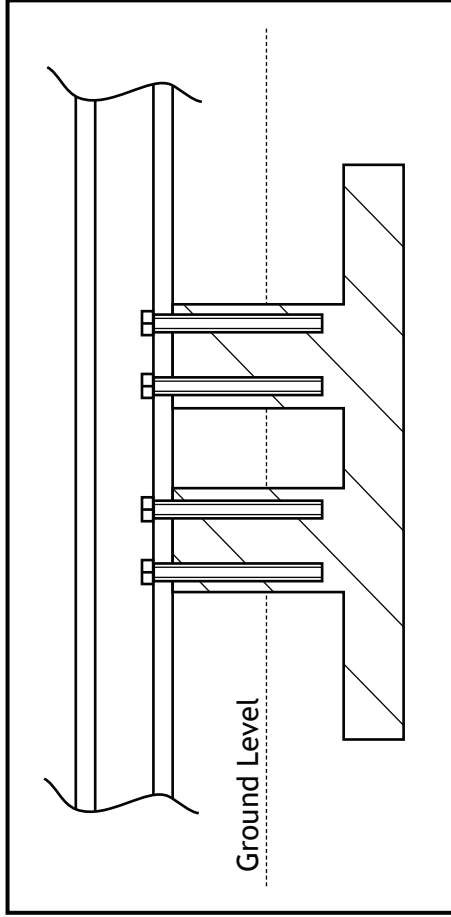
- Track length: 425 m
- Max speed: 18 m/s (65 km/h)
- Acceleration max: 4.2 g
- Run time: 75/80 s
- Number of trains: 1 with 6 cars, 4 seats each
- Footprint: 66x40 m approx
- Height: 20.1 m
- First loop height: 20 m
- Second loop height: 15.4 m
- Track material: Steel
- Foundation material: Concrete
- Foundation connected to supports using fixing bolts
- Frame, supports and tracks assembled using bolts and welding

Joining Methods

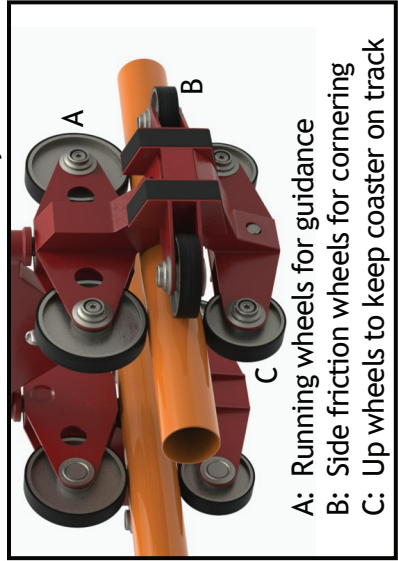


- A: Fixing bolts with nut
- B: Welded steel supports

Column Foundation (Not to BS8888)

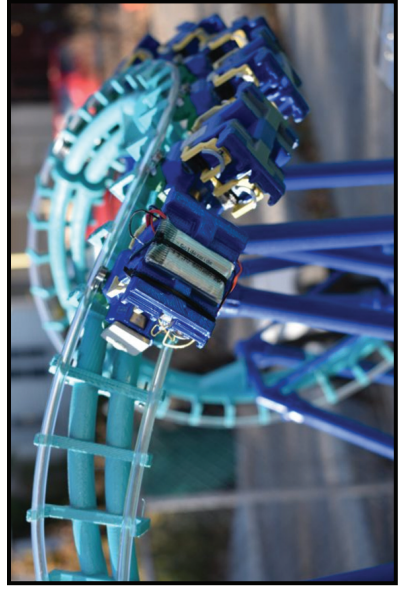


Mechanical wheel and brake system



- A: Running wheels for guidance
- B: Side friction wheels for cornering
- C: Up wheels to keep coaster on track

3D Printed model



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Test icon: <https://pixabay.com/vectors/checkmark-tick-check-yes-mark-303752/>

Home icon: <https://pixabay.com/vectors/house-icon-home-symbol-sign-308936/>

Bike helmet: <https://pixabay.com/photos/bicycle-helmet-helmet-bike-helmet-505399/>

Supplementary sheet 4 Joining methods: Image is taken from Davide Mavillonio on LinkedIn, https://www.linkedin.com/posts/davide-mavillonio_fem-cfd-ansys-ugcPost-7082302878328995840-Wn4t/

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Mechanical wheel and brake system: Image is taken from <https://free3d.com/3d-model/roller-coasterwheel-884.html>

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3D printed model: Image is taken from 3D Printed Working Roller Coaster Model | MatterHackers

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Rollercoaster in motion model: Image is taken from See a Functional 3D-Printed Roller Coaster at SOLIDWORKS World 2019 | MySolidWorks

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