

Mec E 468 Numerical Simulation in Mechanical Engineering Design

AUTOMARK REPORT

Semester: Win 2022

Instructor: Prof. David S. Nobes

Student Name:

Assignment: Assignment No 1

PROCESSING DATE: July 5, 2022

AUTOMark Assessment Grade: 709 out of 727

AUTOMark Recommended Grade: 98 out of 100

NOTE: This grade is preliminary only and needs to be confirmed.

The following pages include each of the drawings in the following order:

- Your submission
- Your submission marked by AutoMARK
- The solution

Other important points:

- Examples are given on eClass of how to interpret the mark-up symbols used by AUTOMark.
- If you have any questions, discuss with your TA in the next lab time.

DRAWING CREATION DATE: 28-Sep-2010 08:59:34

DRAWING LAST SAVE DATE: 30-Jun-2022 10:42:49

MODEL CREATION DATE: 23-Sep-2010 11:25:48

MODEL LAST SAVE DATE: 30-Jun-2022 10:42:49

AutoMARK details:

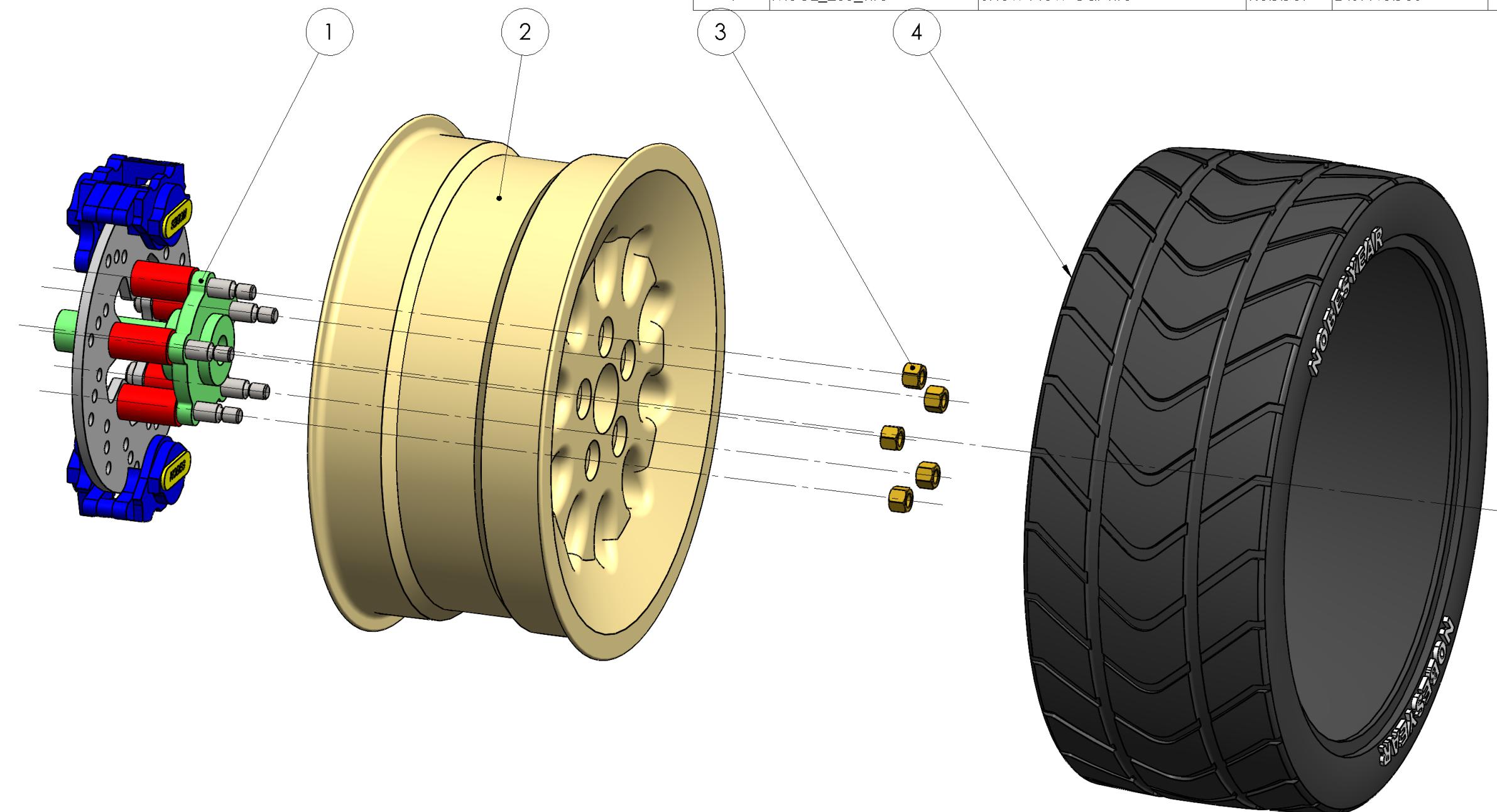
- Sheetnames should contain only alphabetical characters
- Weights of feature properties are set by the marker
- AutoMARK v 4.0 software written and designed by Owen Stadlwieser

AutoMARK Criterion (The weights of these criterion are decided by the marker):

- DRAWING: SheetOrder, ExtraSheets
- SHEET: SheetPaperSize, SheetScale, SheetTemplate, SheetExtraBOMS, SheetExtraViews, SheetViewTypes, SheetIntersectingBalloons
- BILLOFMATERIALS: BOMTableType, BOMNumberColumns, BOMNumberRows, BOMPosition, BOMTableHeight, BOMTableWidth, BOMFontType, BOMFontSize
- VIEW: ViewScale, ViewDisplayStyle, ViewExtraDimension, ViewPosition, ViewExtraCenterMarks, ViewMass, ViewMaterial, ViewExtraDatums, ViewWrongProjection, ViewExtraCenterlines
- DIMENSION: DimensionDangling, DimensionWrongView, DimensionPosition, DimensionArrowSide, DimensionValue, DimensionBadText
- CENTERLINE: CenterlineDangling, CenterlinePosition
- CENTERMARK: CentermarkDangling, CentermarkPosition, CentermarkShowlines, CentermarkAngle, CentermarkConnectionLines, CentermarkExtensions, CentermarkGap, CentermarkSize, CentermarkGroupedCorrectly
- DATUM: DatumDangling, DatumWrongView, DatumPosition, DatumLabel, DatumDisplayStyle, DatumFilledTriangle
- Balloon: BalloonDangling, BalloonPosition

| <i>Symbol/Colour</i> | <i>Meaning</i> |
|----------------------|--------------------------|
| ✓ | No deductions on feature |
| Colour | Incorrect value |
| Colour | Miscellaneous error |
| Colour | Incorrect Position |
| Colour | Unrecognized feature |
| Colour | Missing feature |
| ? | Feature not found on key |

| ITEM NO. | SW-File Name(File Name) | SW-Title>Title | Material | SW-Author(Author) | QTY. |
|----------|-------------------------|--------------------------------|-----------|-------------------|------|
| 1 | MecE265_Car_Hub | Hub, Disk and Calaper Assembly | Various | D.S. Nobes | 1 |
| 2 | dsn_Rim | Custom Low Speed Snow Rim | Pure Gold | D.S.Nobes | 1 |
| 3 | MecE_265_Nut | ACME HTNUT 0.500-20-D-N | Brass | Wyle E. Coyote | 5 |
| 4 | MecE_265_Tire | Snow Plow Car Tire | Rubber | D.S. Nobes | 1 |



Student Submission

| | | | | |
|--|-------------|--|--|--------------|
| MecE 265 | | UNLESS OTHERWISE SPECIFIED: | DRAWN BY: | |
| Instructor: | Dr DS Nobes | DIMENSIONS ARE IN MM | David S. Nobes | |
| Comments: | Fall 2021 | TOLERANCES: | | |
| | | ANGULAR: $\pm 0.5^\circ$ | | |
| | | LINEAR X = ± 0.5 XX = ± 0.1 XXX = ± 0.025 | | |
| | | SURFACE FINISH $0.6 \mu\text{m}$ | | |
| | | DO NOT SCALE DRAWING | | |
| MATERIAL: Various | | | Lab Day ALL | |
| FILE NAME: MecE265_Car_Hub_Rim_Tire | | | SM By | D.S.Nobes |
| | | | TA Initials | DSN |
| | | | zacha June 30, 2022 10:42:49 AM September 23, 2010 11:25:48 AM | |
| SIZE B | | Assignment Number Assignment 03 | REV 2 | |
| | | SCALE: 1:4 | Mass: 175308.62 | SHEET 1 OF 3 |

8

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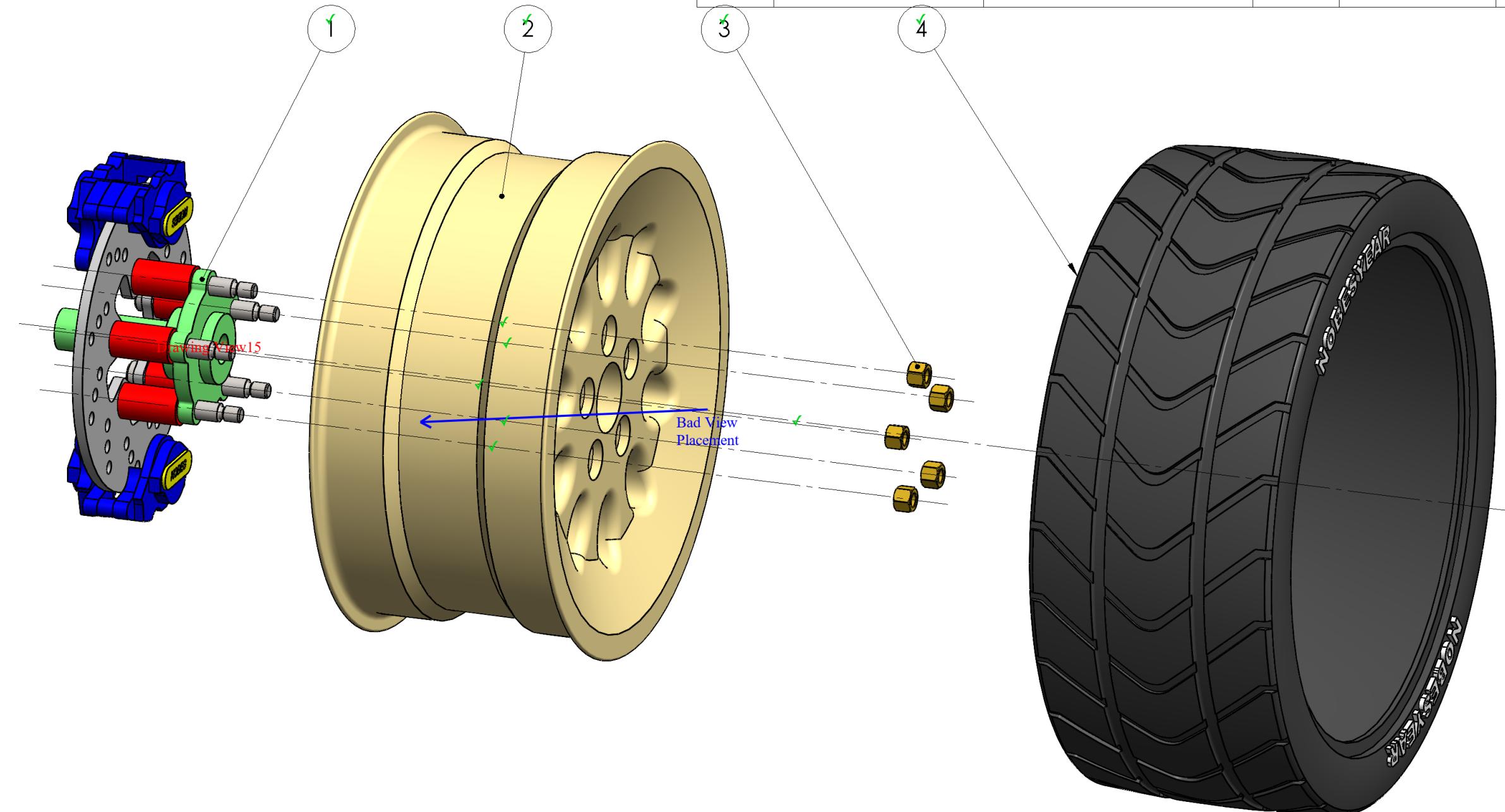
2

Snapped to Corner

Drawing View15: 42/48
DetailItem439: 40/40
SHEET TOTAL: 131/137

Correct Height
Correct Font
Correct Font Size
Correct Column Order
Correct Content

| ITEM NO. | SW-File Name(File Name) | SW-Title(Title) | Material | SW-Author(Author) | QTY. |
|----------|-------------------------|--------------------------------|-----------|-------------------|------|
| 1 | MecE265_Car_Hub | Hub, Disk and Calaper Assembly | Various | D.S. Nobes | 1 |
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| 4 | MecE_265_Tire | Snow Plow Car Tire | Rubber | D.S. Nobes | 1 |



Automark of Student Submission

| | |
|--|-----------------------------------|
| MecE 265 | UNLESS OTHERWISE SPECIFIED: |
| Instructor: Dr DS Nobes Fall 2021 | DRAWN BY: |
| Comments: Correct Tangent Line style Correct Scale Correct Display style | David S. Nobes |
| | Lab Day ALL |
| | SM By D.S.Nobes |
| | TA Initials DSN |
| MATERIAL: Various | SURFACE FINISH 0.6 μm |
| FILE NAME: MecE265_Car_Hub_Rim_Tire | DO NOT SCALE DRAWING |

| |
|-----------------------------------|
| DIMENSIONS ARE IN MM |
| TOLERANCES: |
| ANGULAR: $\pm 0.5^\circ$ |
| LINEAR |
| X = ± 0.5 |
| X.X = ± 0.1 |
| XXX = ± 0.025 |
| SURFACE FINISH 0.6 μm |
| DO NOT SCALE DRAWING |

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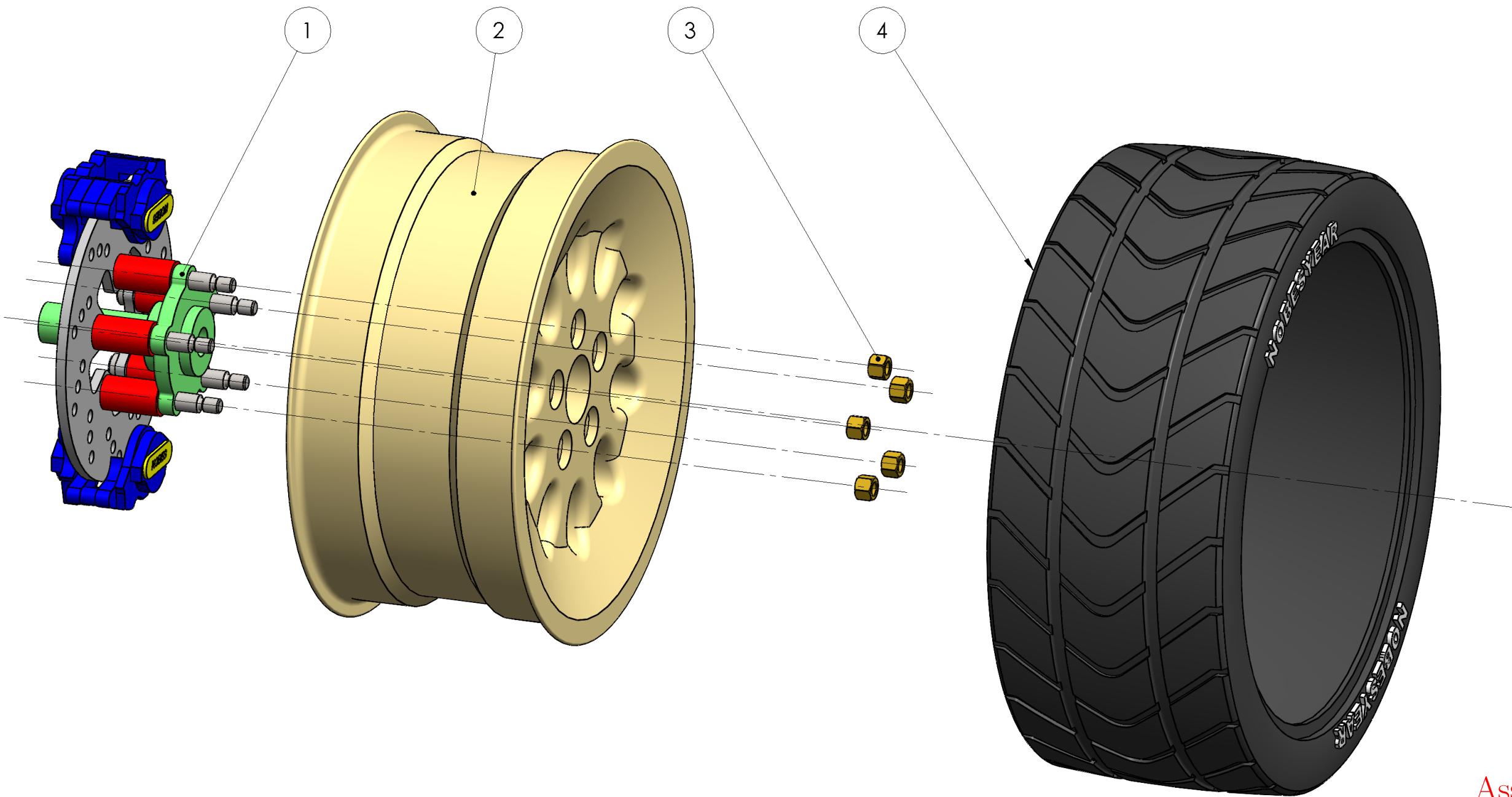
TITLE:
**Hub, Rim, Tire
Assembly**

| | | |
|---------------|---|-----------------|
| SIZE B | Assignment Number Assignment 03 | REV 2 |
|---------------|---|-----------------|

SCALE: 1:4 Mass: 175308.62 SHEET 1 OF 3

8 7 6 5 4 3 2 1

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| 4 | MecE_265_Tire | Snow Plow Car Tire | Rubber | D.S. Nobes | 1 |



Assignment Solution

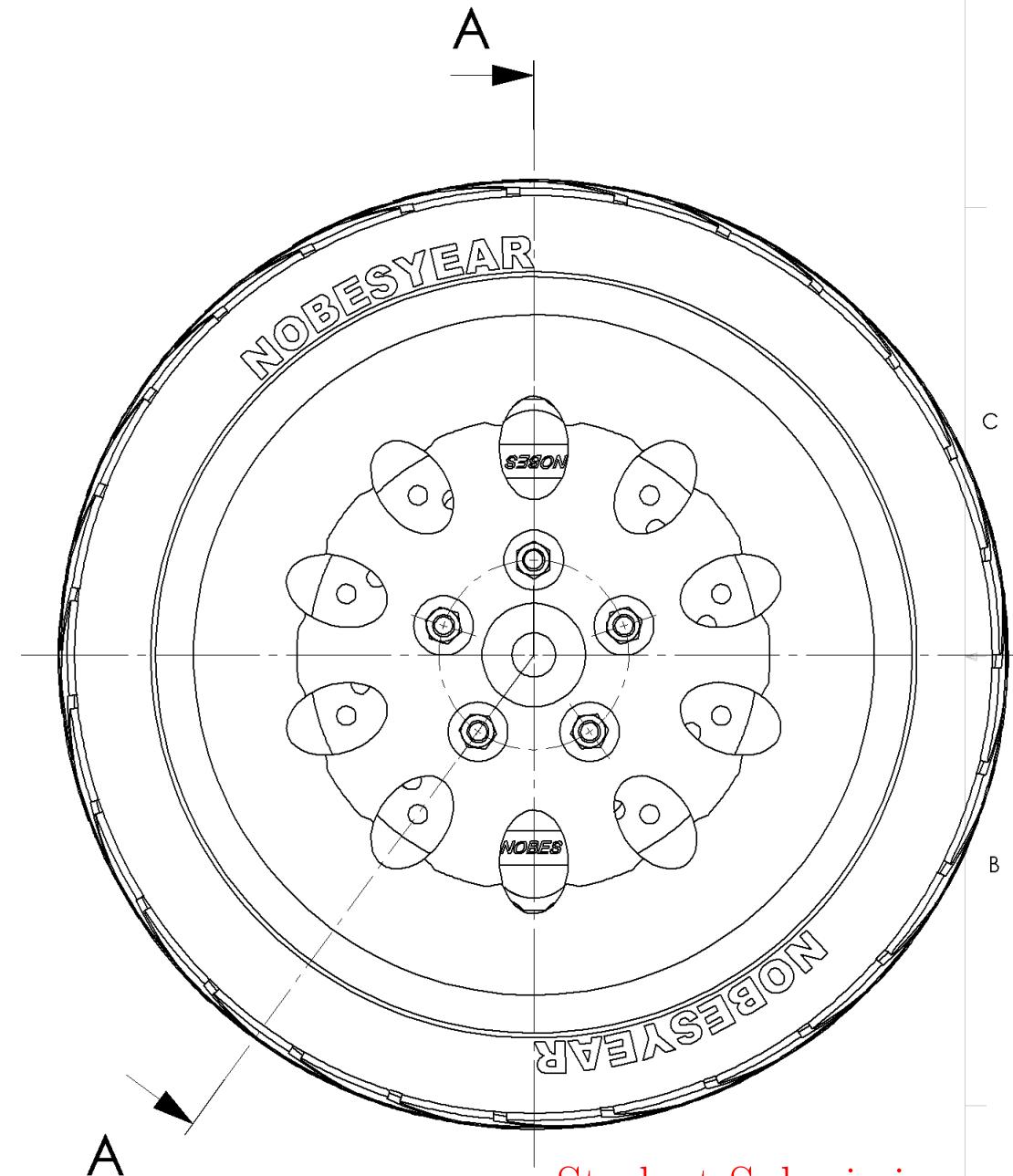
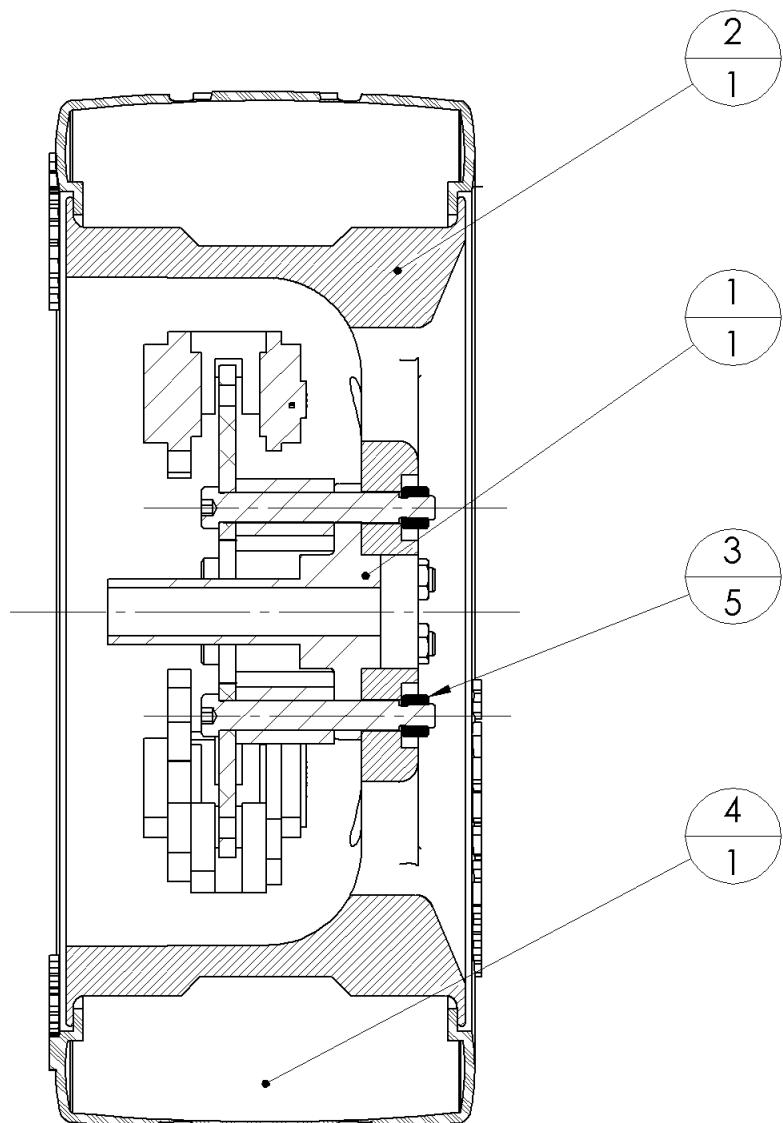
| | | |
|--|---|--|
| MecE 265 | UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MM TOLERANCES: ANGULAR: $\pm 0.5^\circ$ LINEAR $X = \pm 0.5$ $X.X = \pm 0.1$ $XXX = \pm 0.025$ | DRAWN BY: David S. Nobes |
| Instructor: Dr DS Nobes Fall 2021 | Comments: | Lab Day ALL |
| | | SM By D.S.Nobes |
| | | TA Initials DSN |
| | | zacha September 28, 2021 2:35:53 PM September 23, 2010 11:25:48 AM |
| MATERIAL: Various | SURFACE FINISH $0.6 \mu\text{m}$ | DO NOT SCALE DRAWING |
| FILE NAME: MecE265_Car_Hub_Rim_Tire | Assignment Number Assignment 03 | |
| SIZE B | REV 2 | SCALE: 1:4 Mass: 175308.62 SHEET 1 OF 3 |

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TITLE:
**Hub, Rim, Tire
Assembly**

8 7 6 5 4 3 2 1

| ITEM NO. | SW-File Name(File Name) | SW-Title(Title) | Material | SW-Author(Author) | QTY. |
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| 4 | MecE_265_Tire | Snow Plow Car Tire | Rubber | D.S. Nobes | 1 |



Student Submission

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| SIZE B | | Assignment Number Assignment 03 | |
| | | REV 2 | |
| SCALE: 1:4 Mass: 175308.62 SHEET 2 OF 3 | | | |

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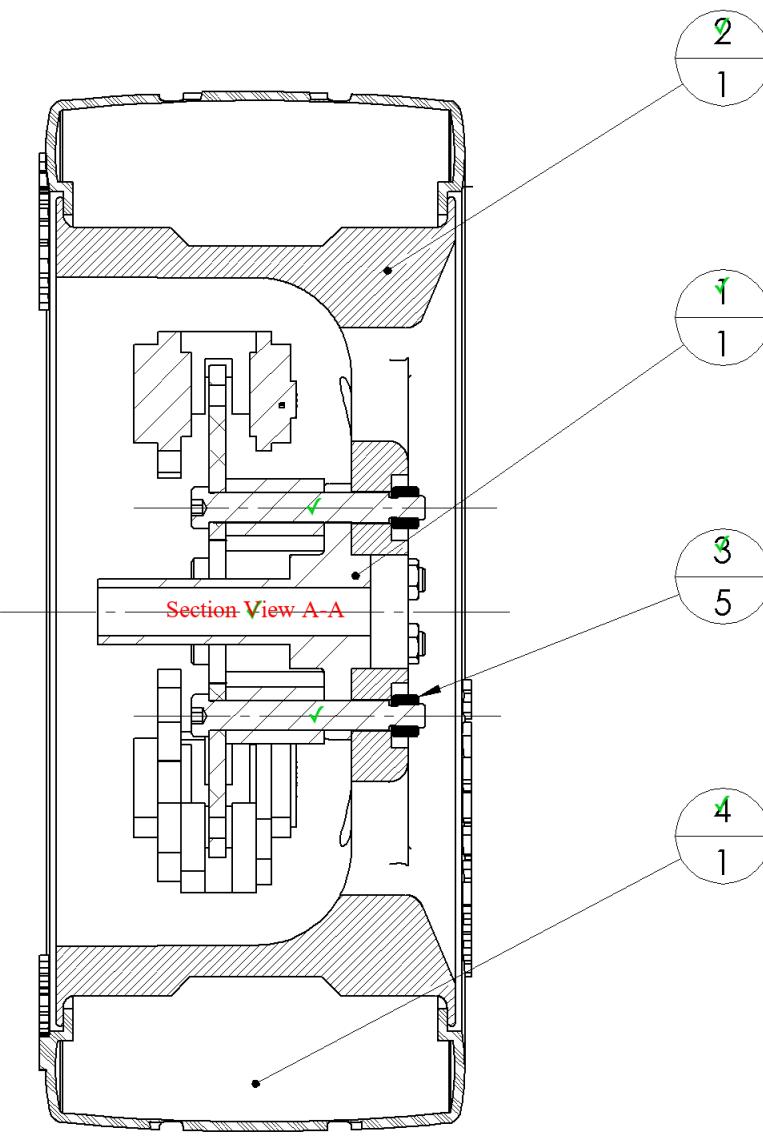
2

Snapped to Corner

Drawing View1: 51/57
 Section View A-A: 39/39
 DetailItem493: 40/40
 SHEET TOTAL: 179/185

Correct Height
 Correct Font
 Correct Font Size
 Correct Column Order
 Correct Content

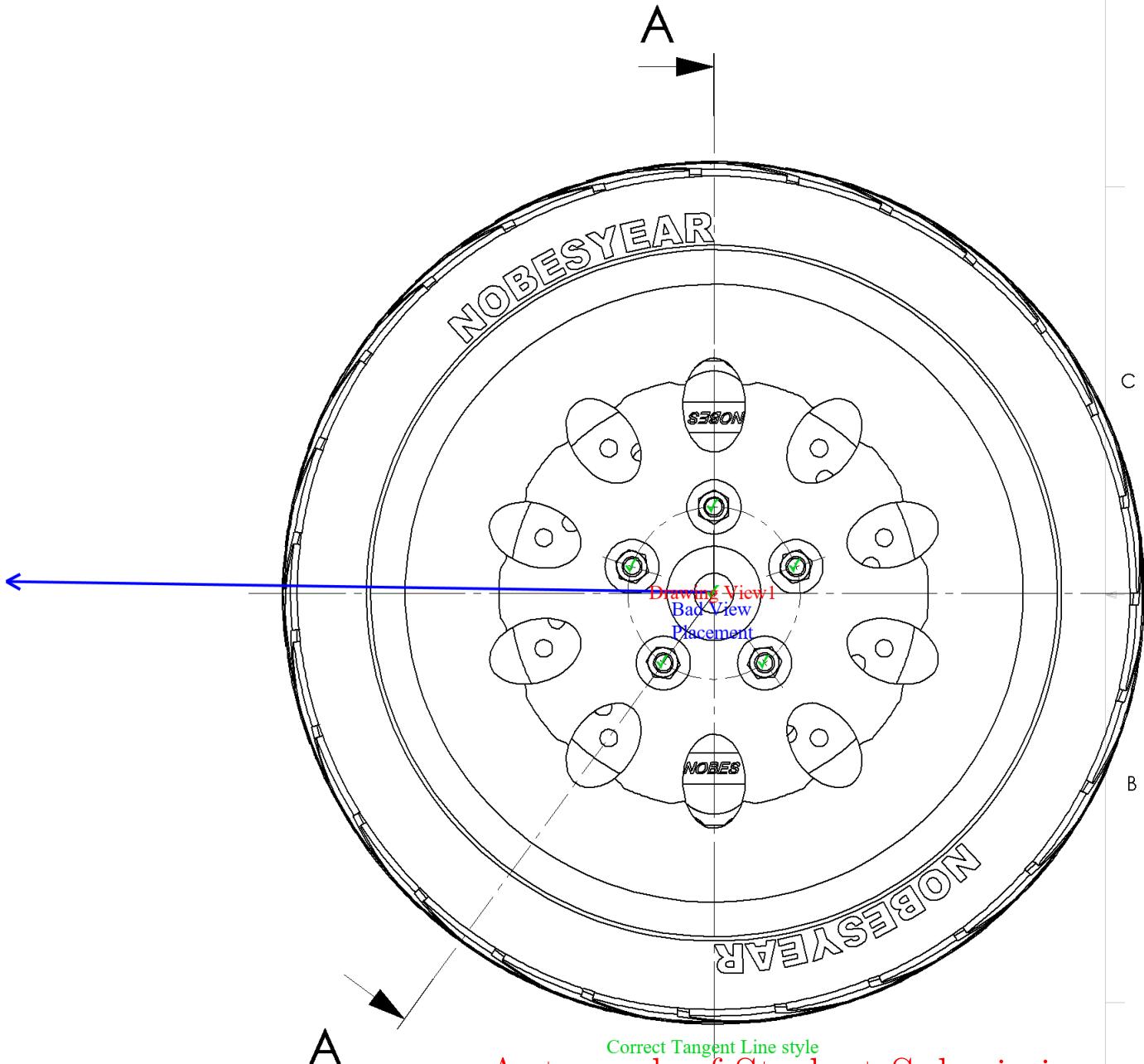
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| 4 | MecE_265_Tire | Snow Plow Car Tire | Rubber | D.S. Nobes | 1 |



Correct Tangent Line style

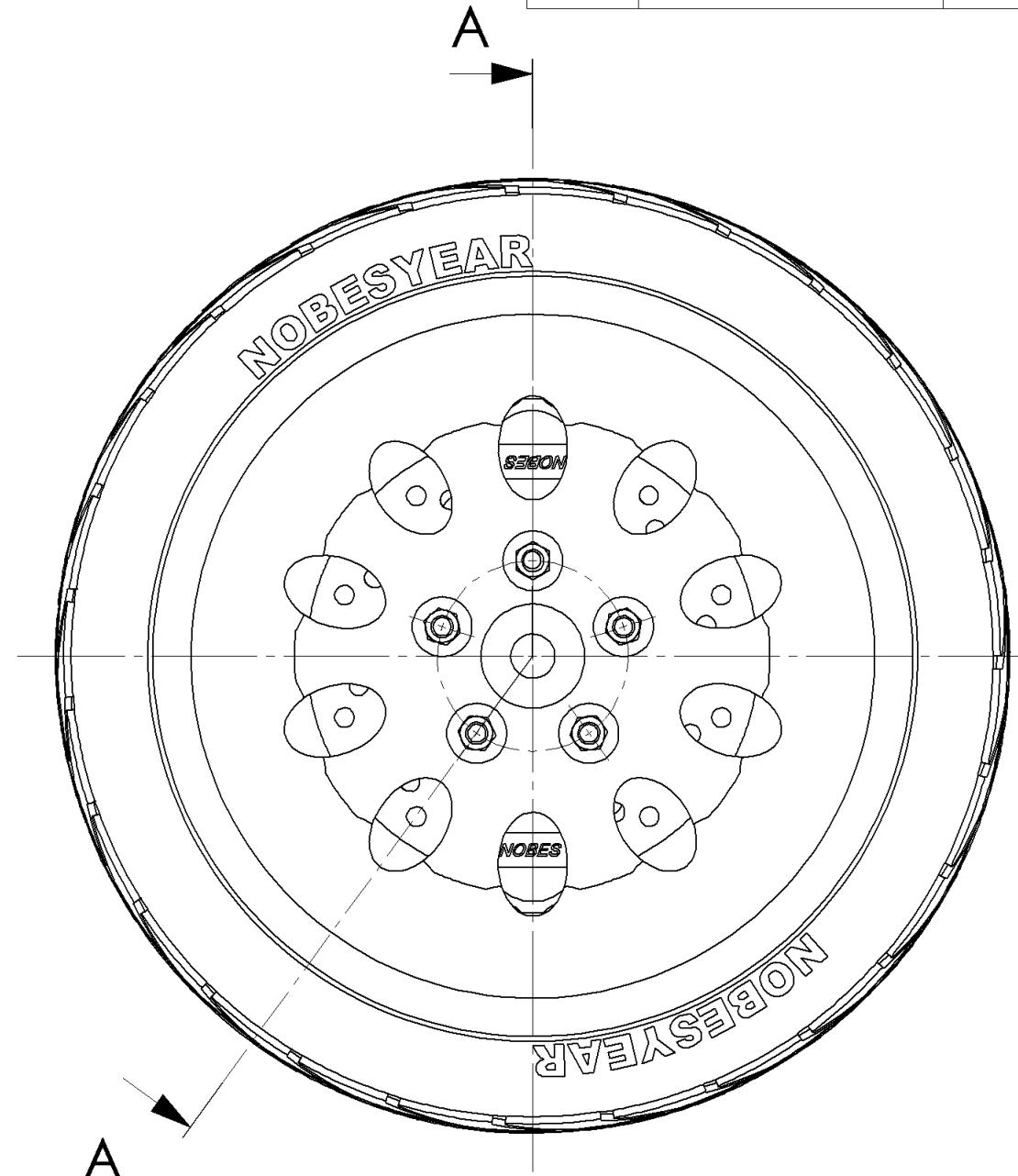
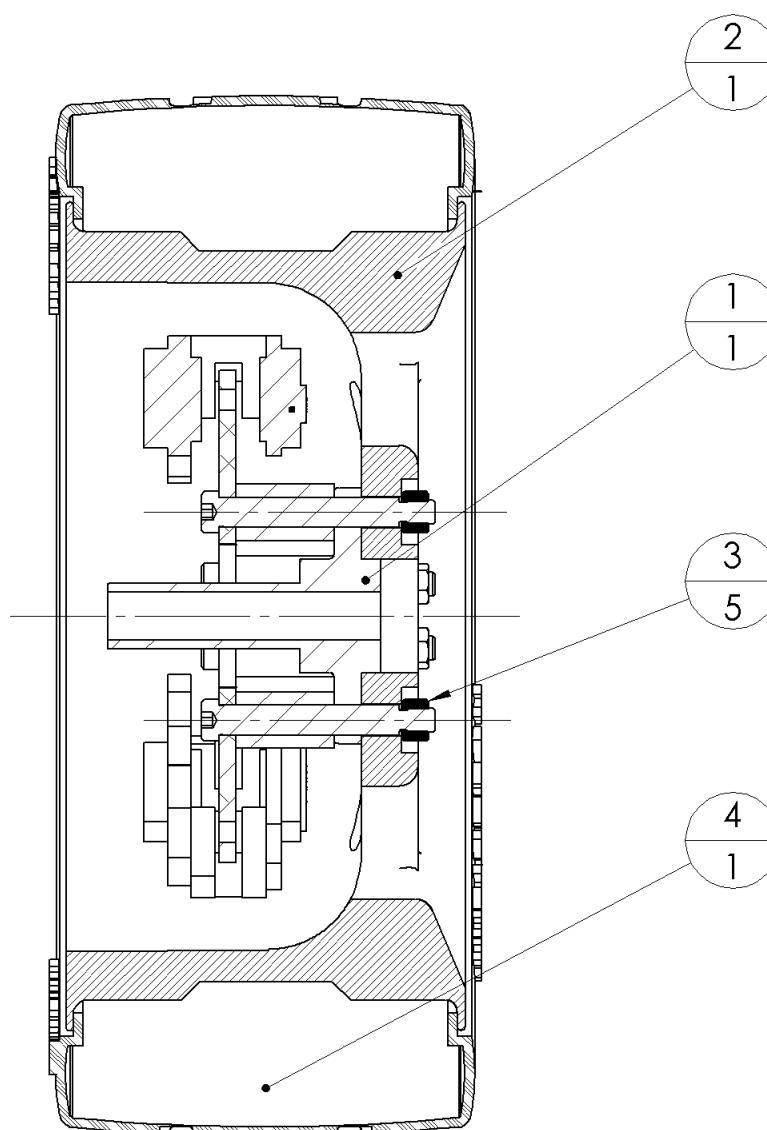
Correct Scale

Correct Display style
SECTION A-A



| | | |
|--|---|--|
| MecE 265 | UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MM TOLERANCES: ANGULAR: $\pm 0.5^\circ$ LINEAR $X = \pm 0.5$ $X.X = \pm 0.1$ $XXX = \pm 0.025$ | DRAWN BY: David S. Nobes |
| Instructor: Dr DS Nobes Fall 2021 | Comments: | Lab Day ALL |
| | | SM By D.S.Nobes |
| | | TA Initials DSN |
| | | zacha June 30, 2022 10:42:49 AM September 23, 2010 11:25:48 AM |
| MATERIAL: Various | SURFACE FINISH $0.6 \mu\text{m}$ | DO NOT SCALE DRAWING |
| FILE NAME: MecE265_Car_Hub_Rim_Tire | Assignment Number Assignment 03 | |
| | SIZE B | REV 2 |
| SCALE: 1:4 Mass: 175308.62 SHEET 2 OF 3 | | |

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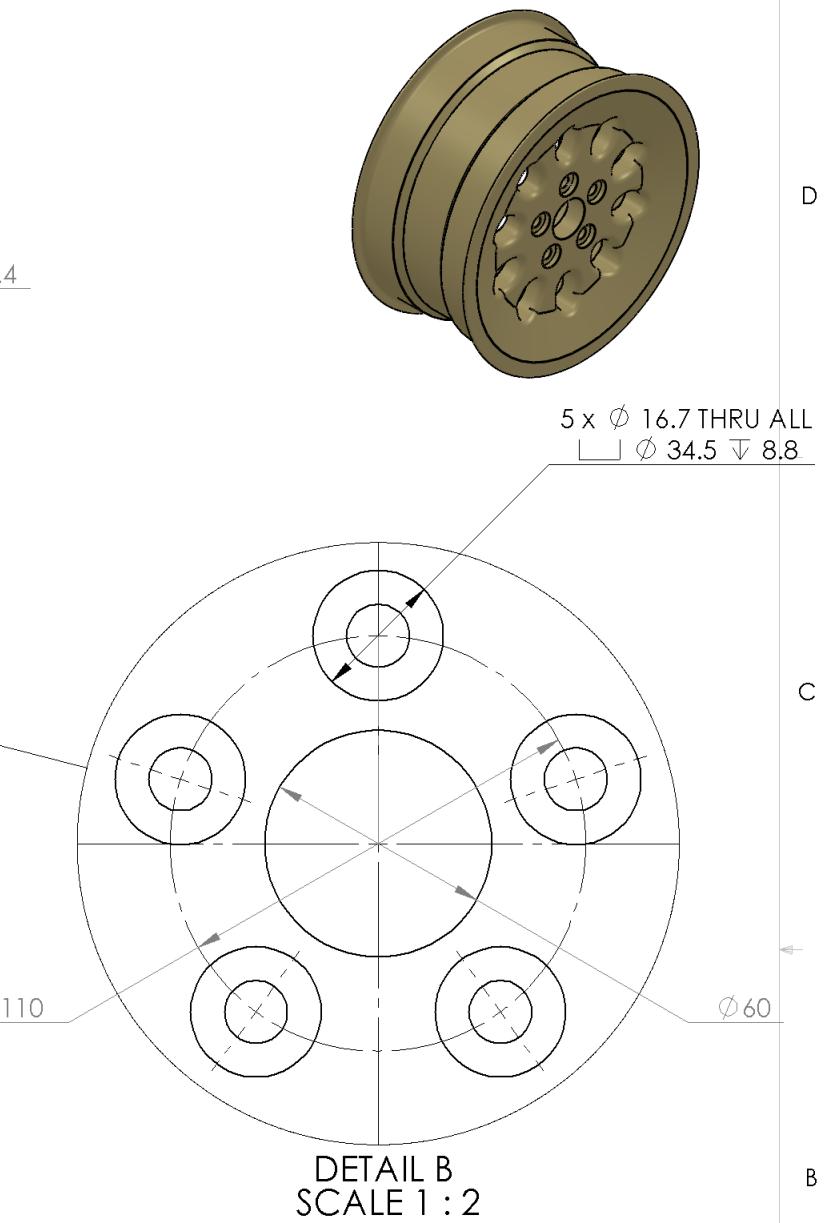
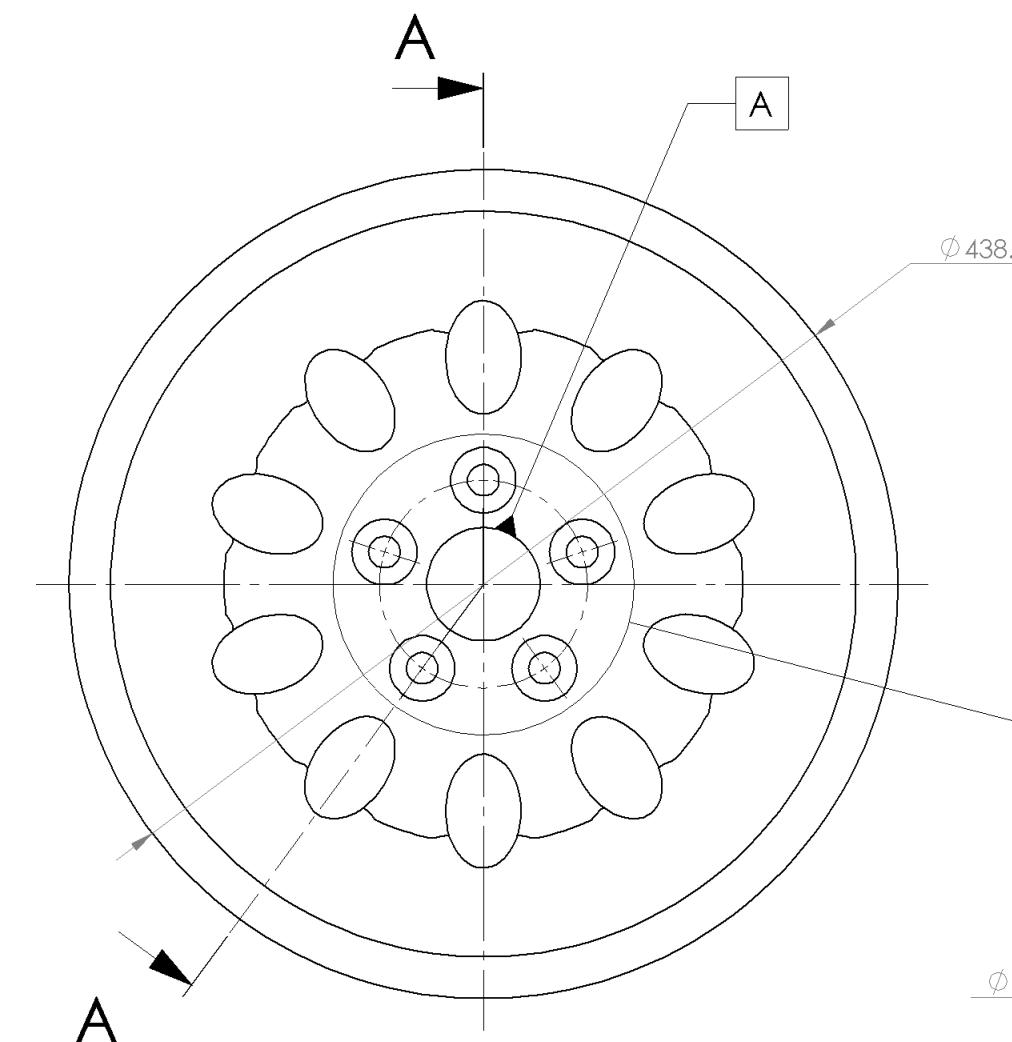
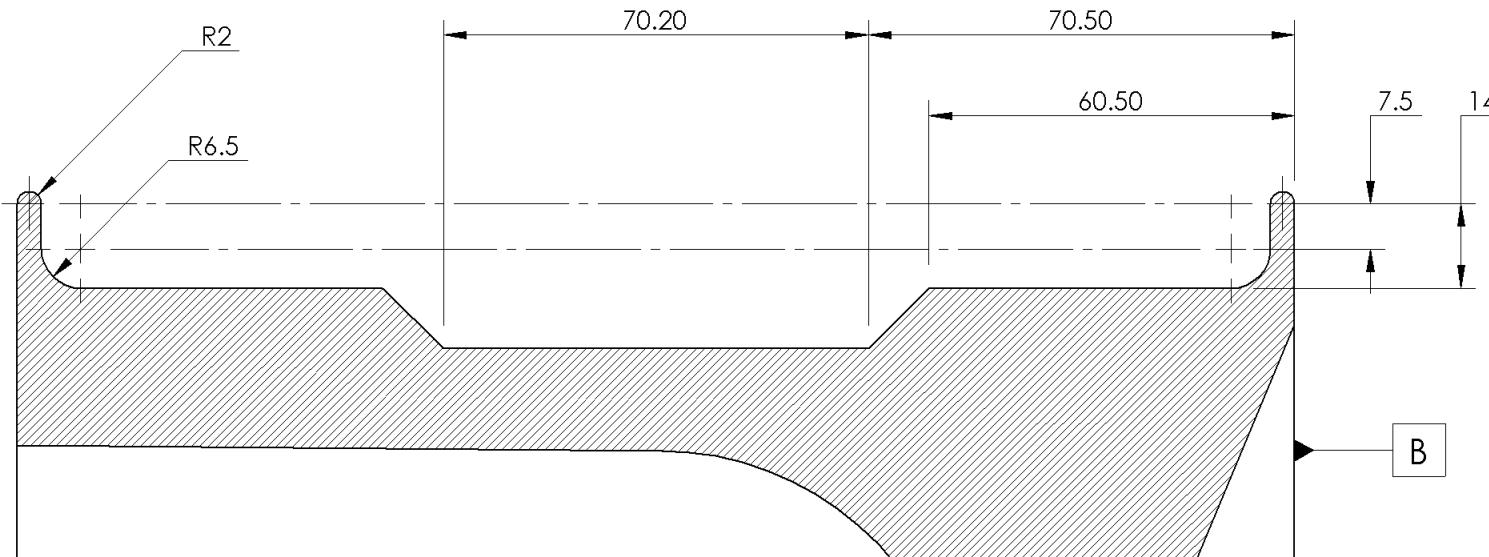
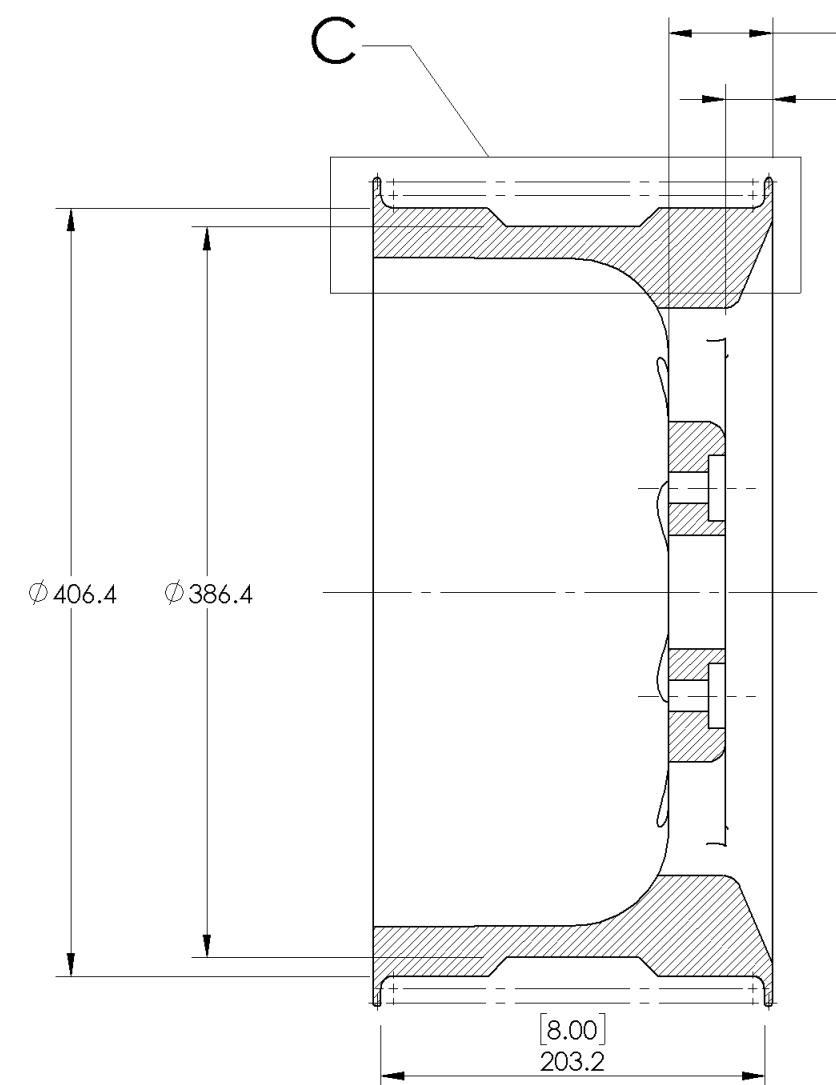


| | | | |
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| | | zacha September 28, 2021 2:35:53 PM September 23, 2010 11:25:48 AM | |
| MATERIAL: Various | | DO NOT SCALE DRAWING | |
| FILE NAME: MecE265_Car_Hub_Rim_Tire | | | |
| B | Assignment Number Assignment 03 | REV 2 | |
| SCALE: 1:4 Mass: 175308.62 SHEET 2 OF 3 | | | |

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TITLE:
**Hub, Rim, Tire
Assembly**

8 7 6 5 4 3 2 1



MecE 265
Instructor:
Dr DS Nobes
Fall 2021
Comments:
Only the main functional details and dimensions are shown here

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MM
TOLERANCES:
ANGULAR: $\pm 0.5^\circ$
LINEAR
 $X = \pm 0.5$
 $X.X = \pm 0.1$
 $XXX = \pm 0.025$

SURFACE FINISH
 $0.6 \mu\text{m}$

DO NOT SCALE DRAWING

MATERIAL:
Pure Gold

FILE NAME:
dsn_Rim

DRAWN BY:
David S. Nobes

| | |
|-------------|------------------|
| Lab Day | ALL |
| SM By | D.S.Nobes |
| TA Initials | DSN |

zacha
September 9, 2021 9:46:37 AM
January 21, 2010 10:38:12 AM

Student Submission
The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

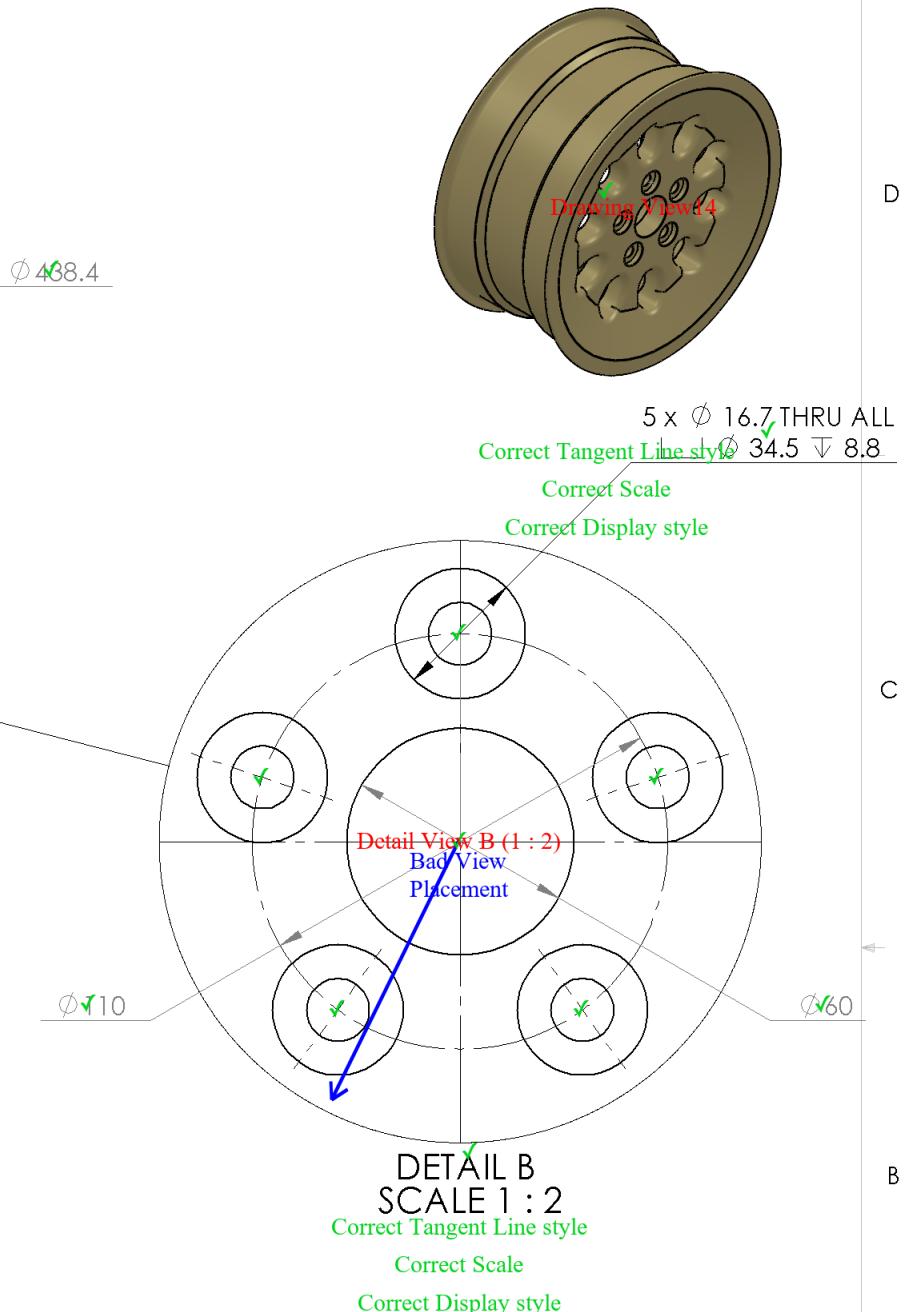
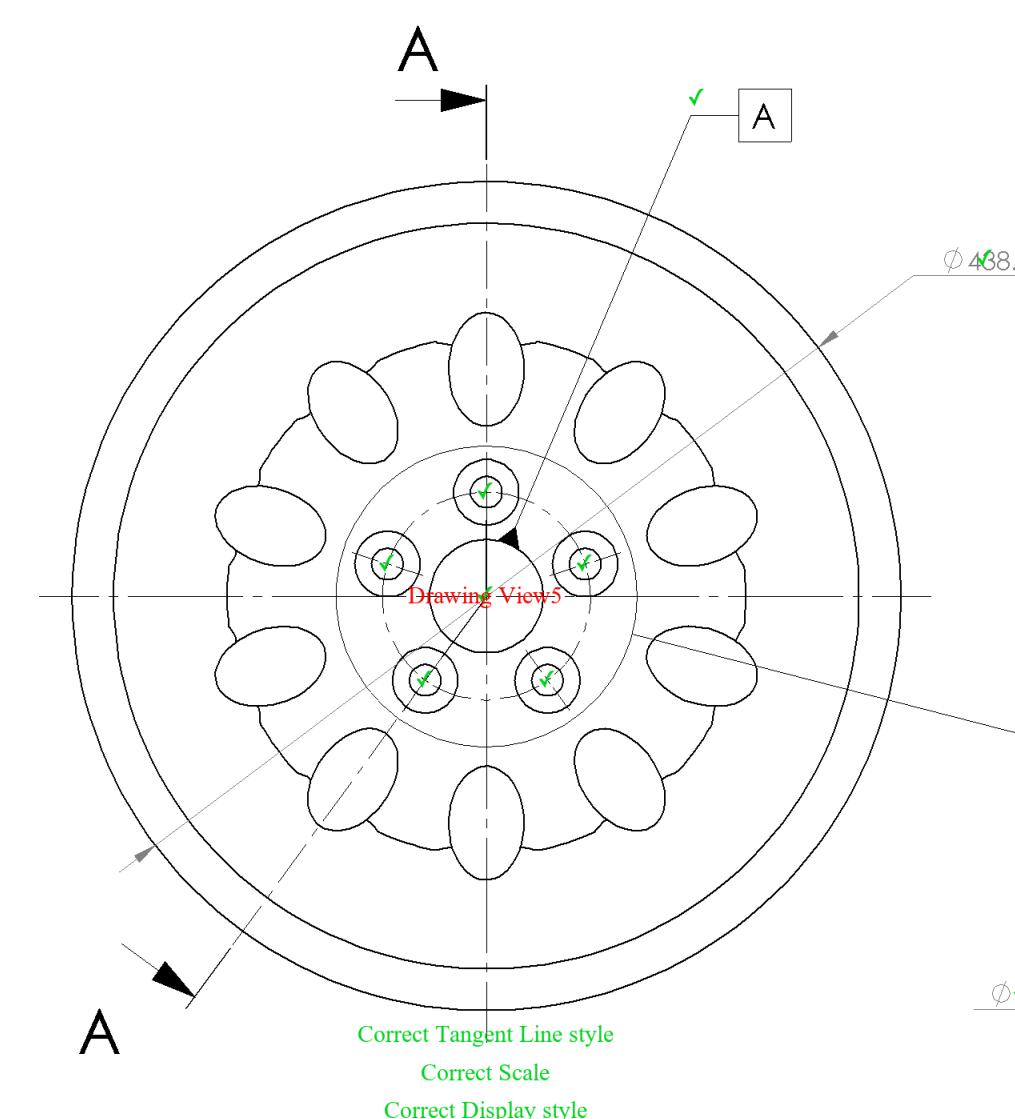
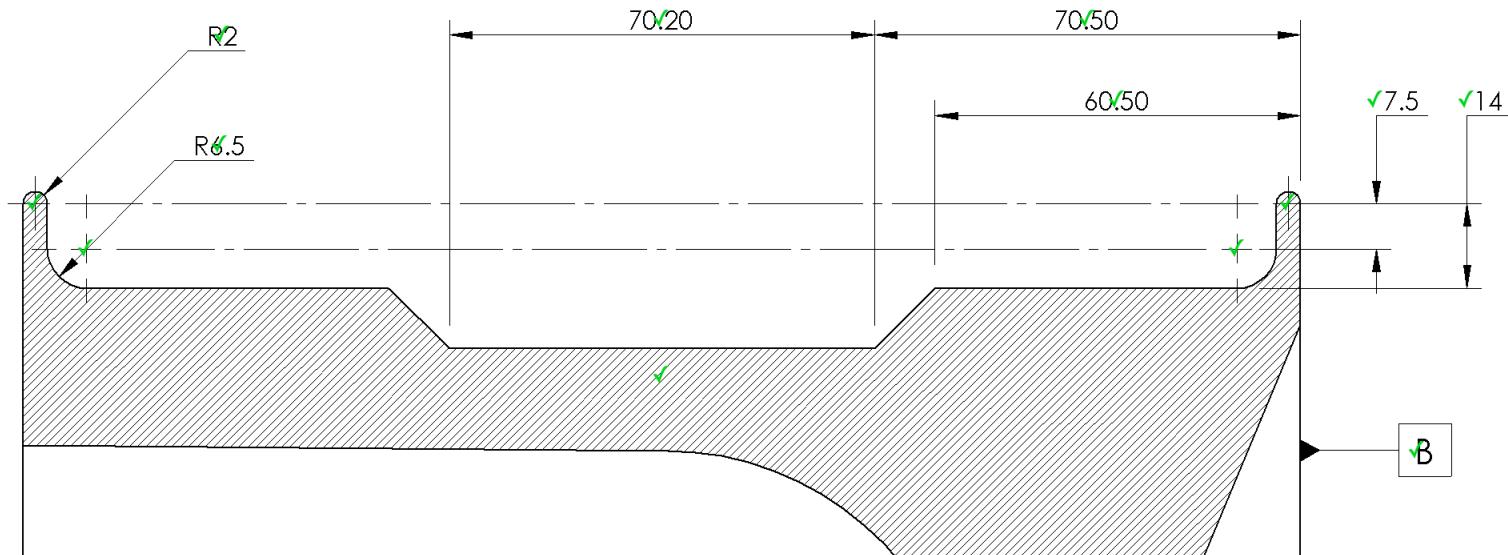
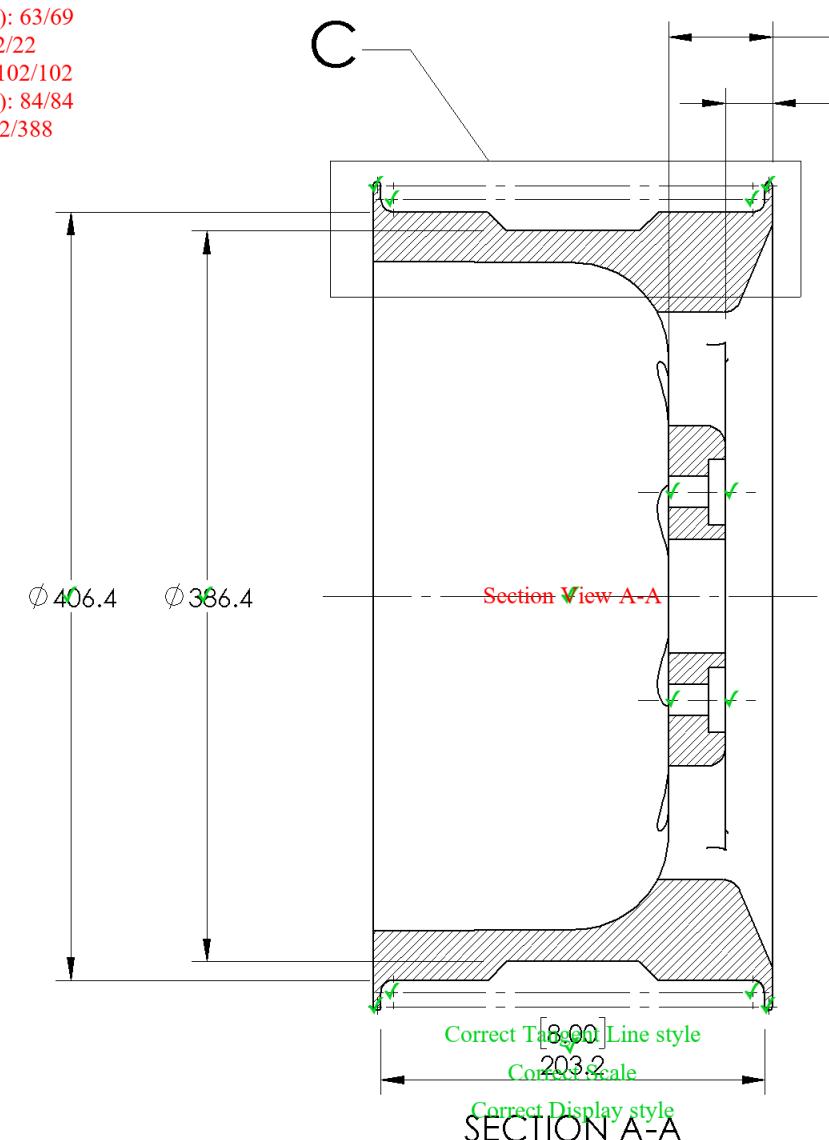
TITLE:
Custom Low Speed Snow Rim

SIZE **B** Assignment Number **Assignment 03** **REV** **2**

SCALE: 1:4 Mass: 168215.73 SHEET 3 OF 3

8 7 6 5 4 3 2 1

Drawing View5: 62/62
Detail View B (1 : 2): 63/69
Drawing View14: 22/22
Section View A-A: 102/102
Detail View C (4 : 5): 84/84
SHEET TOTAL: 382/388



MecE 265
Instructor: Dr DS Nobes Fall 2021
Comments: Only the main functional details and dimensions are shown here

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MM
TOLERANCES:
ANGULAR: $\pm 0.5^\circ$
LINEAR X = ± 0.5 X.X = ± 0.1 XXX = ± 0.025

DO NOT SCALE DRAWING

SURFACE FINISH $0.6 \mu\text{m}$

TA Initials DSN
zacha September 9, 2021 9:46:37 AM
January 21, 2010 10:38:12 AM

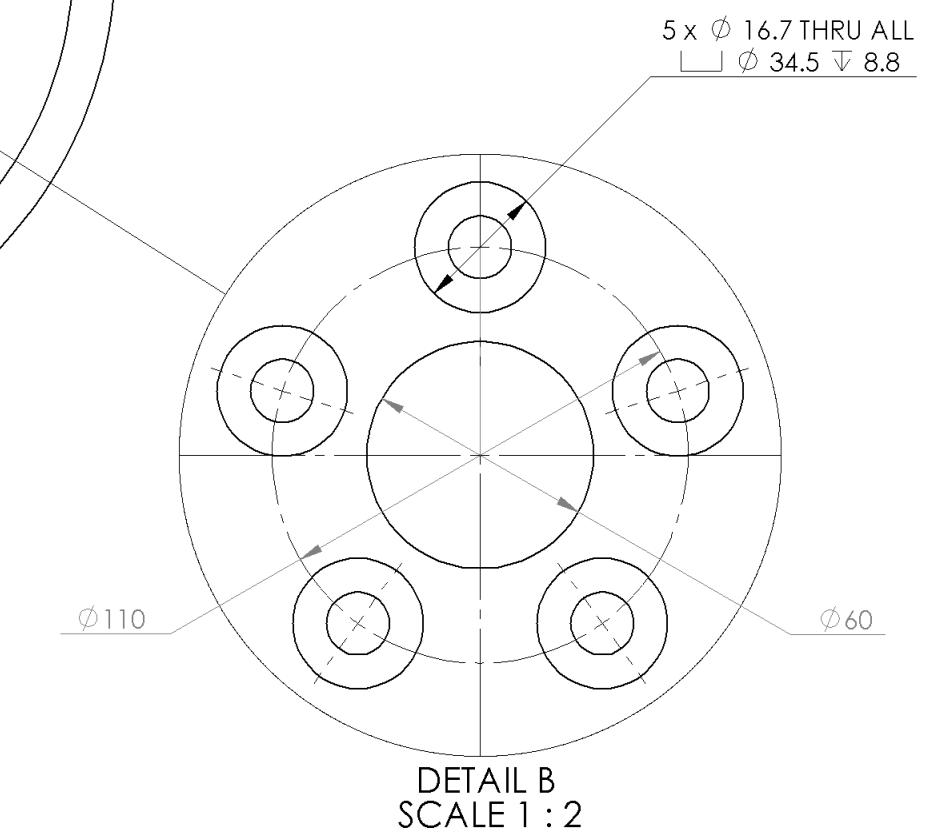
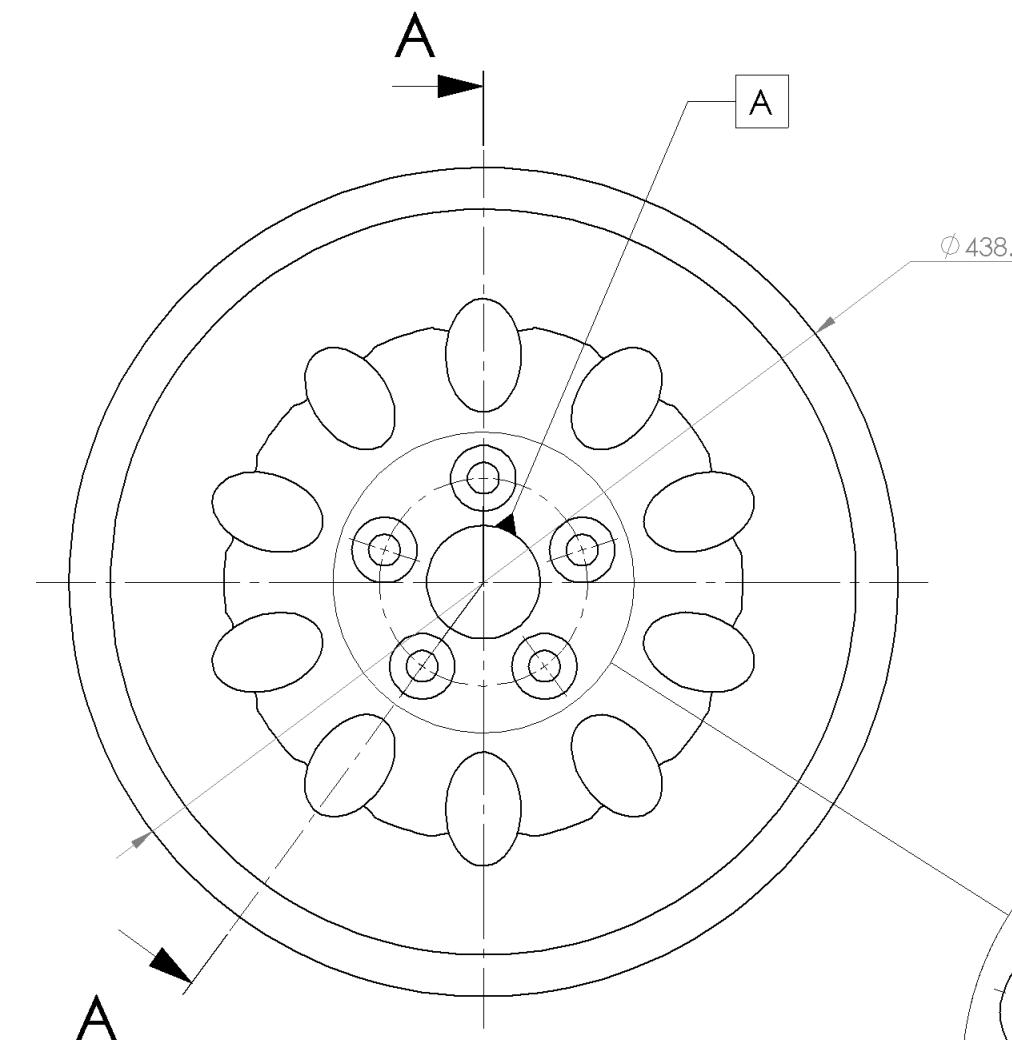
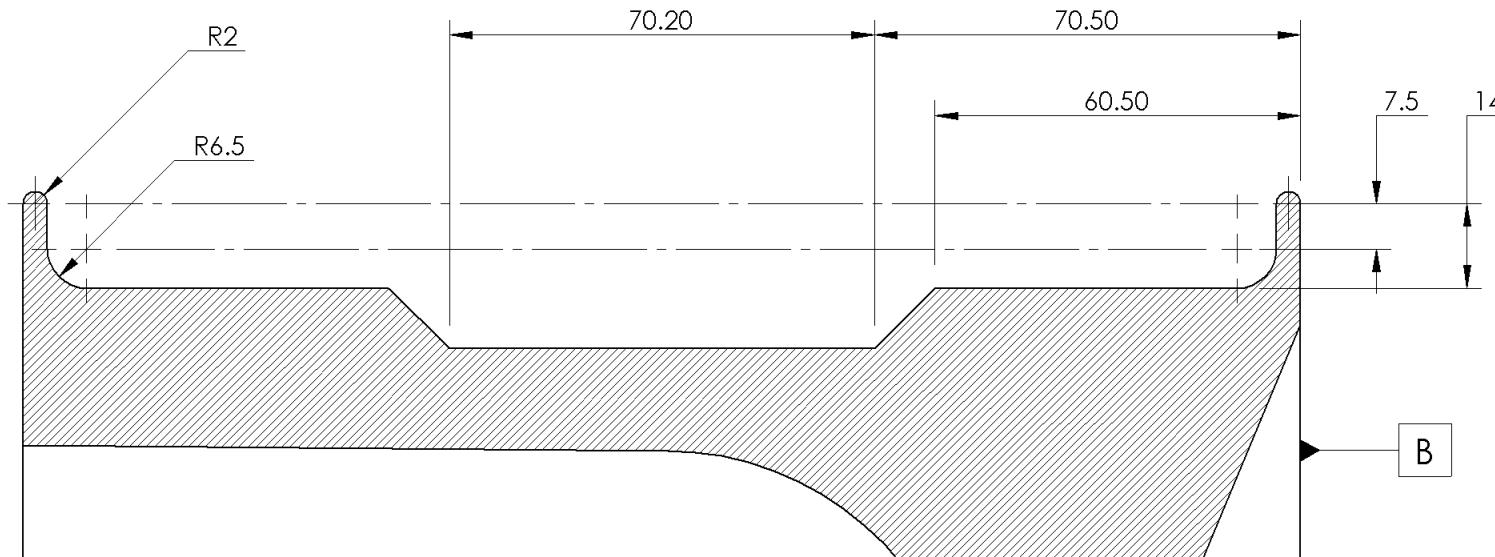
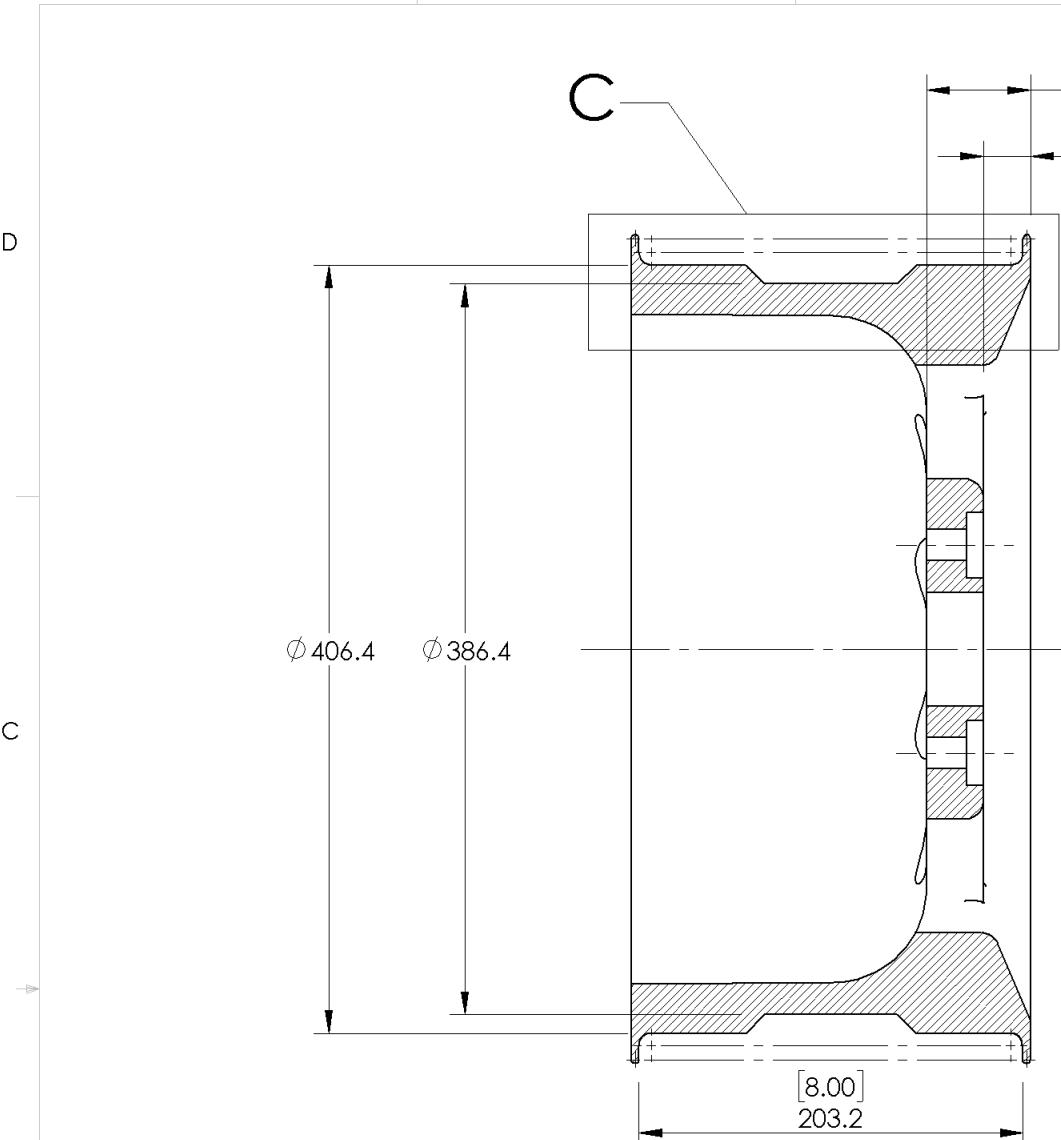
MATERIAL: Pure Gold
FILE NAME: dsn_Rim

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TITLE: Custom Low Speed Snow Rim

| | | |
|----------------------------|---------------------------------|--------------|
| SIZE B | Assignment Number Assignment 03 | REV 2 |
| SCALE: 1:4 Mass: 168215.73 | | SHEET 3 OF 3 |

8 7 6 5 4 3 2 1



Assignment Solution

MecE 265
Instructor:
Dr DS Nobes
Fall 2021
Comments:
Only the main functional details and dimensions are shown here

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 $XXX = \pm 0.025$

SURFACE FINISH
 $0.6 \mu\text{m}$

DO NOT SCALE DRAWING

MATERIAL: Pure Gold
FILE NAME: dsn_Rim

DRAWN BY:
David S. Nobes
Lab Day ALL
SM By D.S.Nobes
TA Initials DSN

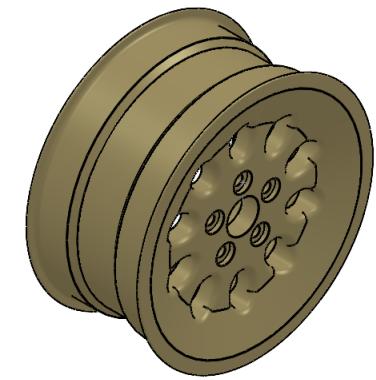
zacha
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The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

TITLE:
Custom Low Speed Snow Rim

SIZE **B** Assignment Number **Assignment 03** REV **2**

SCALE: 1:4 Mass: 168215.73 SHEET 3 OF 3



D

C

B

A

A

1