

Activity 8

Assembling the axles

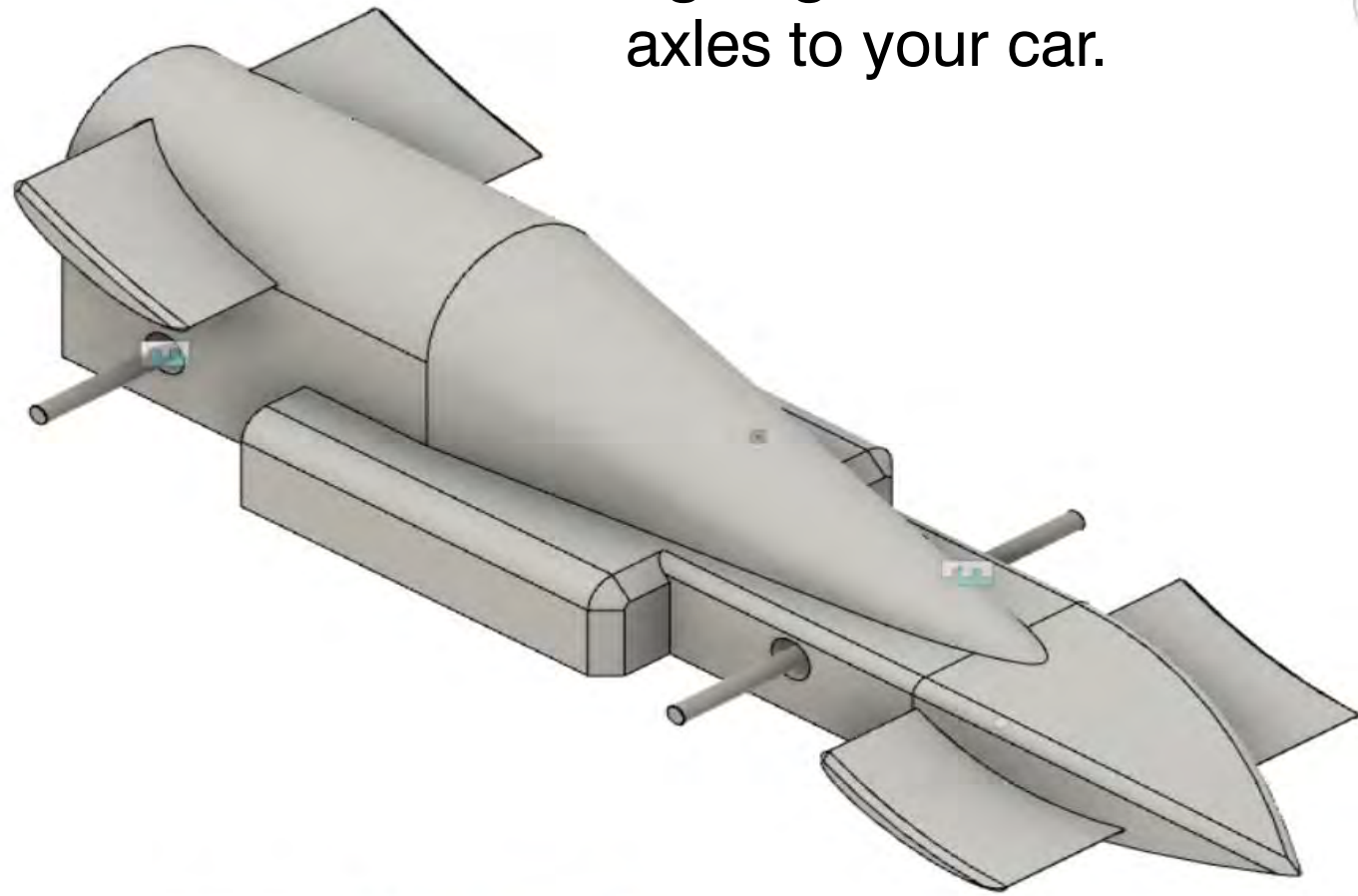
PDF Guide



BROWSER

- no_go_zone_2019_2020_ent...
- Document Settings
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 - YZ
- Joints
- Bodies
- Sketches
- Construction
- f1_axle v1:1
- f1_axle v1:2

You are going to assemble the axles to your car.



COMMENTS



1. Search F1 in Schools.

All Images News Videos Shopping More Settings Tools

About 59,100,000 results (0.48 seconds)

www.f1inschools.co.uk ▾

F1 in Schools UK - Home

F1 in Schools Ltd is a not-for-profit company established with committed partners to provide an exciting yet challenging educational experience through the ...

Rules & Regs

The F1 in Schools competition is split into 3 classes: Entry ...

Events / Calendar

STAY UPDATED WITH ALL OUR EVENTS. Please see below the ...

[More results from f1inschools.co.uk »](#)

The Challenge

The F1 Logo, F1, FORMULA 1, GRAND PRIX, F1 IN SCHOOLS ...

About

Spanning age ranges of 9 to 19 our main objective is to help ...

www.f1inschools.com ▾

F1 in schools Global - Home

World Finals. Teams from all round the world compete for the chance to be crowned the **F1 in Schools™** world champions.

Videos

A promotional banner for F1 in Schools. It features the 'in Schools UNITED KINGDOM' logo, several images of miniature F1 cars, and a group of people standing with a trophy. A 'More images' button is visible. Below the banner is the title 'F1 in Schools' and a share icon. The main text reads: 'F1 in Schools is an international STEM competition for school children, in which groups of 3–6 students have to design and manufacture a miniature car out of the official F1 Model Block using CAD/CAM design tools. The cars are powered by CO₂ cartridges and are attached to a track by a nylon wire. [Wikipedia](#)'.

Feedback

1. Hover over 'THE CHALLENGE'
2. Select 'DOWNLOADS'

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**Welcome to
F1 in Schools UK**


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Lenovo

AUTODESK


F1 Model Block


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 Model Block (Universal .stp)
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Axle


 Axle (Inventor .ipt)
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 Axle (Universal .stp)
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Wheel


 Wheel (Inventor .ipt)
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 Wheel (Universal .igs)
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 Wheels (Universal .stp)
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DOWNLOAD

Axle Bush


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 Axle Bush (Universal .igs)
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 Axle Bush (Universal .stp)
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- Axle Bush- Universal .igs
- Axle- Universal .igs
- Wheel Universal .igs


Entry Class NO-GO-ZONE


 NO_GO_ZONE_2020_2021_ENTRY_CLASS.ipt
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 NO_GO_ZONE_2020_2021_ENTRY_CLASS.igs
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Development Class NO-GO-ZONE

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 NO_GO_ZONE_2020_2021_DEVELOPMENT_CLASS.stp
Download File



ON FUSION-

1. Click the 9 little square icon.
2. Drag and drop the 3 files you have downloaded.

Upload

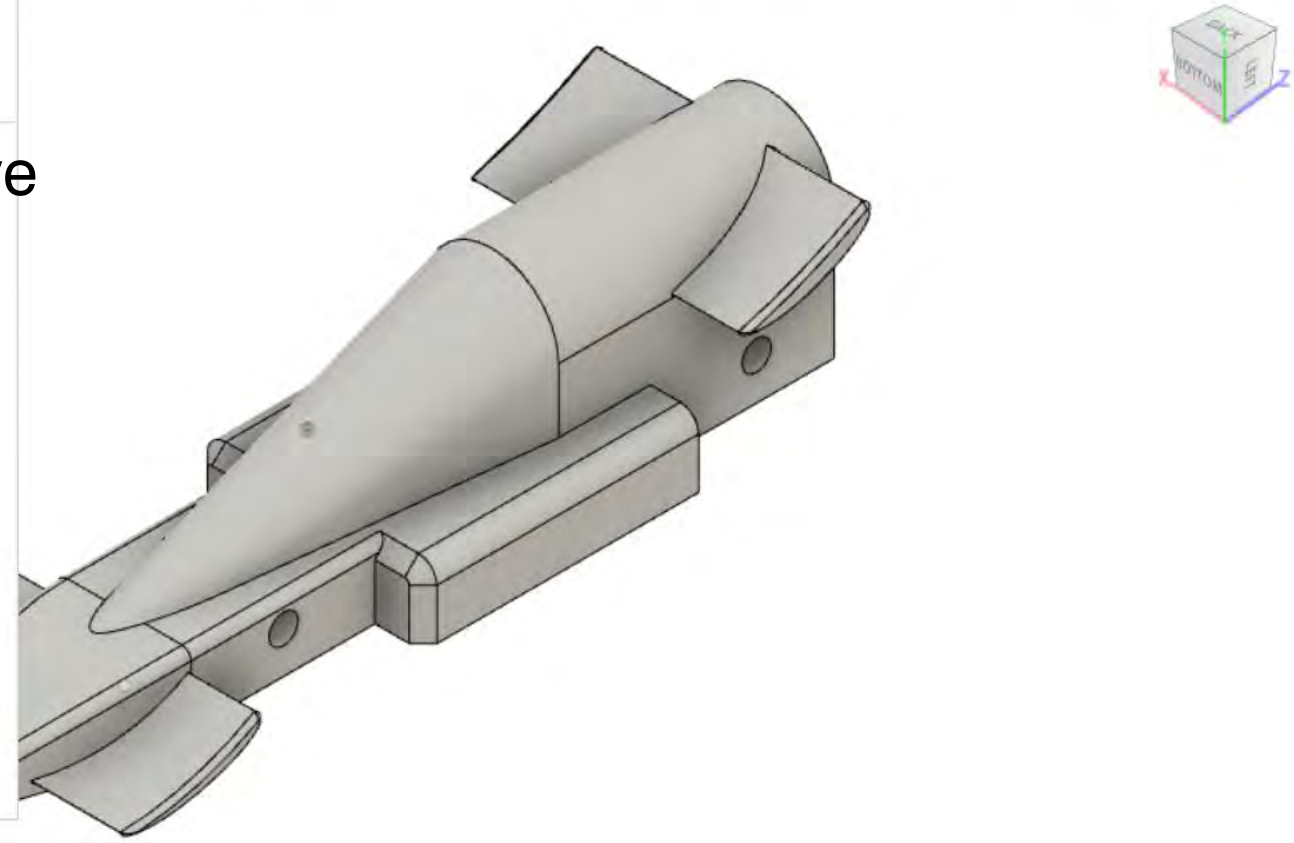
Select Files

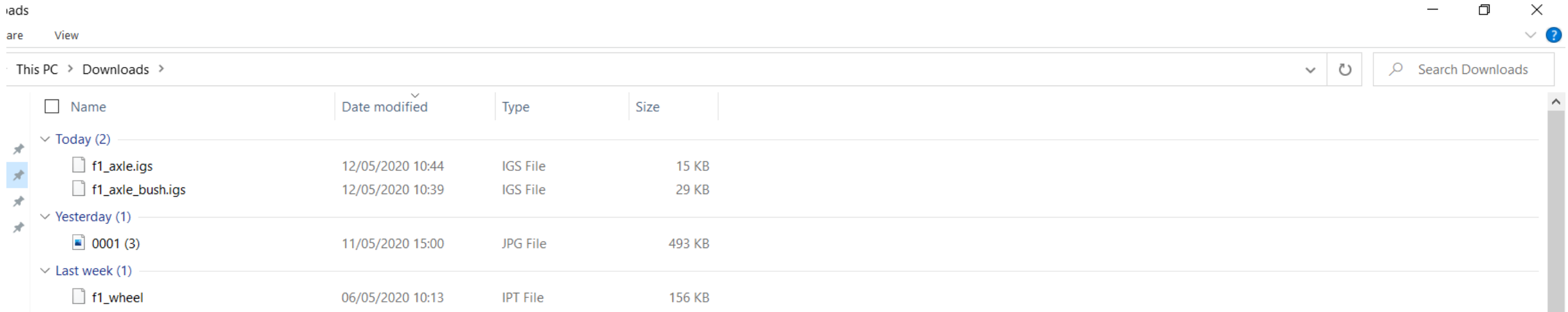
or

Drag and Drop Here

Location: WEBSITE [Change Location](#)

Cancel Upload





Select:

- Axle
- Axle Bush
- Wheel

Drag the file to Fusion 360

Upload

1. Click 'Upload'

Select Files

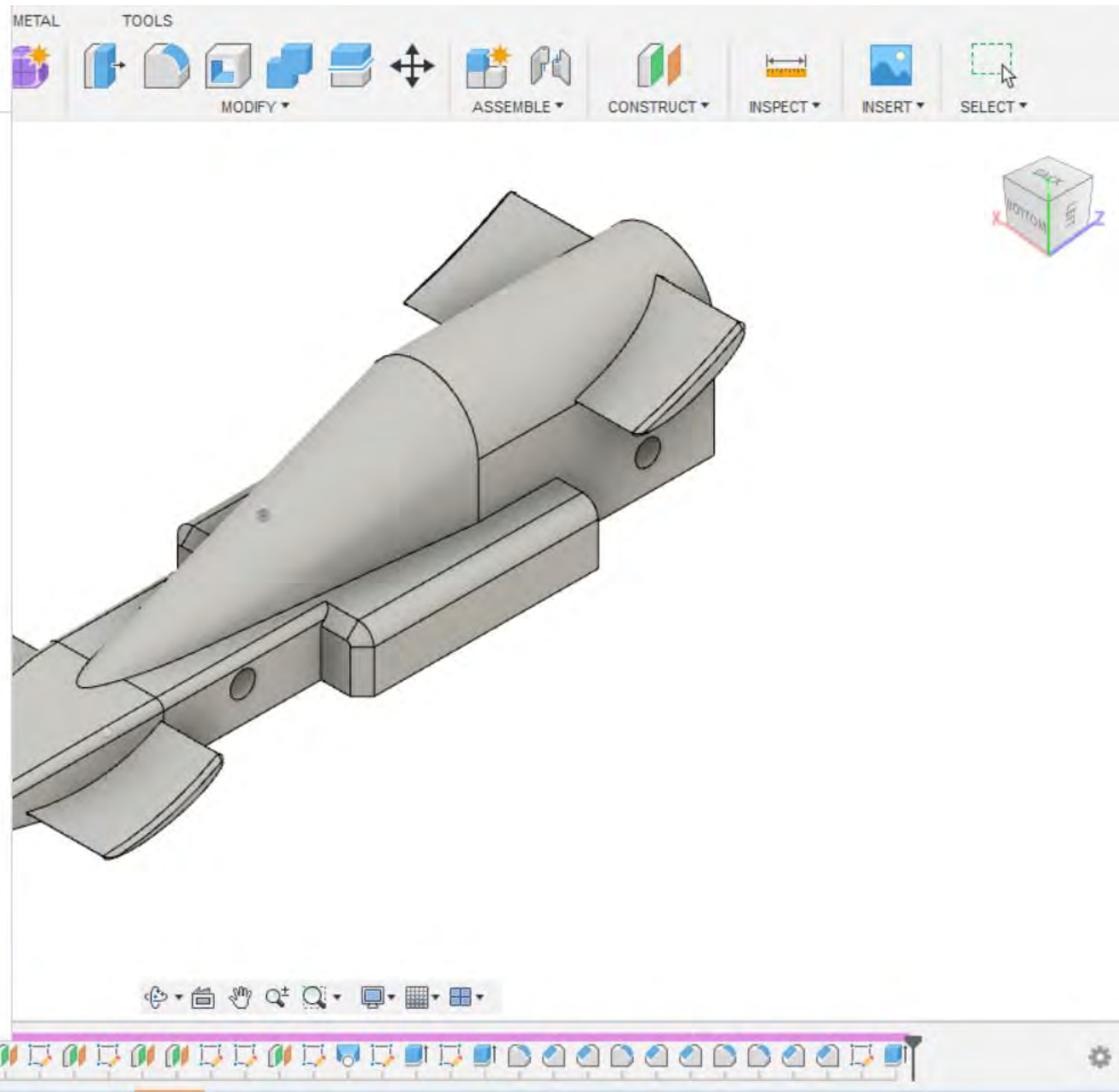
or

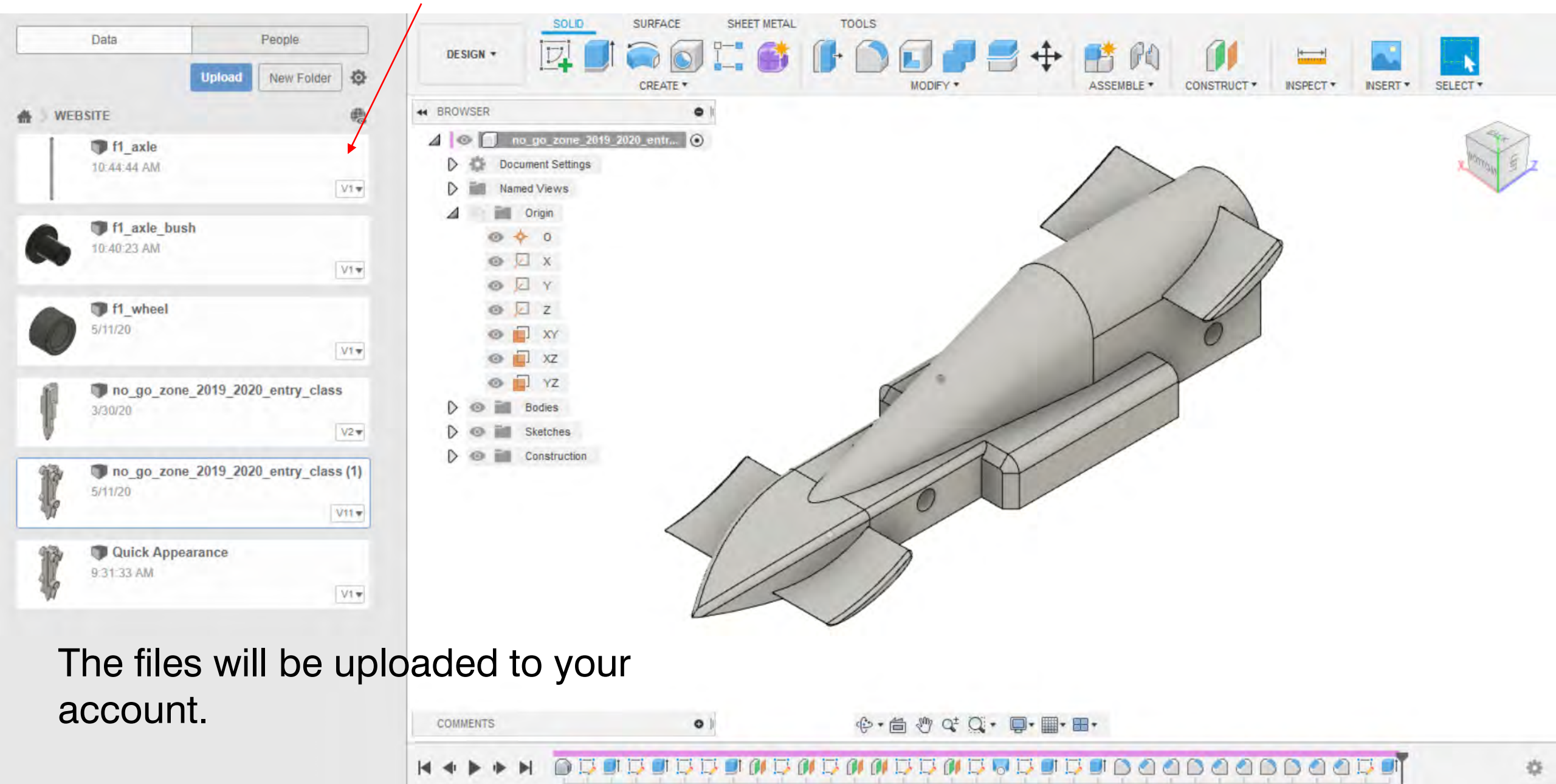


NAME	TYPE	SIZE	REMOVE
f1_axle	IGS	14 kB	×
f1_axle_bush	IGS	28 kB	×
f1_wheel	IPT	156 kB	×

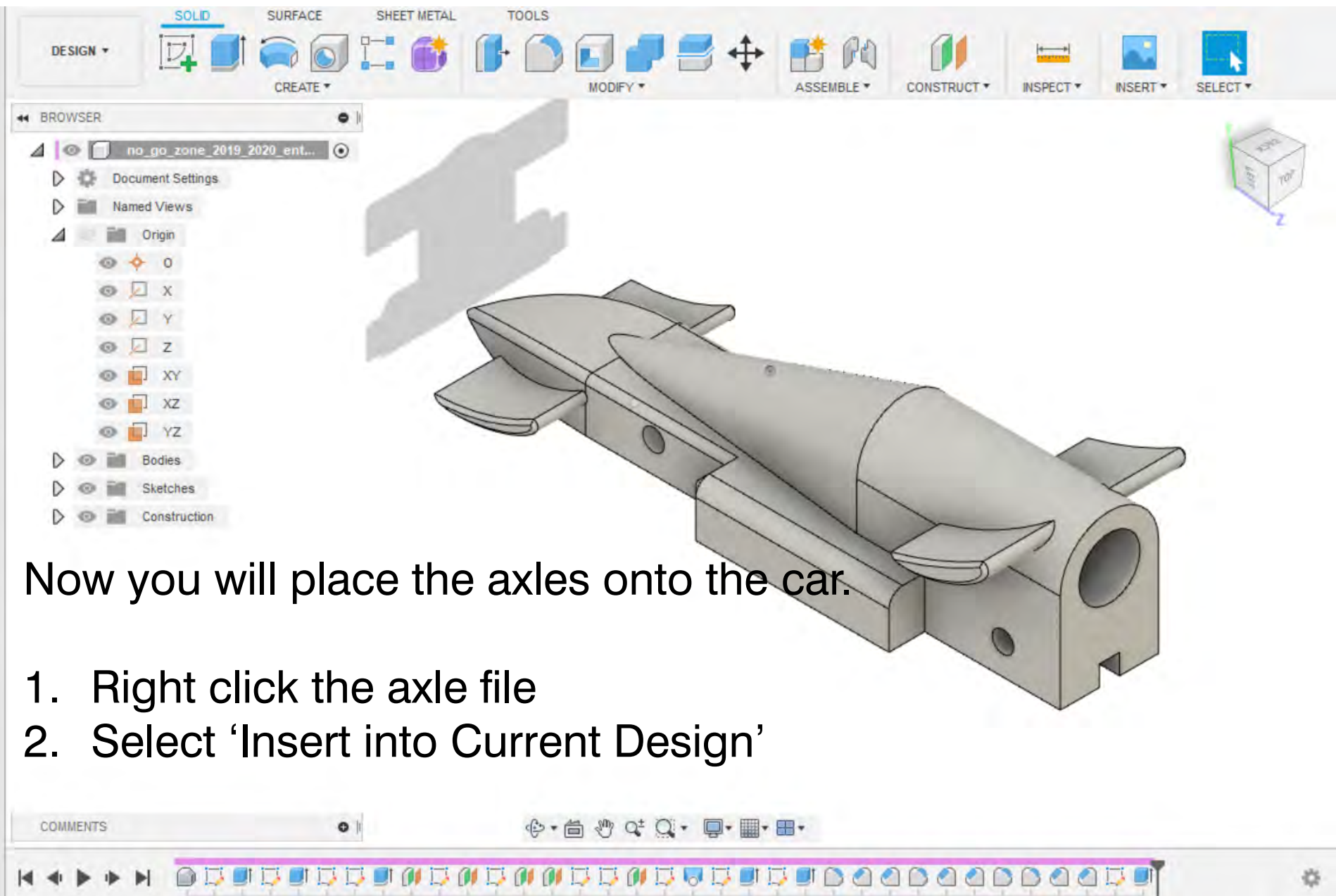
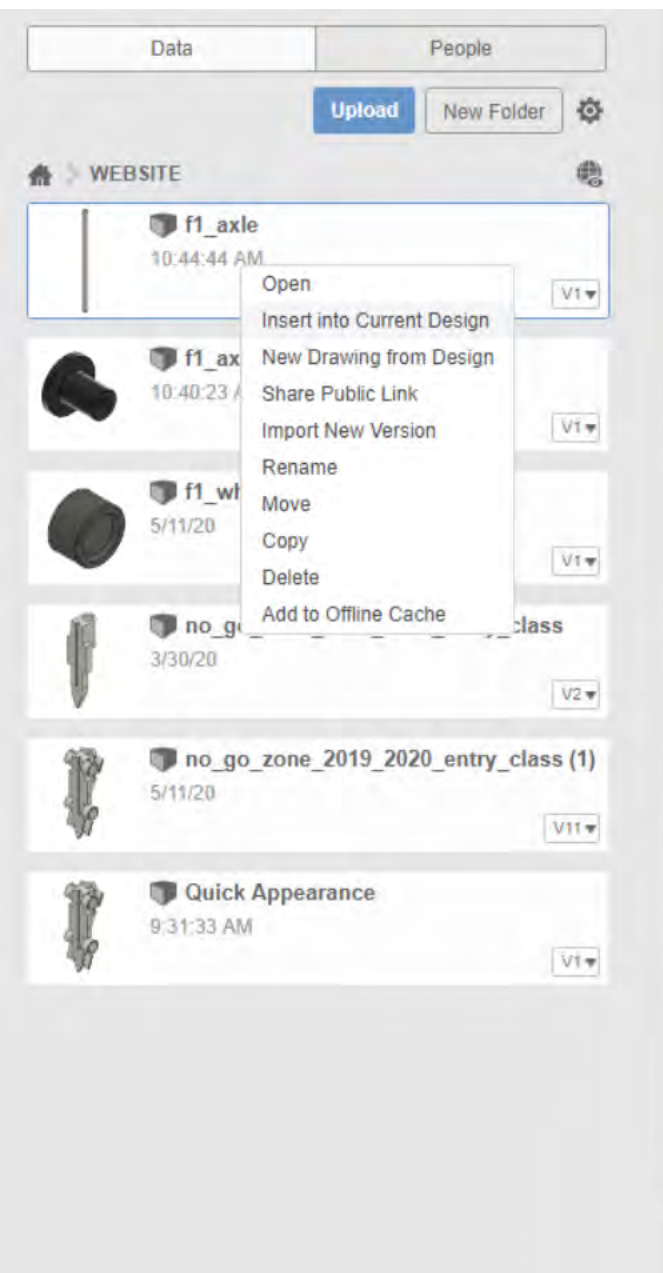
Location:
WEBSITE [Change Location](#)

Cancel Upload





The files will be uploaded to your account.



Now you will place the axles onto the car.

1. Right click the axle file
2. Select 'Insert into Current Design'

Data People

Upload New Folder

WEBSITE

- f1_axle
10:44:44 AM
- f1_axle_bush
10:40:23 AM
- f1_wheel
5/11/20
- no_go_zone_2019_2020_entry_class
3/30/20
- no_go_zone_2019_2020_entry_class (1)
5/11/20
- Quick Appearance
9:31:33 AM

MOVE/COPY

Move Object Components

Selection 1 selected

Move Type

Set Pivot

X Distance 0.00 mm

Y Distance 0.00 mm

Z Distance -160.00 mm

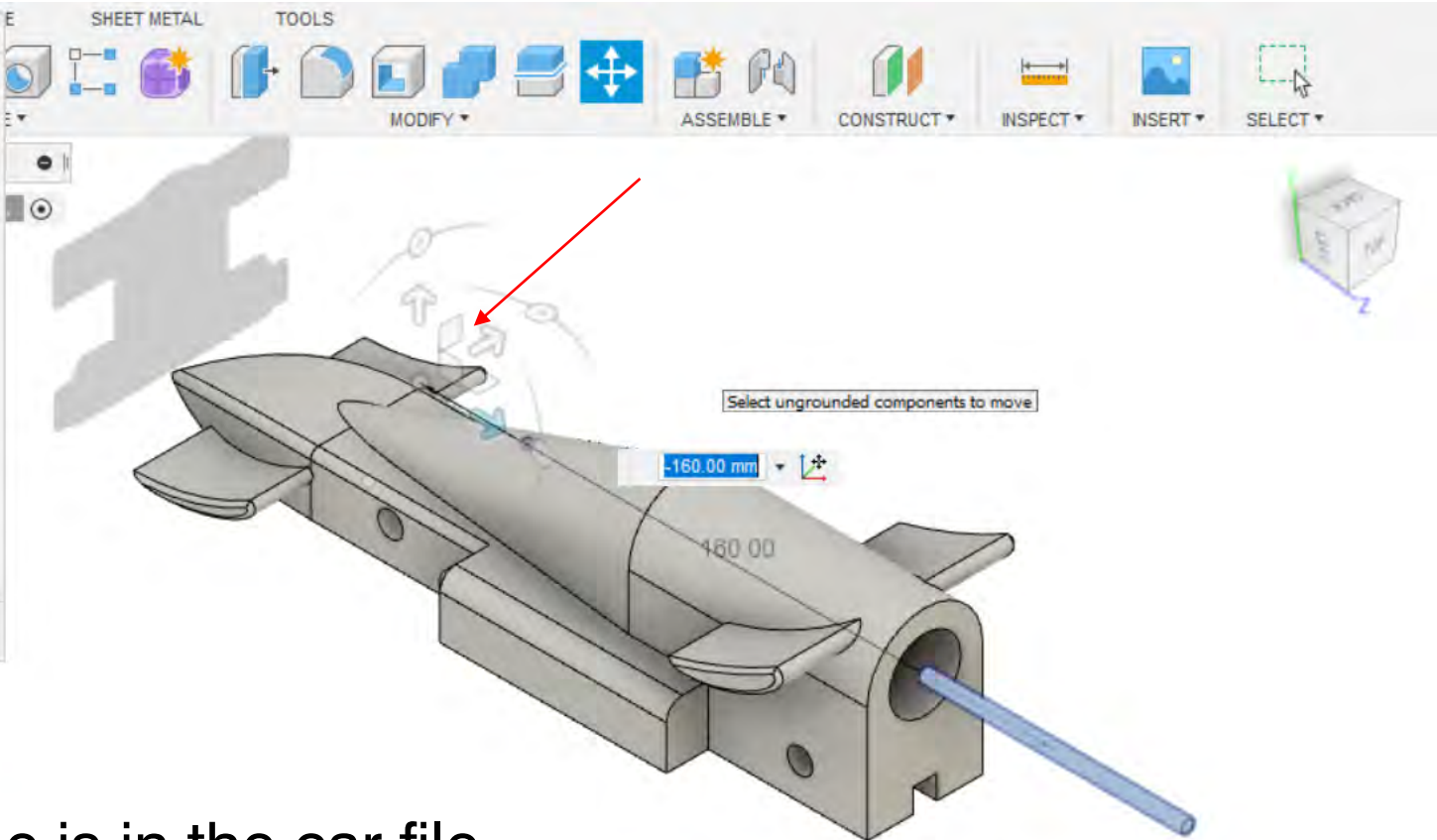
X Angle 0.0 deg

Y Angle 0.0 deg

Z Angle 0.0 deg

Create Copy

OK Cancel



Now your axle is in the car file.
1. Using the arrows, move your axle towards the front of the car.

COMMENTS

f1_axle v1:1

Upload New Folder

WEBSITE

f1_axle
10:44:44 AM
V1

f1_axle_bush
10:40:23 AM
V1

f1_wheel
5/11/20
V1

no_go_zone_2019_2020_entry_class
3/30/20
V2

no_go_zone_2019_2020_entry_class (1)
5/11/20
V11

Quick Appearance
9:31:33 AM
V1

MOVE/COPY

Move Object Components

Selection 1 selected

Move Type

Set Pivot

X Distance 0.00 mm

Y Distance 0.00 mm

Z Distance 0.00 mm

X Angle 0.0 deg

Y Angle -90.0 deg

Z Angle 0.0 deg

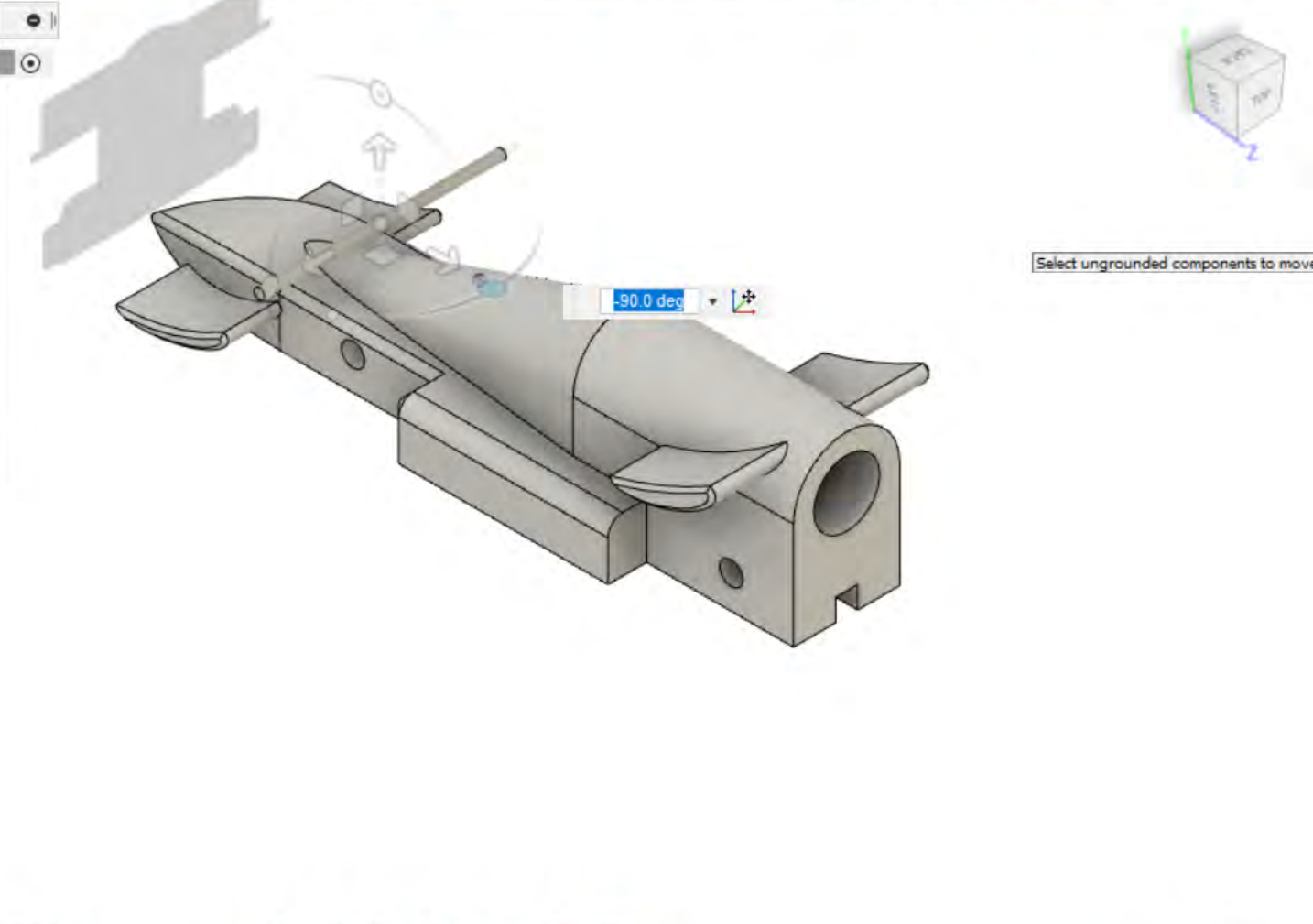
Create Copy

OK Cancel

Sketches

Construction

f1_axle v1:1



COMMENTS

Data People

Upload New Folder

WEBSITE

- f1_axle 10:44:44 AM V1
- f1_axle_bush 10:40:23 AM V1
- f1_wheel 5/11/20 V1
- no_go_zone_2019_2020_entry_class 3/30/20 V2
- no_go_zone_2019_2020_entry_class (1) 5/11/20 V11
- Quick Appearance 9:31:33 AM V1

MOVE/COPY

Move Object Components

Selection 1 selected

Move Type

Set Pivot

X Distance 0.00 mm

Y Distance 20.00 mm

Z Distance 0.00 mm

X Angle 0.0 deg

Y Angle 0.0 deg

Z Angle 0.0 deg

Create Copy

OK Cancel

SHEET METAL TOOLS

MODIFY ASSEMBLE CONSTRUCT INSPECT INSERT SELECT

Select ungrounded components to move

20.00

20.00 mm

COMMENTS

f1_axle v1:1

1. Using the rotation tool, rotate the axle horizontally.

Data People

Upload New Folder

WEBSITE

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- f1_axle_bush 10:40:23 AM V1
- f1_wheel 5/11/20 V1
- no_go_zone_2019_2020_entry_class 3/30/20 V2
- no_go_zone_2019_2020_entry_class (1) 5/11/20 V11
- Quick Appearance 9:31:33 AM V1

DESIGN

SOLID SURFACE SHEET METAL TOOLS

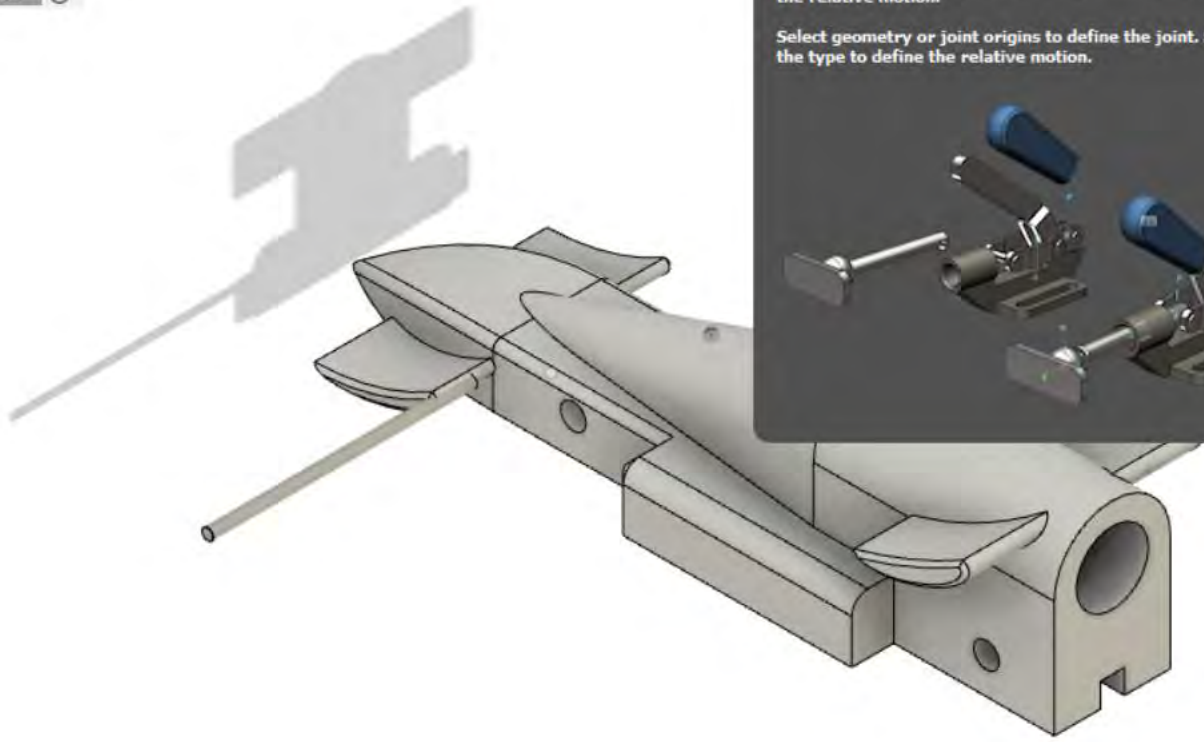
CREATE MODIFY ASSEMBLE CONSTRUCT INSPECT INSERT SELECT

BROWSER

no_go_zone_2019_2020_ent...

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1. Select Joint



Joint (j)

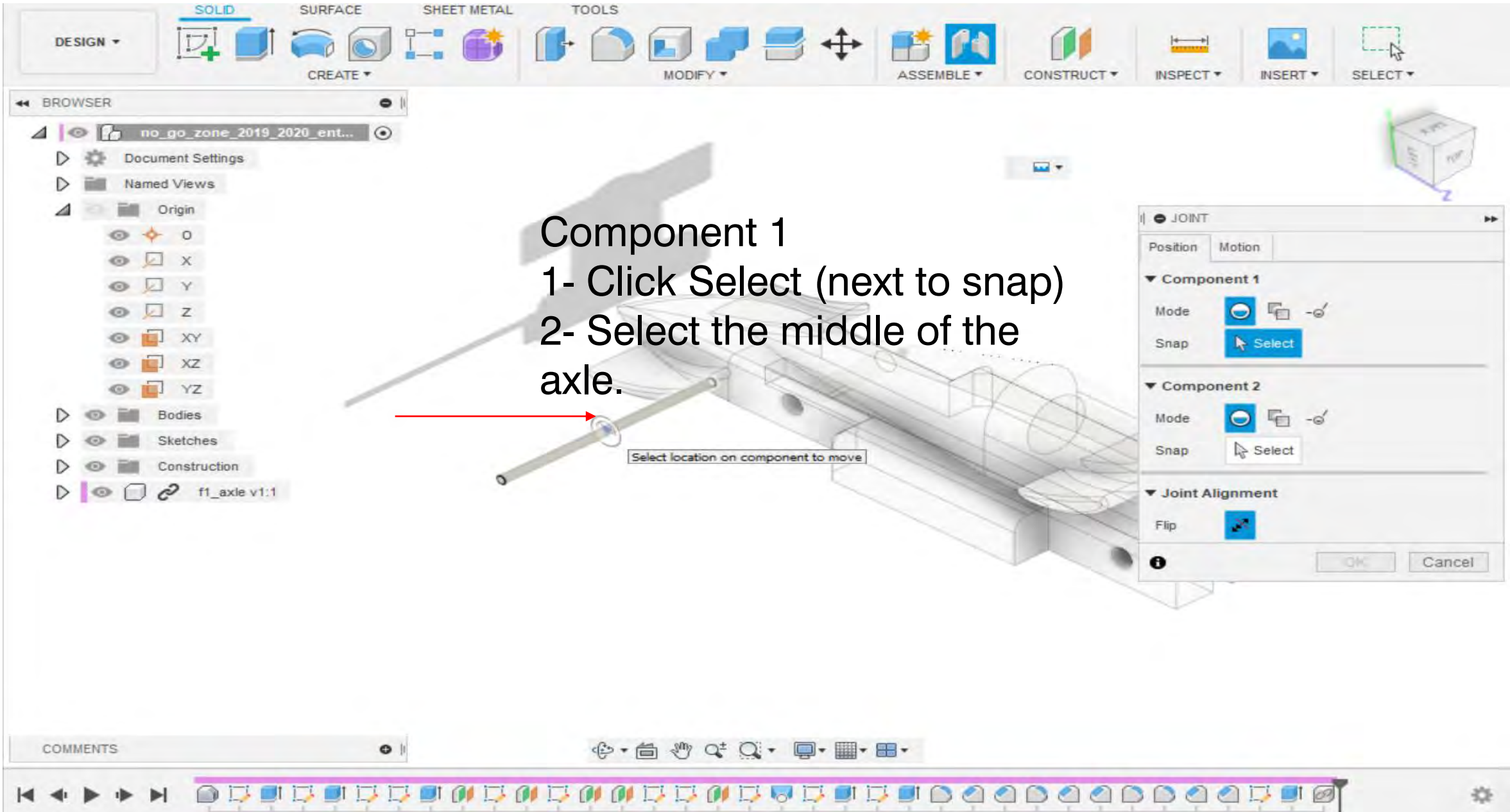
Positions components relative to one another and defines the relative motion.

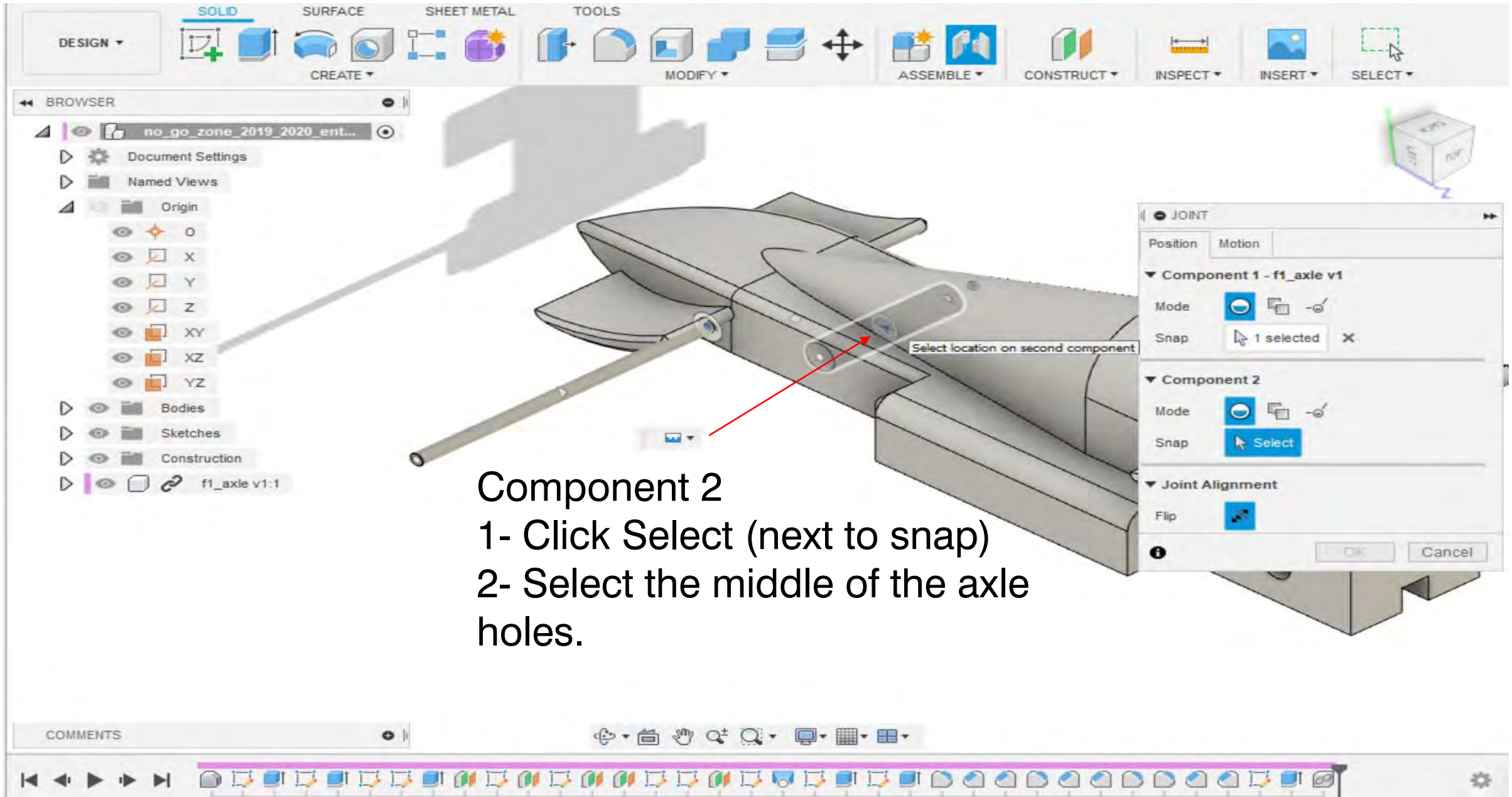
Select geometry or joint origins to define the joint. Specify the type to define the relative motion.

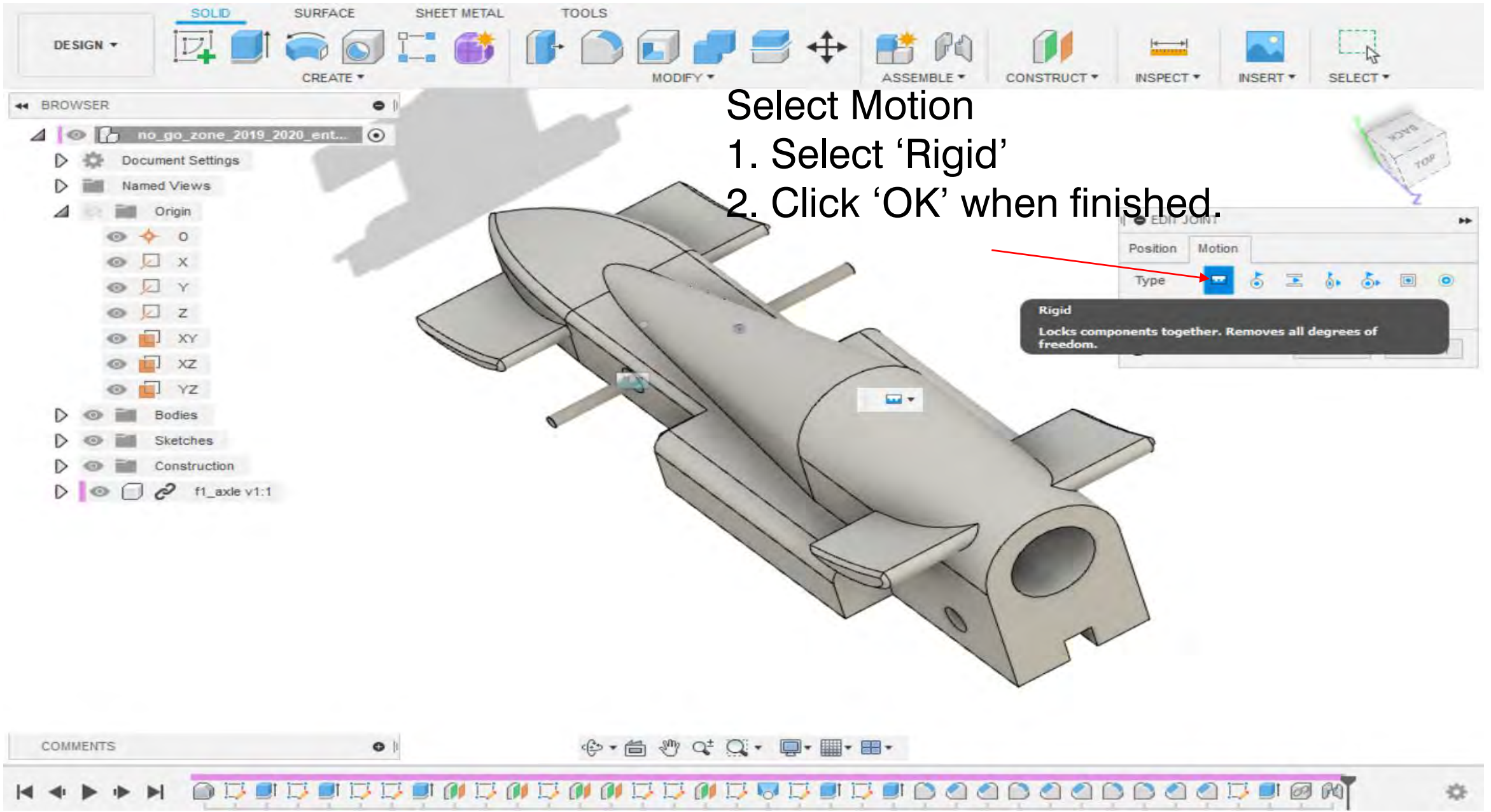
A diagram showing two blue mechanical components joined together. A red arrow points from the text '1. Select Joint' to the 'ASSEMBLE' icon in the toolbar. To the right of the diagram is a small 3D coordinate system with axes labeled 'Joint' and 'Top'.

COMMENTS

Navigation icons: back, forward, search, zoom, etc.







Select Motion

1. Select 'Rigid'
2. Click 'OK' when finished.

Rigid
Locks components together. Removes all degrees of freedom.

Data People

Upload New Folder

WEBSITE

- f1_axle 10:44:44 AM
- f1_axle_bush 10:40:23 AM
- f1_wheel 5/11/20
- no_go_zone_2019_2020_entry_class (1) 5/11/20
- Quick Appearance 9:31:33 AM

Open
Insert into Current Design
New Drawing from Design
Share Public Link
Import New Version
Rename
Move
Copy
Delete
Add to Offline Cache

DESIGN

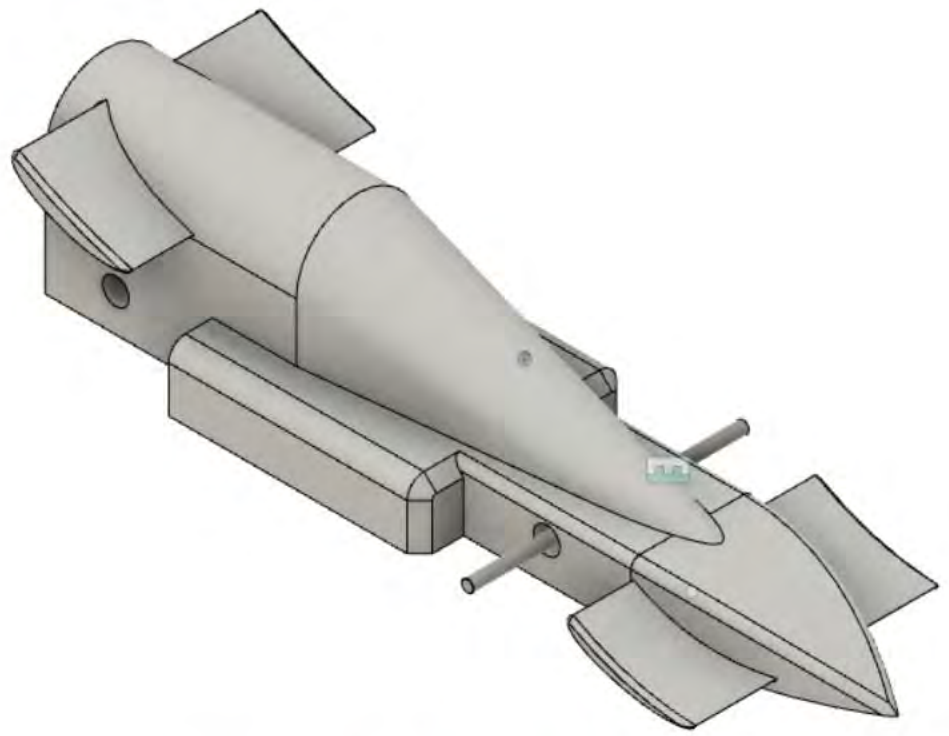
SOLID SURFACE SHEET METAL TOOLS

CREATE MODIFY ASSEMBLE CONSTRUCT INSPECT INSERT SELECT

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Now you have assembled the front axle, repeat for the back axle.



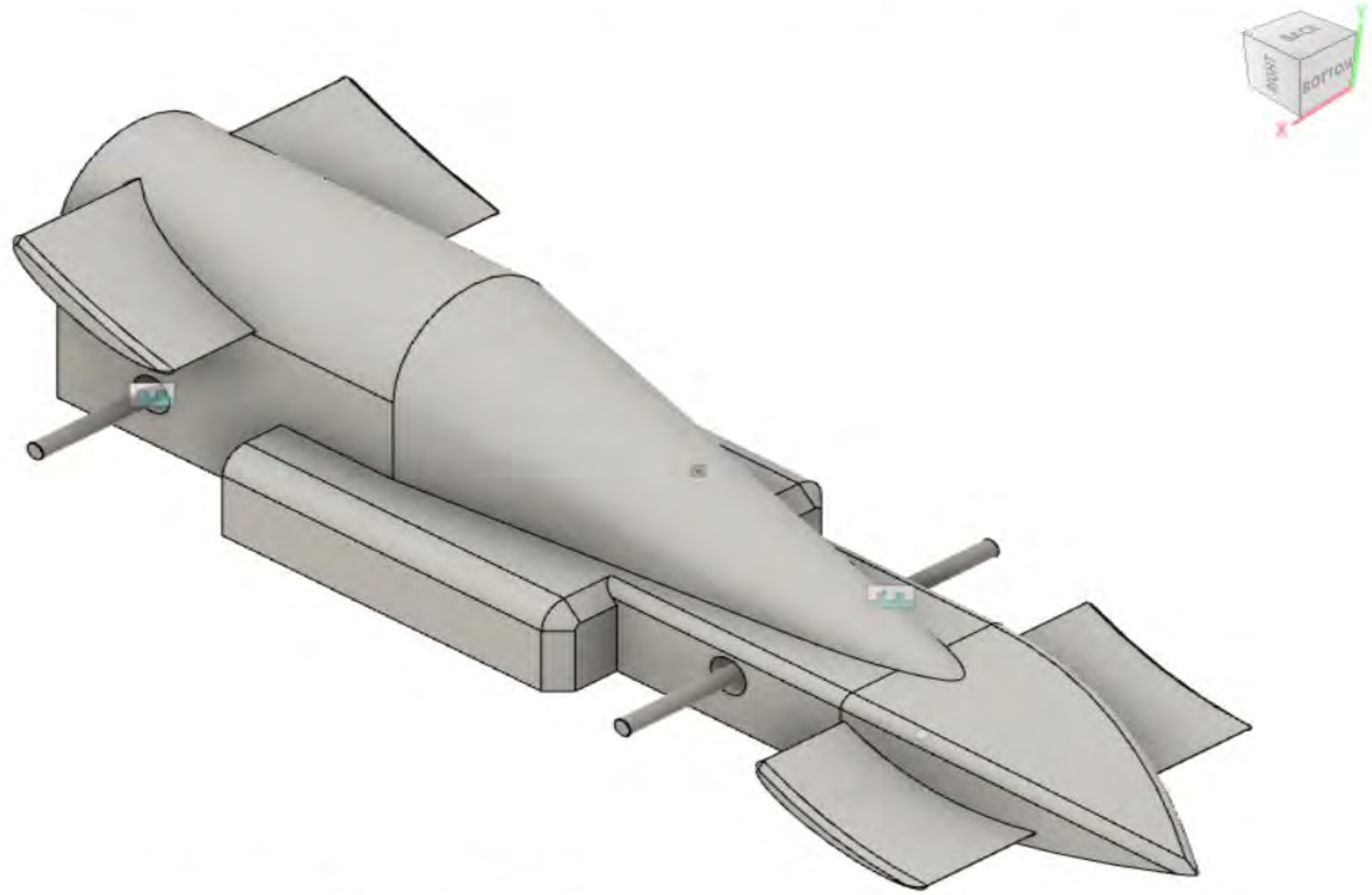
COMMENTS

Navigation icons: back, forward, search, zoom, etc.



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- f1_axle v1:2



COMMENTS

