

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: June 30, 2022

AUTOMark Assessment Grade: 719 out of 727

AUTOMark Recommended Grade: 99 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 10:37:20

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

MODEL LAST SAVE DATE: 30-Jun-2022 10:37:20

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

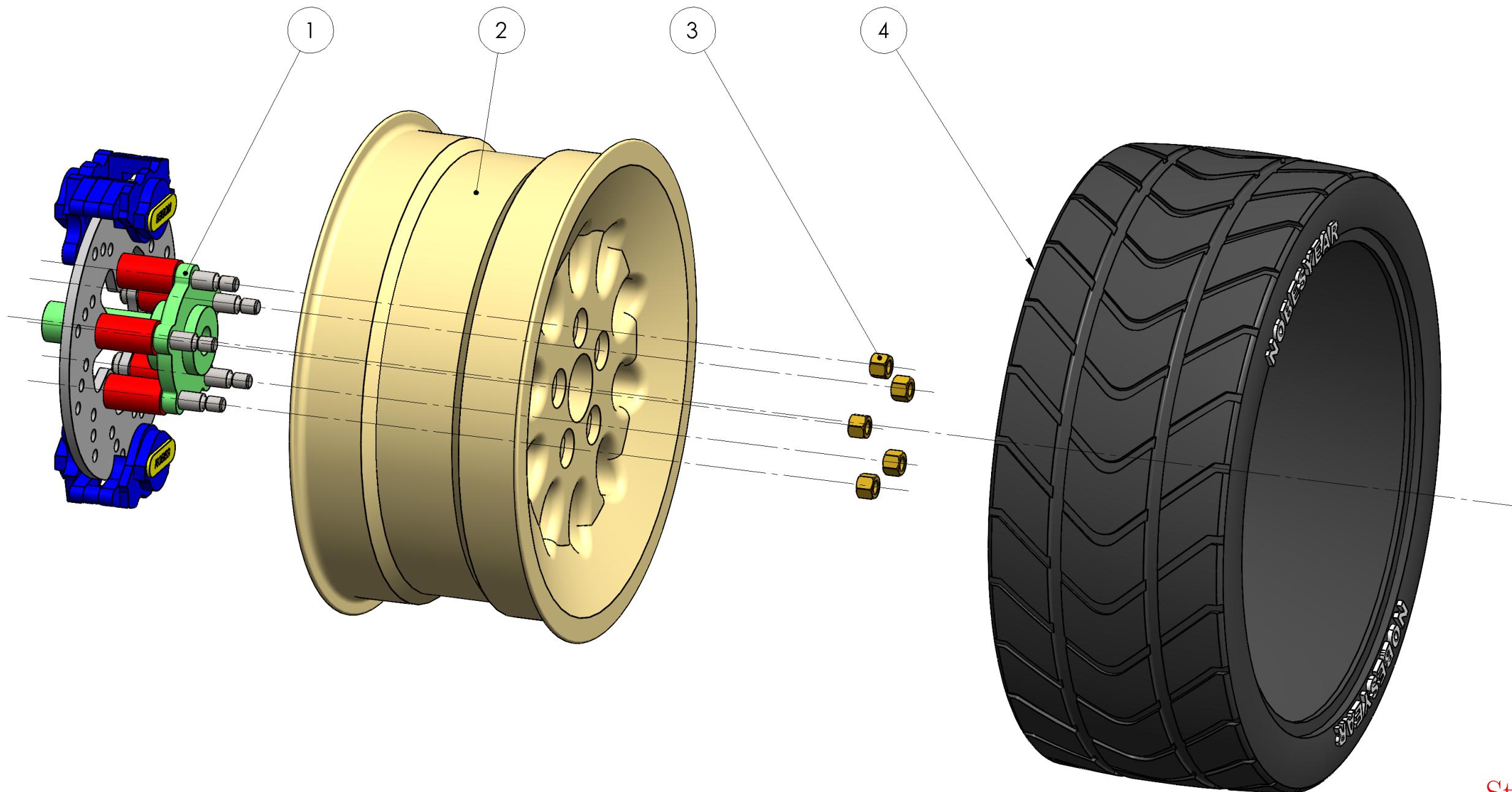
AutoMARK Criterion (The weights of these criterion are decided by the marker):

- 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 |

8 7 6 5 4 3 2 1

| 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: 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 |
| | SURFACE FINISH $0.6 \mu\text{m}$ | TA Initials DSN |
| | DO NOT SCALE DRAWING | zacha June 30, 2022 10:37:20 AM September 23, 2010 11:25:48 AM |
| MATERIAL: Various | FILE NAME: MecE265_Car_Hub_Rim_Tire | SIZE B Assignment Number Assignment 03 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

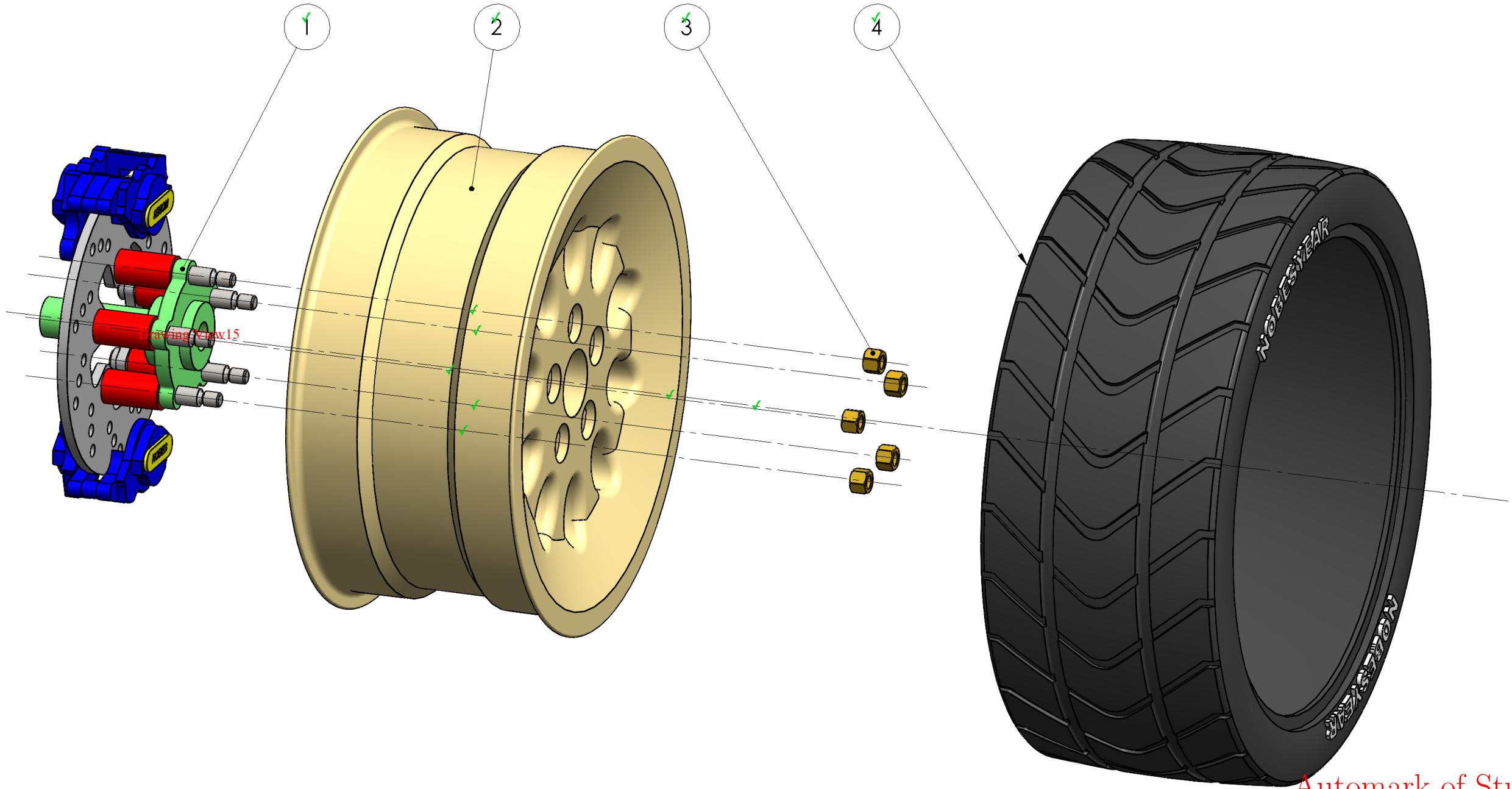
2

Snapped to Corner

Drawing View15: 48/48
DetailItem439: 38/40
SHEET TOTAL: 135/137

Correct Height
Incorrect Font
Incorrect 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 |
| 2 | dsn_Rim | Custom Low Profile 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 |



Automark of Student Submission

Correct Tangent Line style
Correct Scale
Correct Display style

| | | |
|--|--|------------------------|
| MecE 265 | UNLESS OTHERWISE SPECIFIED: | DRAWN BY: |
| Instructor: Dr DS Nobes Fall 2021 | DIMENSIONS ARE IN MM | David S. Nobes |
| Comments: | TOLERANCES: ANGULAR: $\pm 0.5^\circ$ LINEAR $X = \pm 0.5$ $X.X = \pm 0.1$ $XXX = \pm 0.025$ | Lab Day ALL |
| | SURFACE FINISH $0.6 \mu\text{m}$ | SM By D.S.Nobes |
| | DO NOT SCALE DRAWING | TA Initials DSN |
| MATERIAL: Various | zacha | |
| FILE NAME: MecE265_Car_Hub_Rim_Tire | June 30, 2022 10:37:20 AM September 23, 2010 11:25:48 AM | |

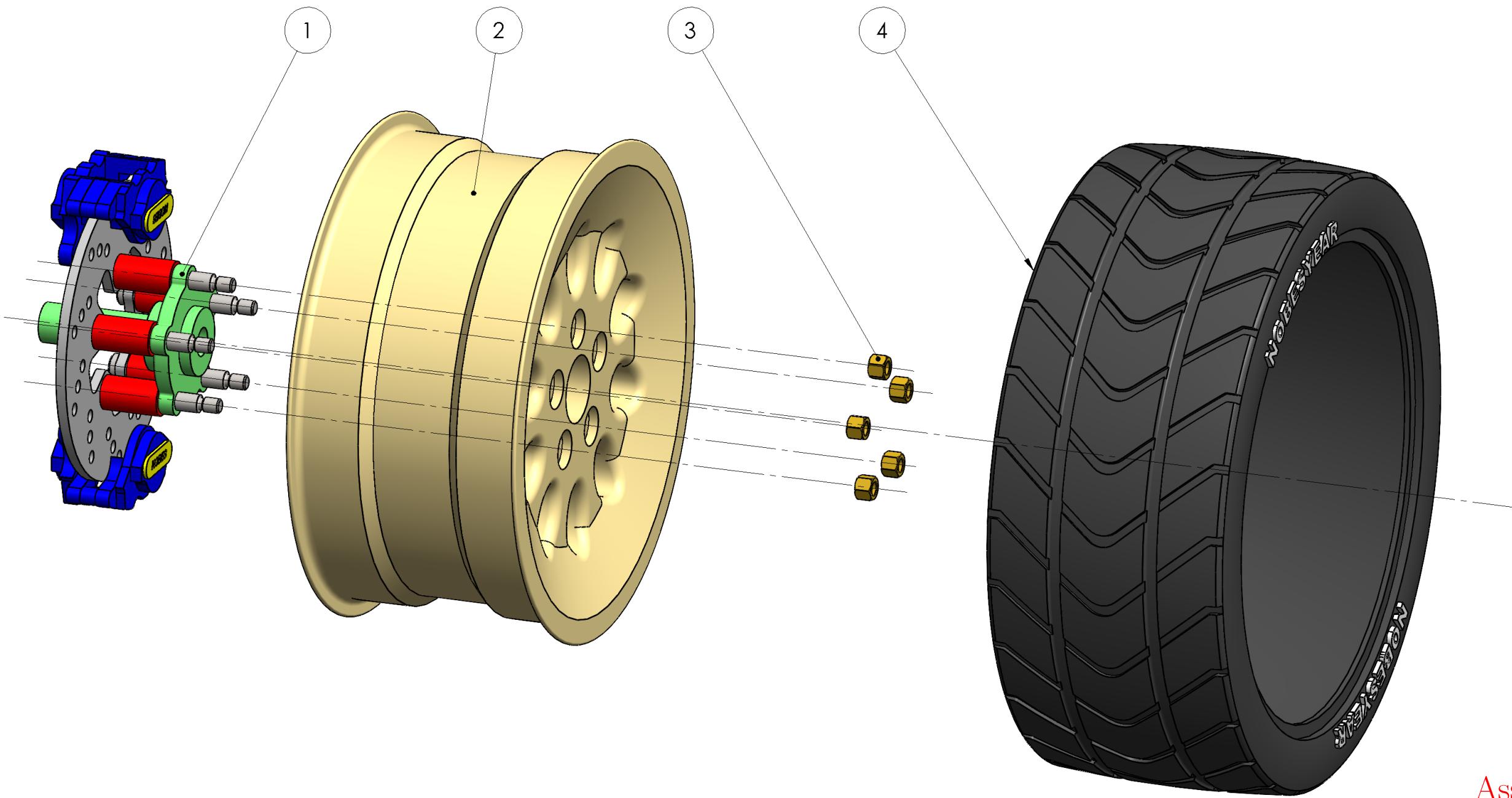
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TITLE:
**Hub, Rim, Tire
Assembly**

| | | |
|------------------|---|-----------------|
| 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**

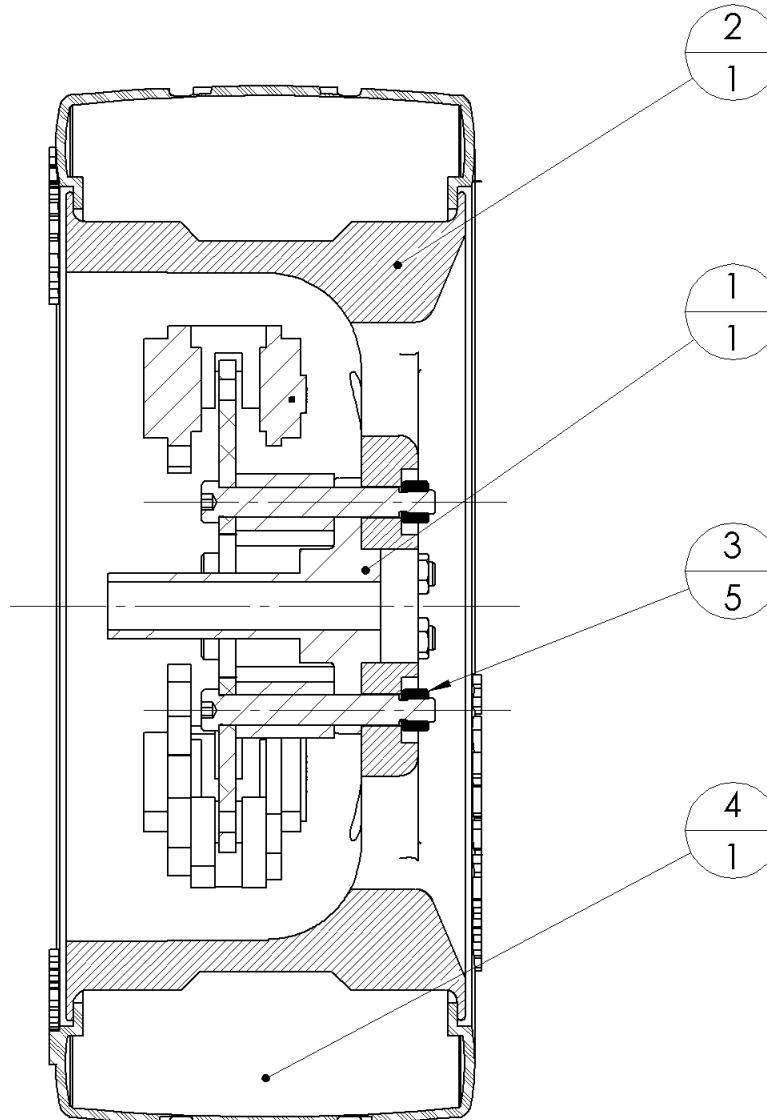
8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

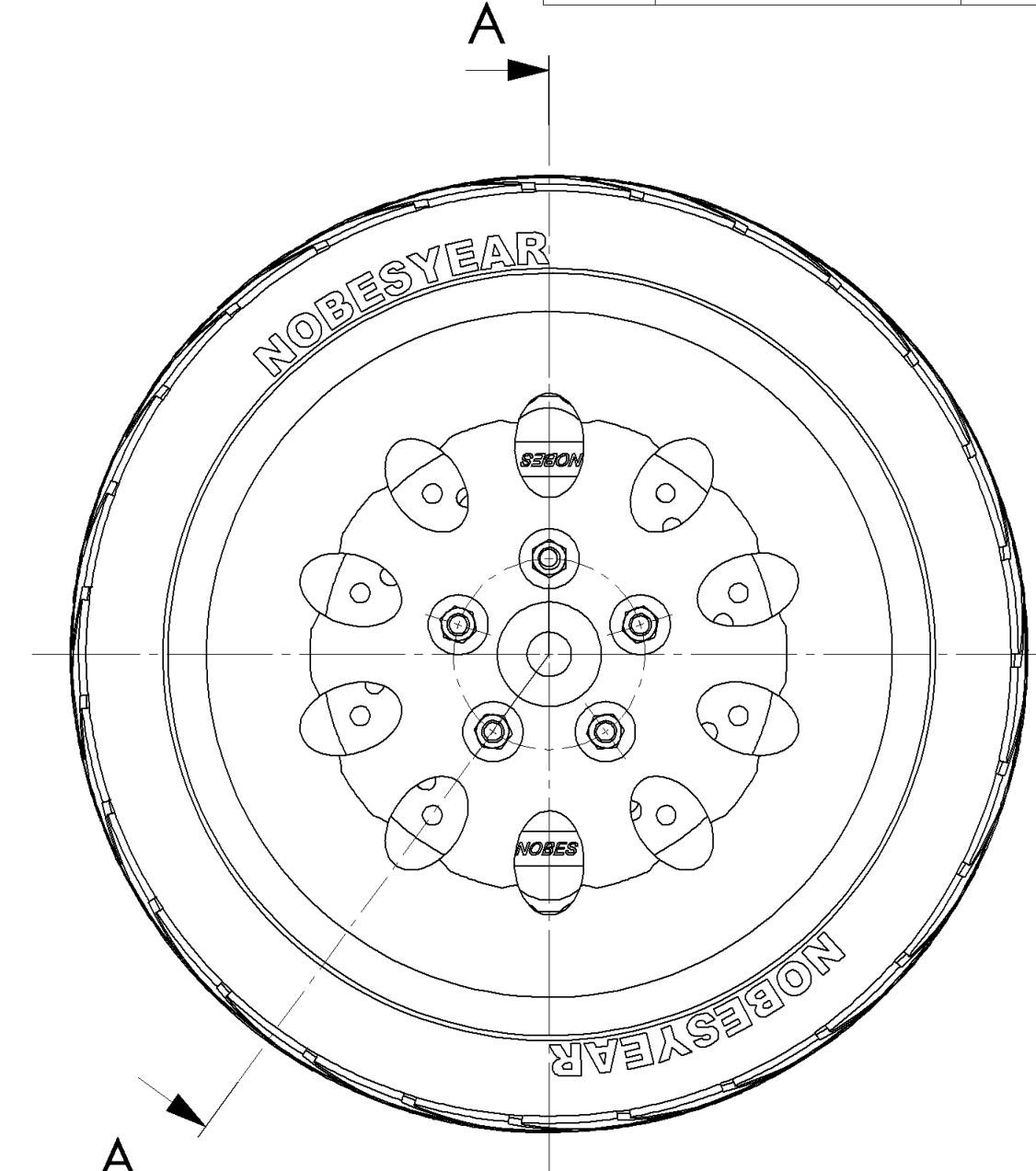
| ITEM NO. | SW-File Name(File Name) | SW-Title(Title) | Material | SW-Author(Author) | QTY. |
|----------|-------------------------|--------------------------------|-----------|-------------------|------|
| 1 | MecE265_Car_Hub | Hub, Disk and Calaper Assembly | Various | D.S. Nobes | 1 |
| 2 | dsn_Rim | 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 |

D

D



SECTION A-A



| | | | |
|--|-------------|--|----------------|
| 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 | | | |
| FILE NAME: MecE265_Car_Hub_Rim_Tire | | | |
| zacha | | | |
| June 30, 2022 10:37:20 AM | | | |
| September 23, 2010 11:25:48 AM | | | |
| SIZE B | | Assignment Number Assignment 03 | REV 2 |
| SCALE: 1:4 | | Mass: 175308.62 | SHEET 2 OF 3 |

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A

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

A

8 7 6 5 4 3 2 1

1

8

7

6

5

4

3

2

Snapped to Corner

Drawing View1: 57/57
 Section View A-A: 39/39
 DetailItem493: 38/40
 SHEET TOTAL: 183/185

Correct Height

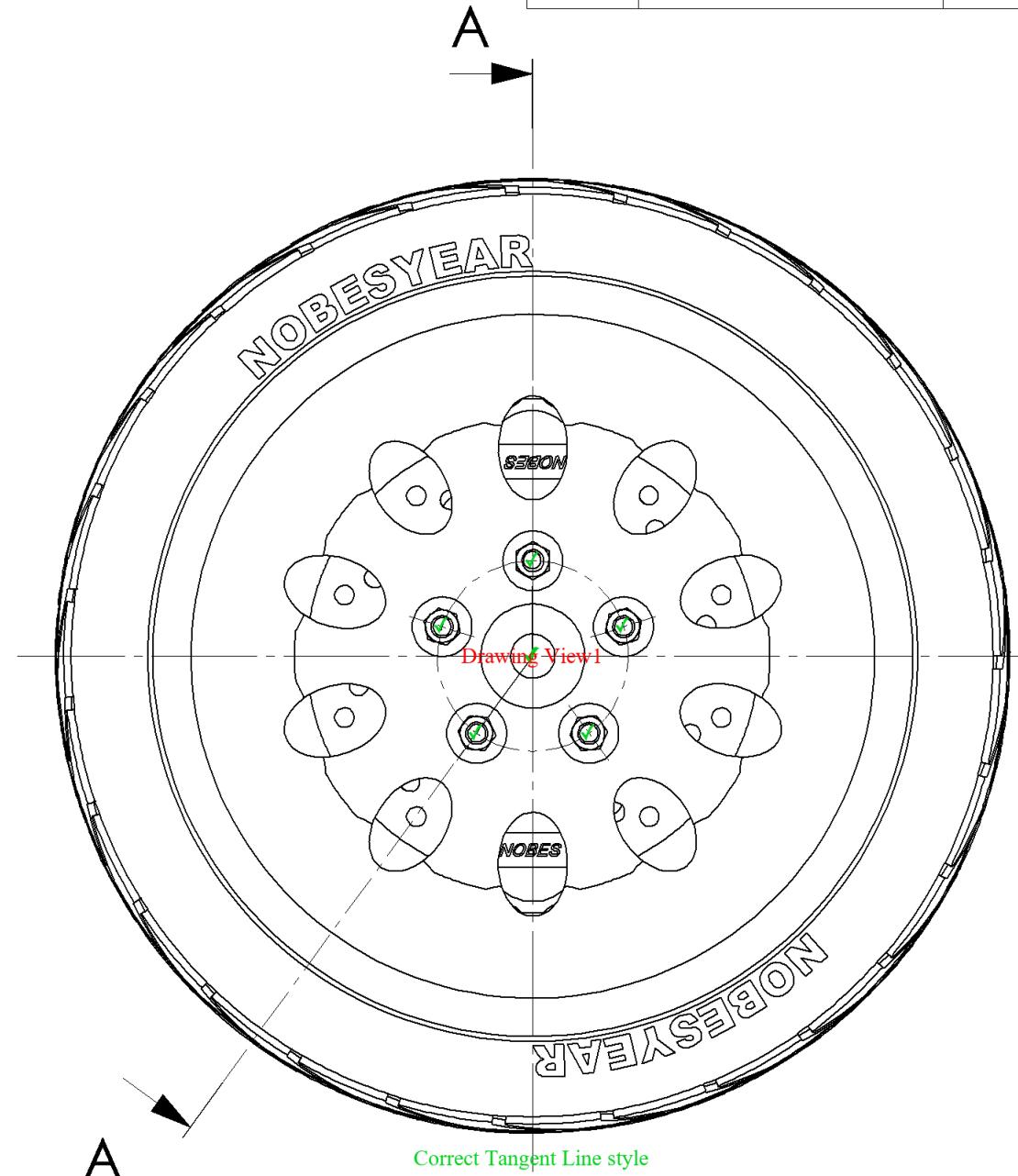
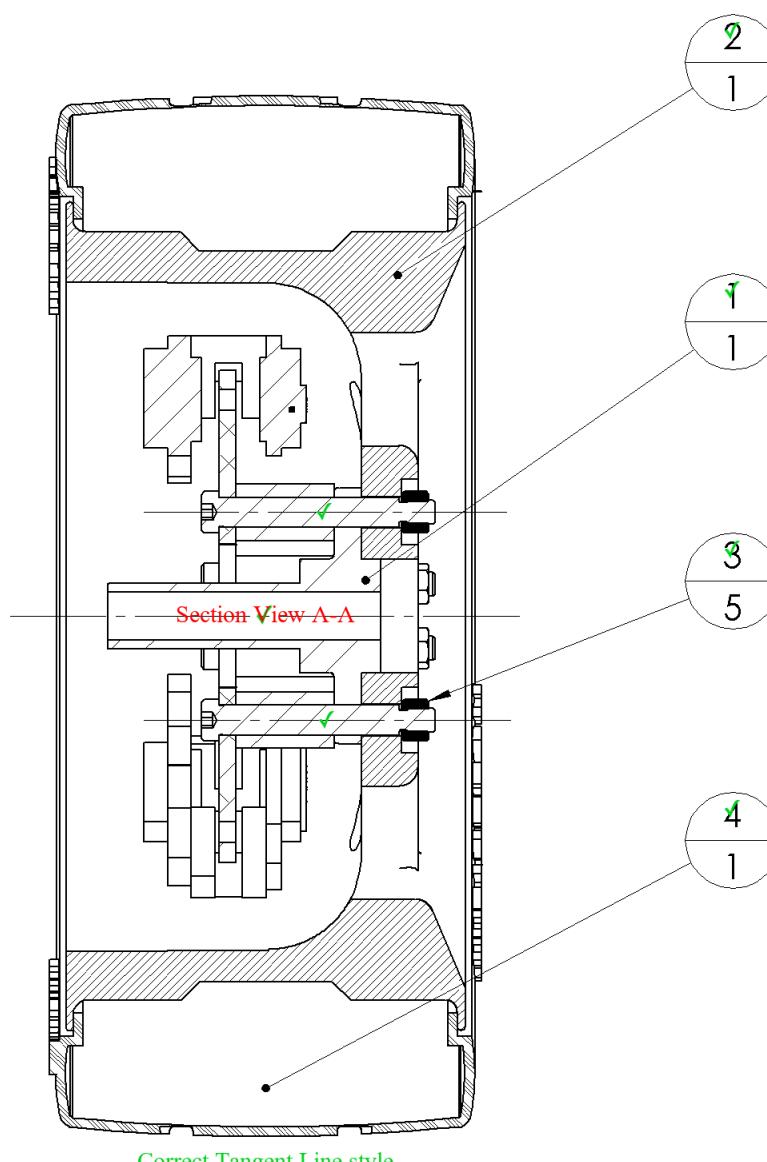
Incorrect Font

Incorrect 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 |

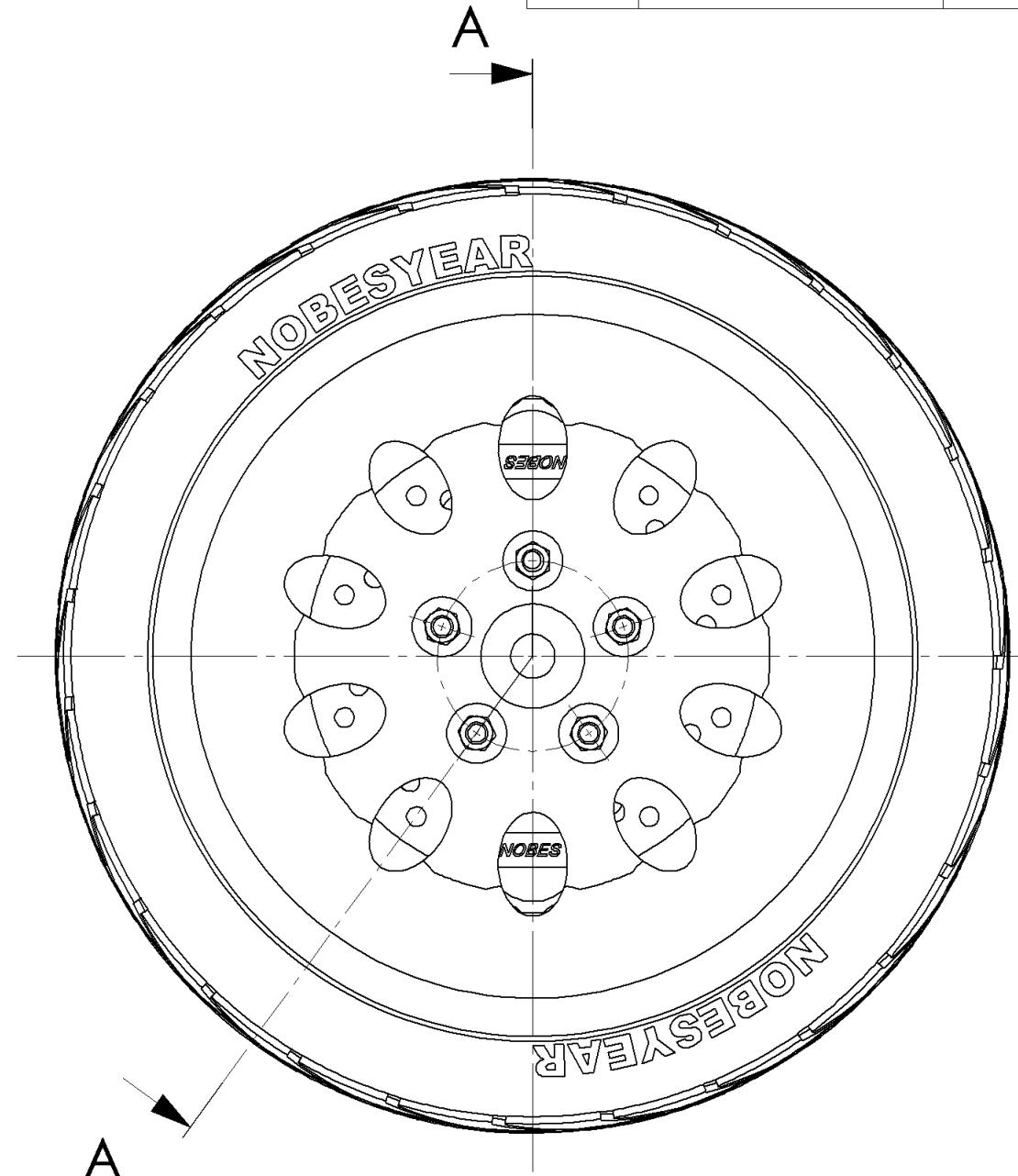
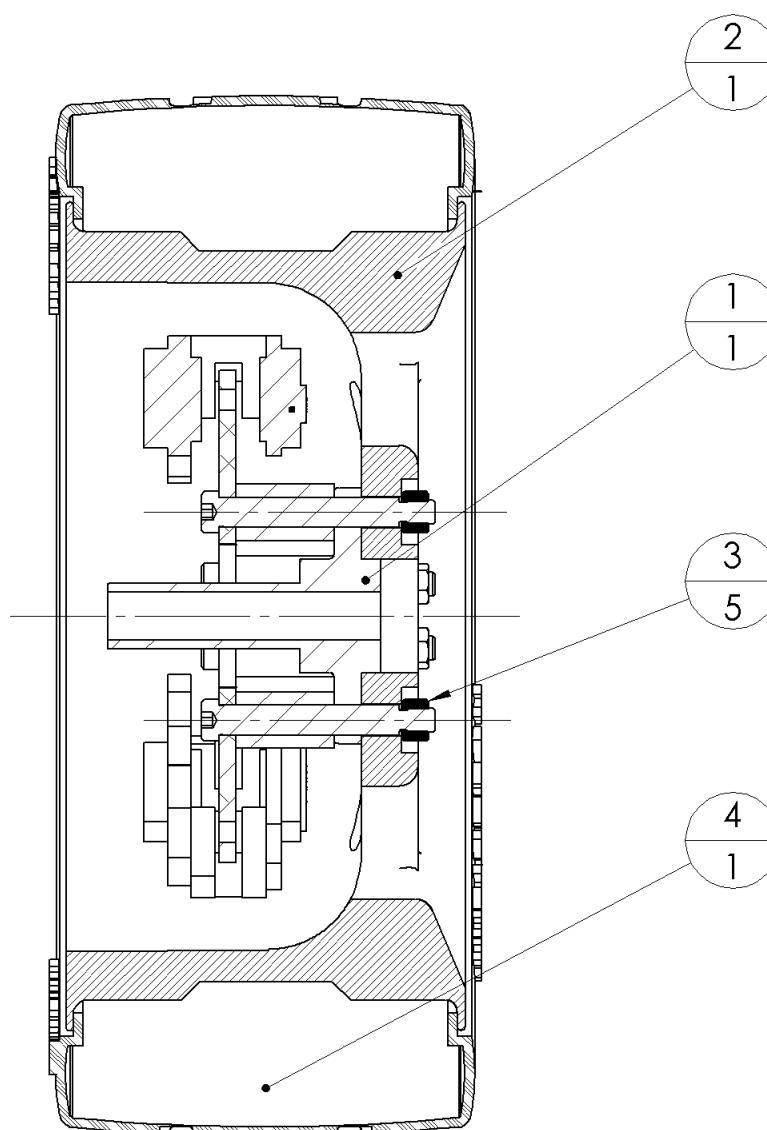


| | | |
|---|--|---|
| MecE 265 | | UNLESS OTHERWISE SPECIFIED: |
| Instructor: Dr DS Nobes Fall 2021 | | DRAWN BY: David S. Nobes |
| Comments: | | Lab Day ALL |
| | | SM By D.S.Nobes |
| | | TA Initials DSN |
|      | | SURFACE FINISH 0.6 μm |
| | | DO NOT SCALE DRAWING |
| MATERIAL: Various | | |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

Automark of Student Submission

| | |
|---|---|
|  | The Department of Mechanical Engineering UNIVERSITY OF ALBERTA |
| TITLE: Hub, Rim, Tire Assembly | |
| B | Assignment Number Assignment 03 |
| REV 2 | |
| SCALE: 1:4 | |
| Mass: 175308.62 | |
| SHEET 2 OF 3 | |

| 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 |

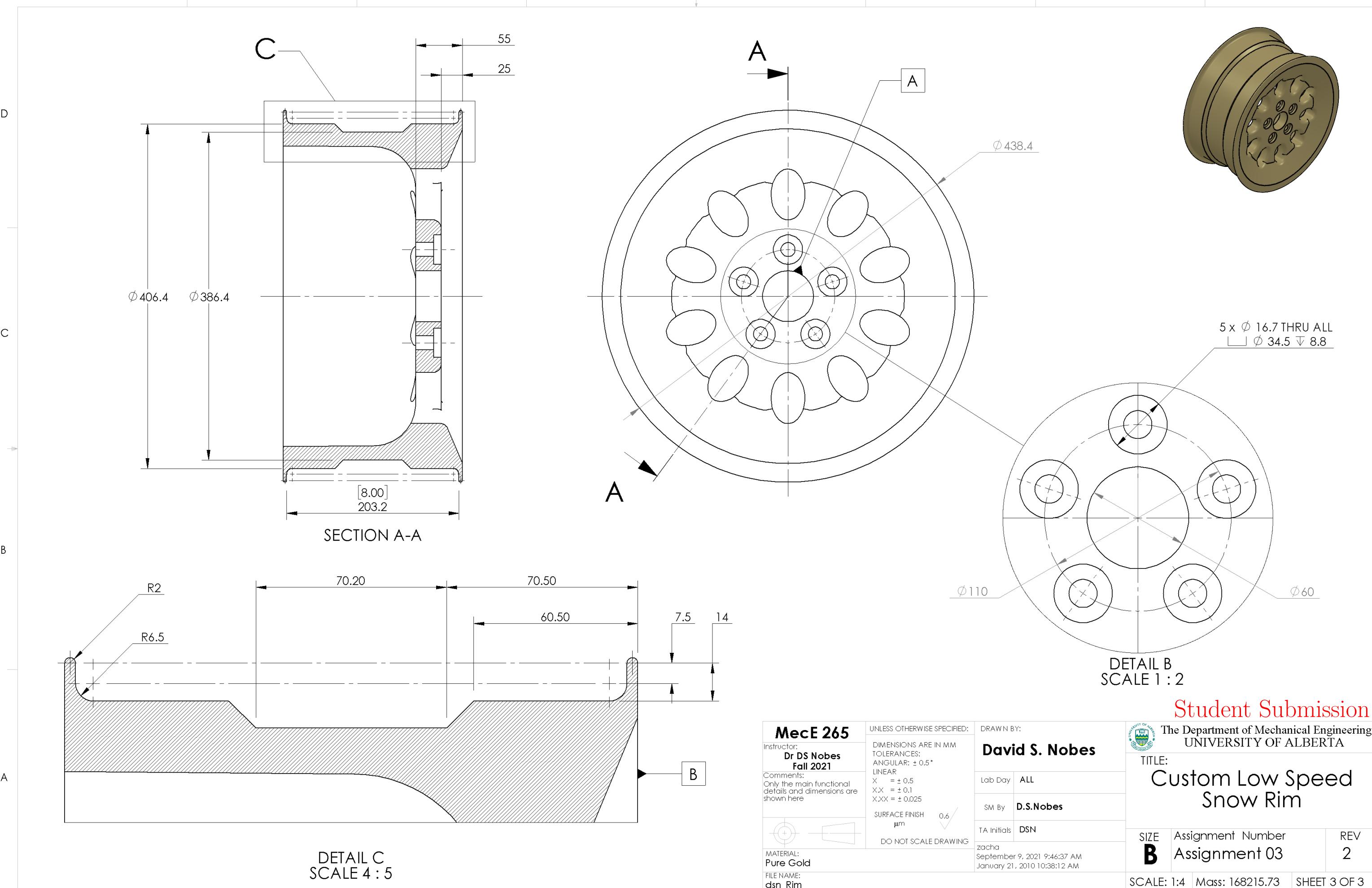


| | | | |
|--|---|---|------------------------------------|
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| Instructor: Dr DS Nobes Fall 2021 | Comments: | Lab Day ALL | |
| | | SM By D.S.Nobes | |
| | | TA Initials DSN | |
| | | zacha September 28, 2021 2:35:53 PM September 23, 2010 11:25:48 AM | |
| MATERIAL: Various | | 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 | | | |

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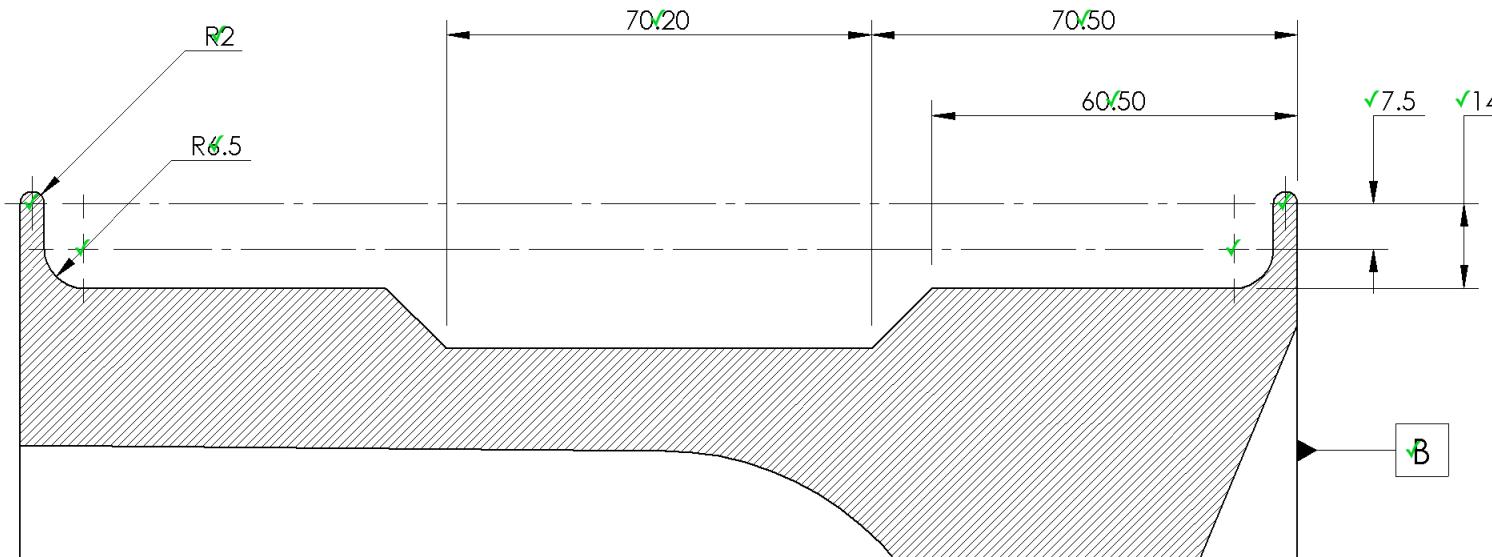
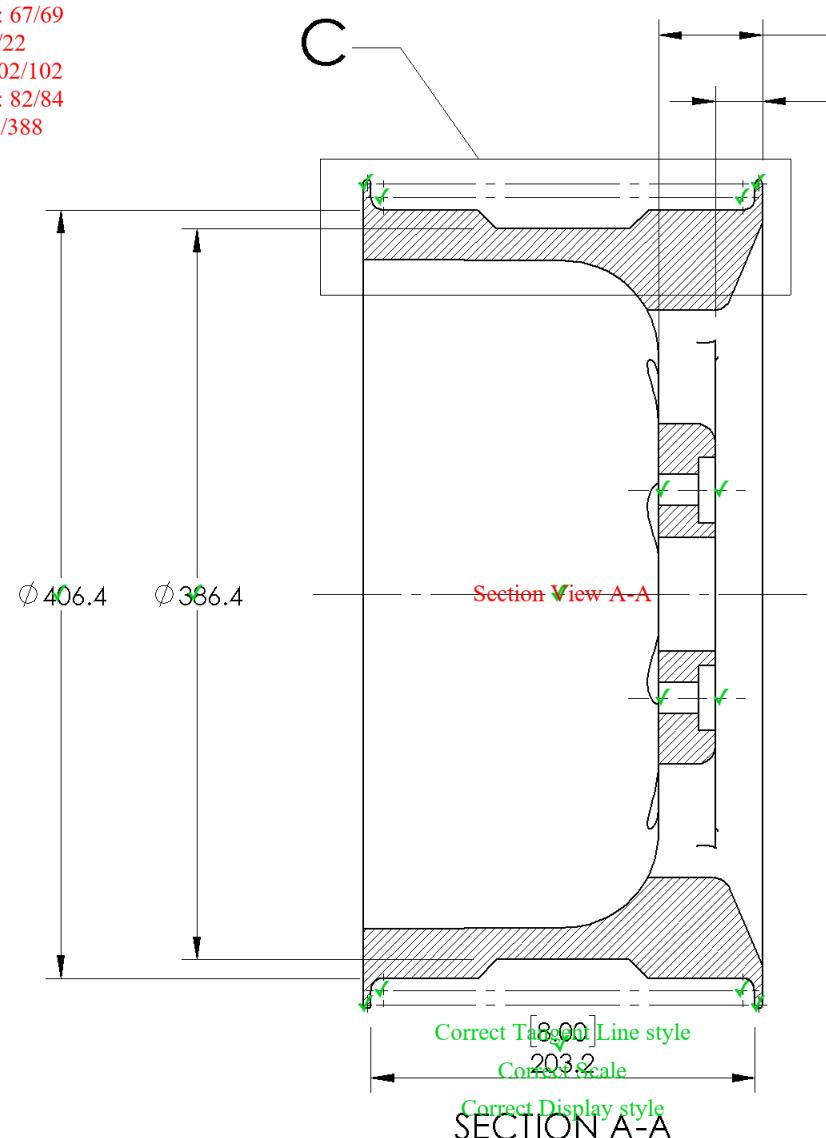
TITLE:
**Hub, Rim, Tire
Assembly**

8 7 6 5 4 3 2 1

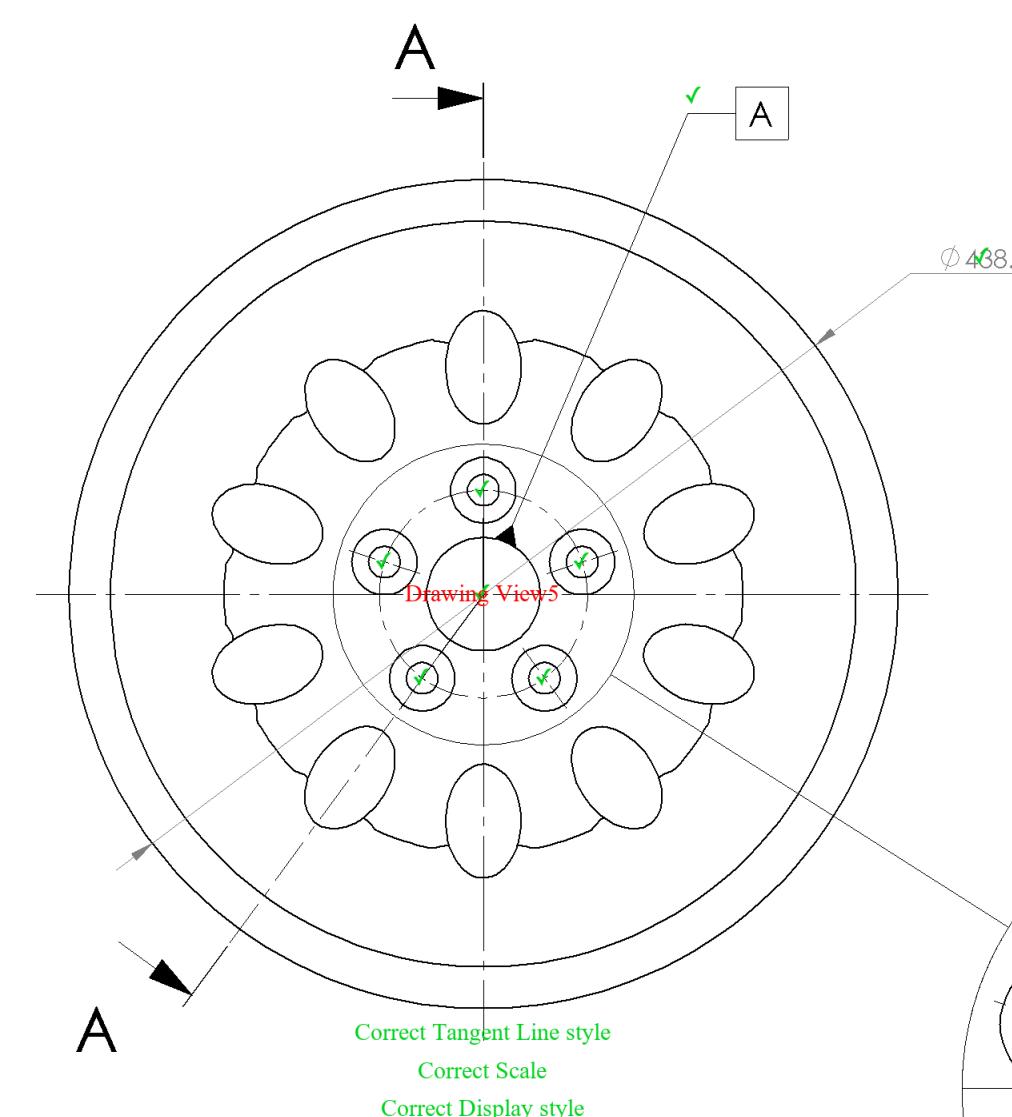


8 7 6 5 4 3 2 1

Drawing View5: 62/62
Detail View B (1 : 2): 67/69
Drawing View14: 22/22
Section View A-A: 102/102
Detail View C (4 : 5): 82/84
SHEET TOTAL: 384/388



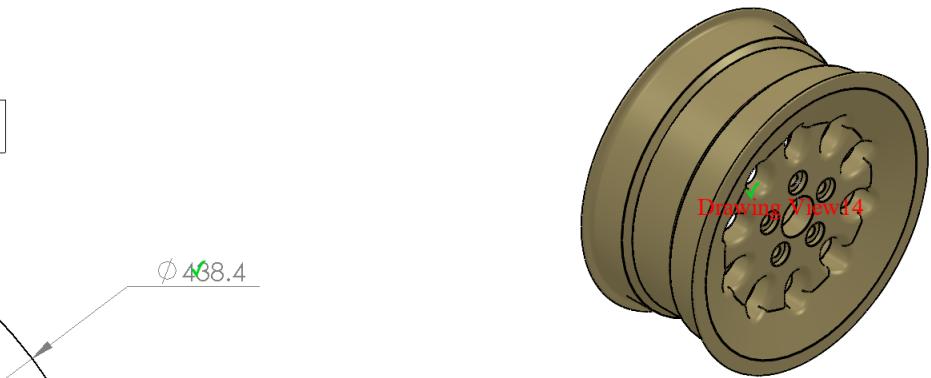
DETAIL C
SCALE 4 : 5
Correct Tangent Line style
Correct Scale
Correct Display style



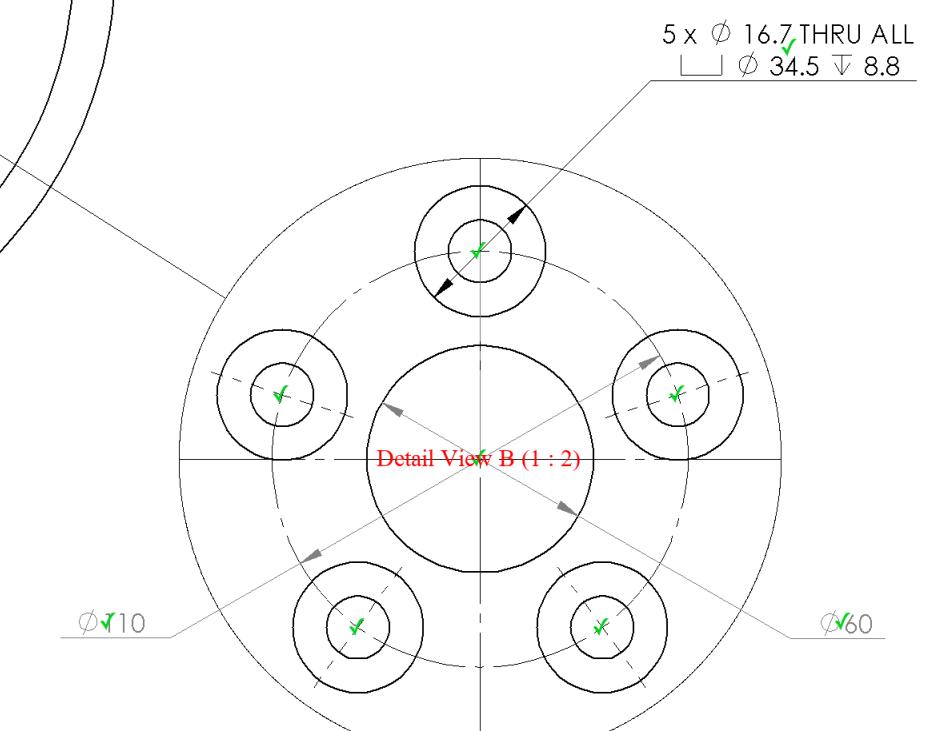
MecE 265
Instructor: Dr DS Nobes Fall 2021
Comments: Only the main functional details and dimensions are shown here
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN MM
TOLERANCES:
ANGULAR: $\pm 0.5^\circ$
LINEAR X = ± 0.5 X.X = ± 0.1 XXX = ± 0.025
SURFACE FINISH $0.6 \mu\text{m}$
DO NOT SCALE DRAWING
MATERIAL: 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

The Department of Mechanical Engineering
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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



Correct Tangent Line style
Correct Scale
Correct Display style



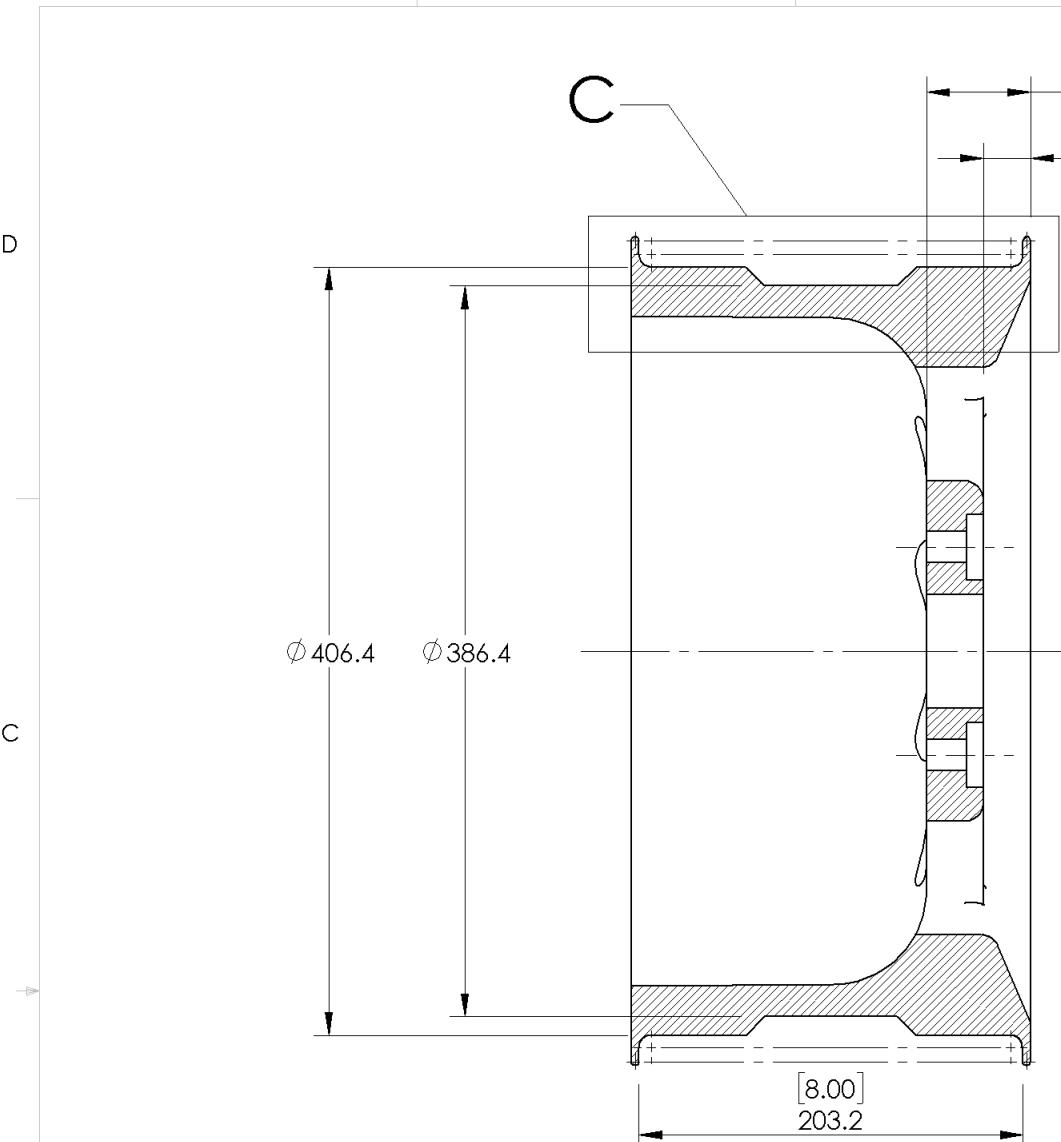
DETAIL B
SCALE 1 : 2
Correct Tangent Line style
Correct Scale
Correct Display style

Automate of Student Submission
The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA
TITLE: Custom Low Speed Snow Rim

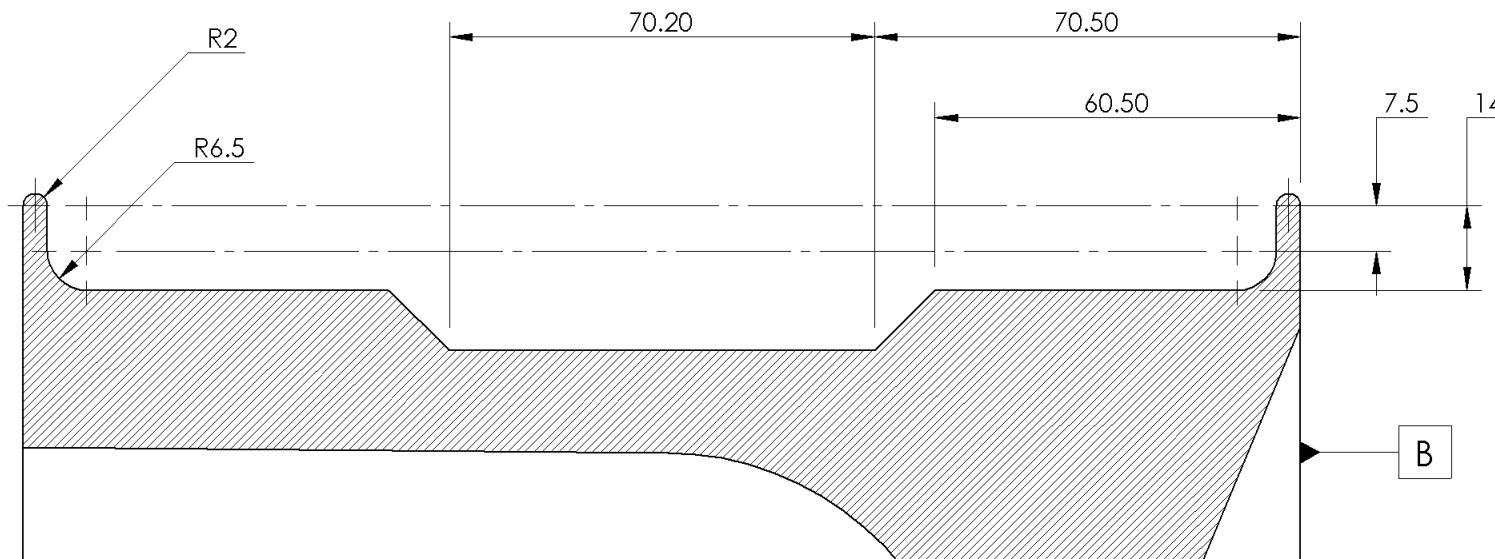
8 7 6 5 4 3 2 1

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

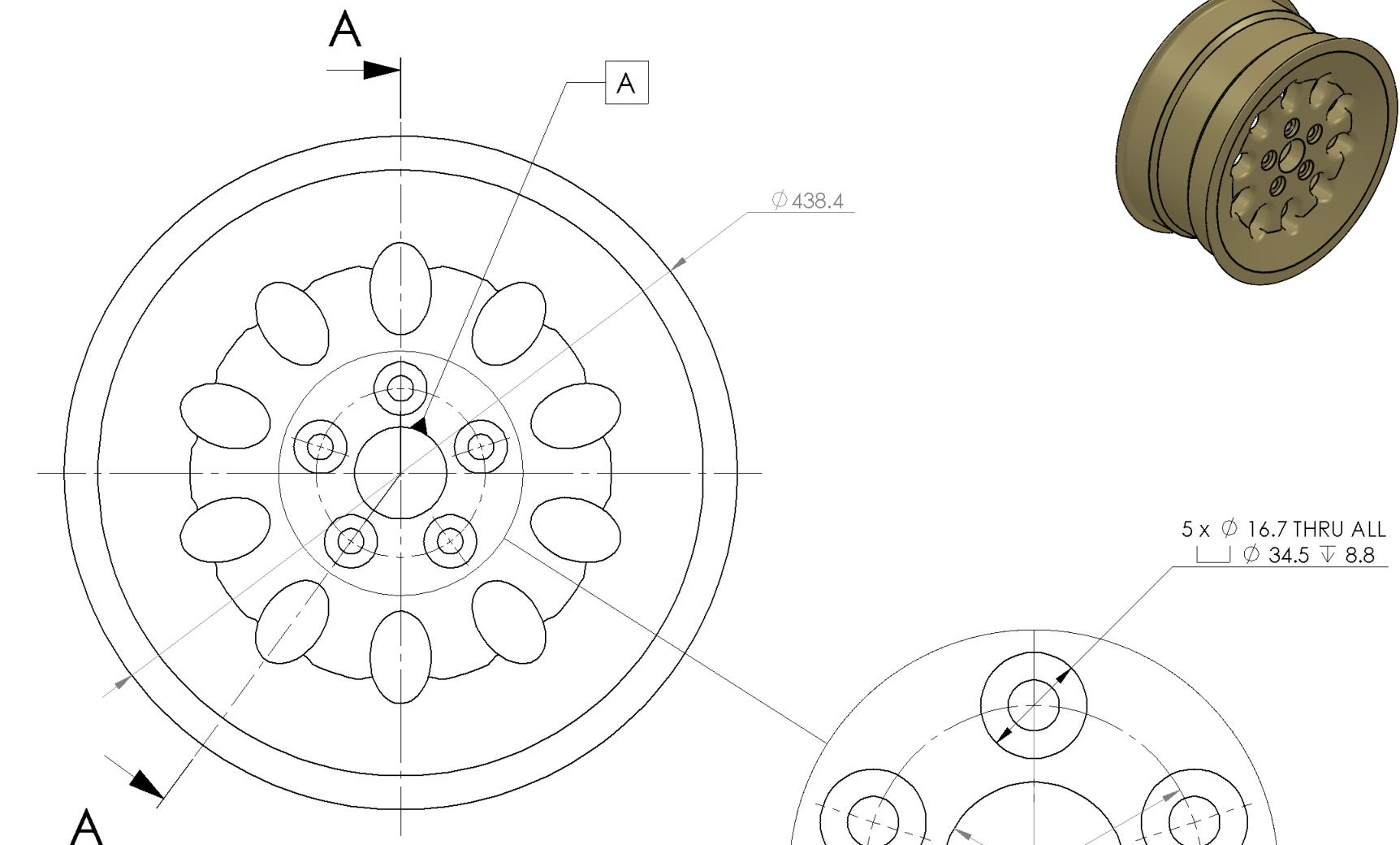
8 7 6 5 4 3 2 1



SECTION A-A



DETAIL C
SCALE 4 : 5



Assignment Solution
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
 XX = ± 0.1
 XXX = ± 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

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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