

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: 701 out of 727

AUTOMark Recommended Grade: 96 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 10:46:31

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

MODEL LAST SAVE DATE: 30-Jun-2022 10:46:31

AutoMARK details:

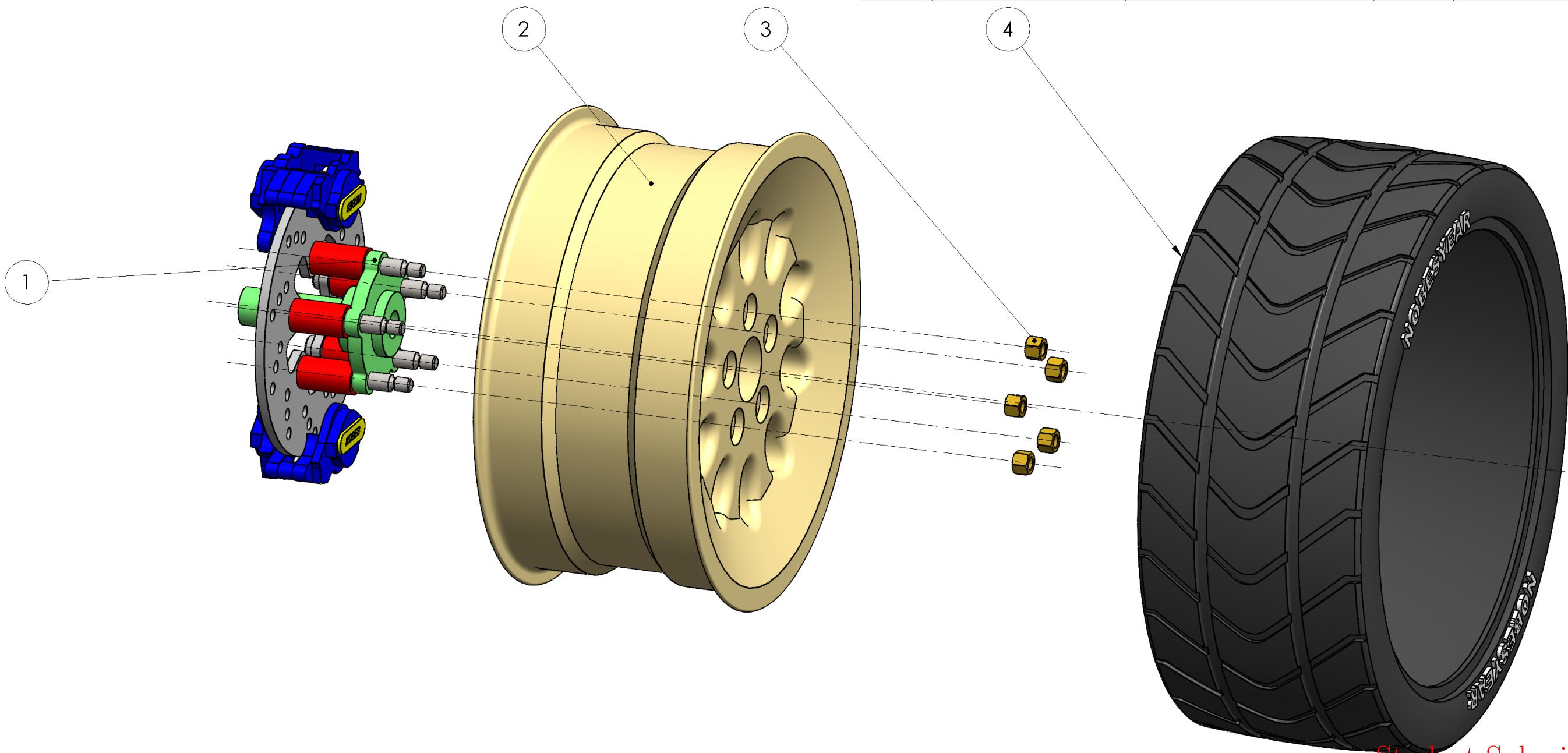
- Sheetnames should contain only alphabetical characters
- Weights of feature properties are set by the marker
- AutoMARK v 4.0 software written and designed by Owen Stadlwieser

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: 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 10:46:31 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	SIZE B Assignment Number Assignment 03 REV 2	
SCALE: 1:4 Mass: 175308.62 SHEET 1 OF 3		

The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

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

8

7

6

5

4

3

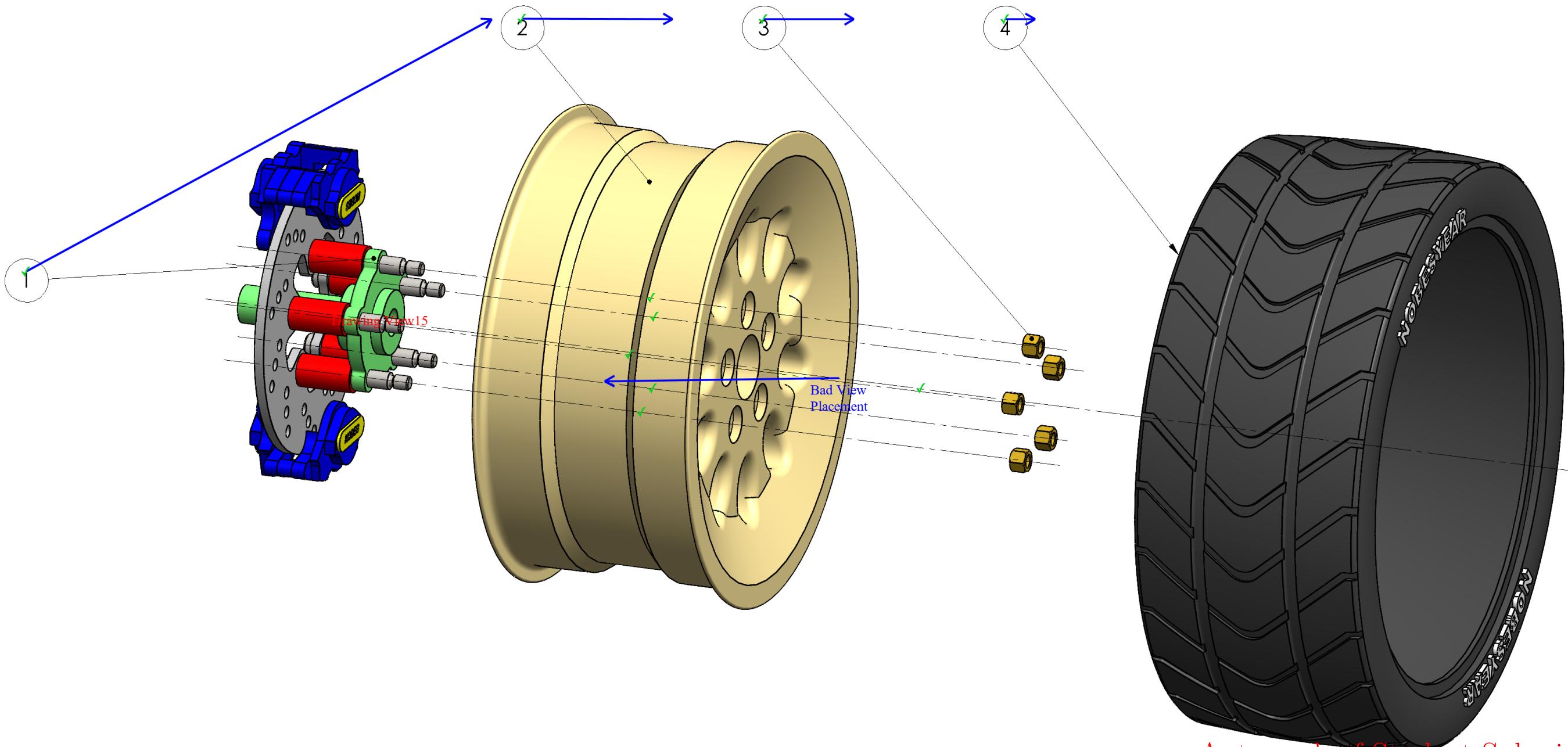
2

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
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

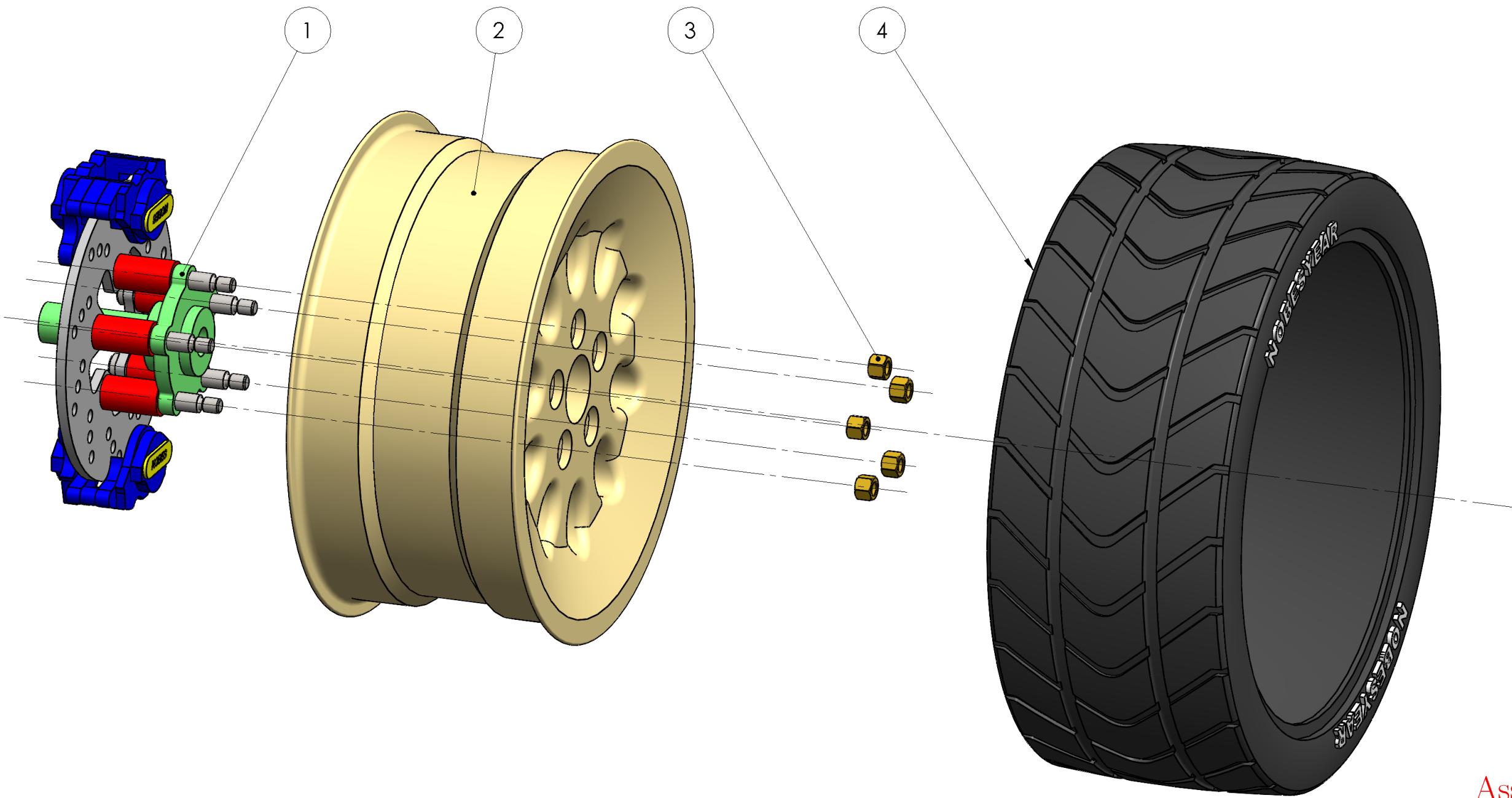


Automark of Student Submission

MecE 265		UNLESS OTHERWISE SPECIFIED:	DRAWN BY:		The Department of Mechanical Engineering UNIVERSITY OF ALBERTA	
Instructor: Dr DS Nobes Fall 2021		DIMENSIONS ARE IN MM TOLERANCES: ANGULAR: $\pm 0.5^\circ$ LINEAR X = ± 0.5 XX = ± 0.1 XXX = ± 0.025	David S. Nobes		TITLE: Hub, Rim, Tire Assembly	
Comments: Correct Tangent Line style Correct Scale Correct Display style		Lab Day ALL SM By D.S.Nobes TA Initials DSN		Assignment Number Assignment 03		
MATERIAL: Various FILE NAME: MecE265_Car_Hub_Rim_Tire		SURFACE FINISH $0.6 \mu\text{m}$ DO NOT SCALE DRAWING		REV 2		
				SCALE: 1:4 Mass: 175308.62 SHEET 1 OF 3		

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



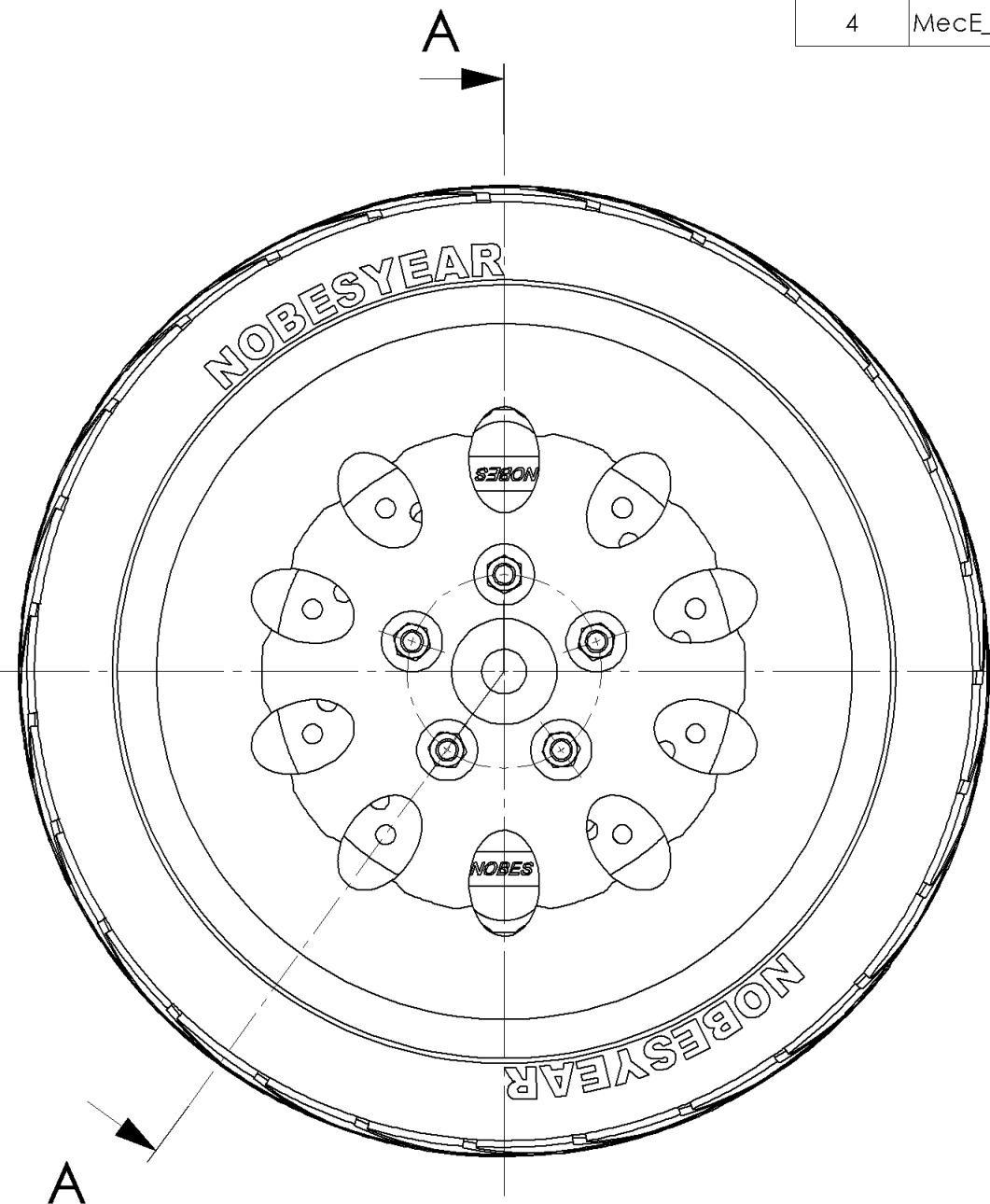
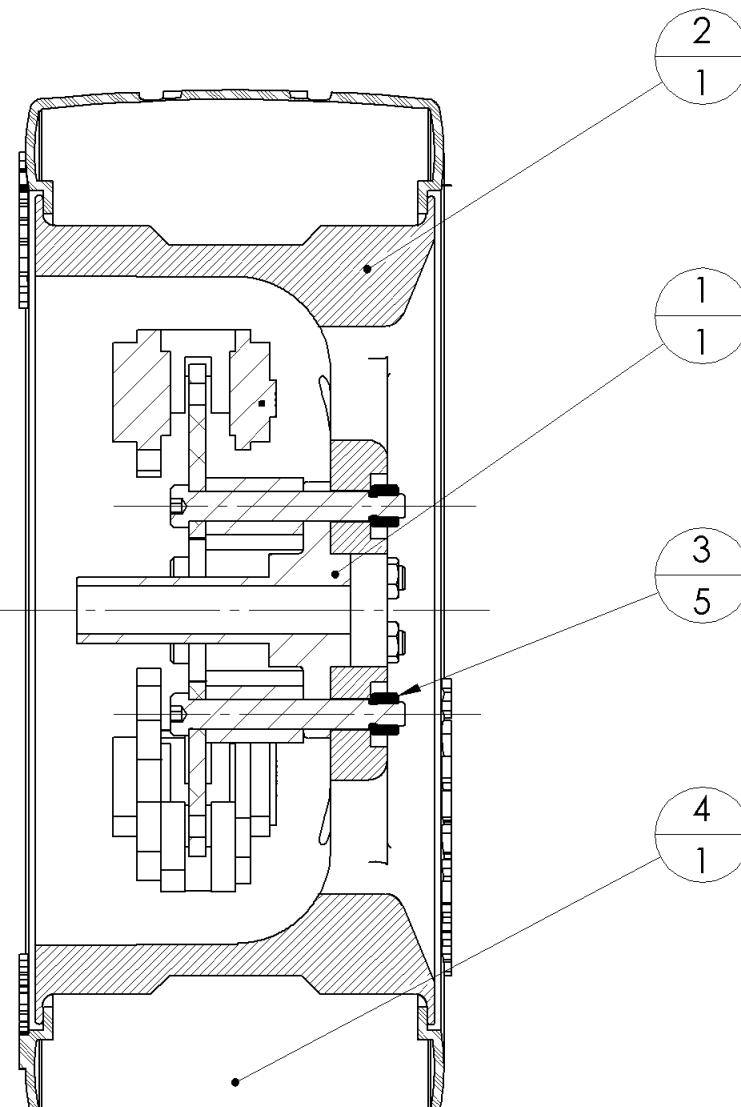
Assignment Solution

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
	SURFACE FINISH $0.6 \mu\text{m}$	TA Initials DSN
	DO NOT SCALE DRAWING	zacha September 28, 2021 2:35:53 PM 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		

The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

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

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



SECTION A-A

MecE 265		UNLESS OTHERWISE SPECIFIED:	DRAWN BY:
Instructor:	Dr DS Nobes	DIMENSIONS ARE IN MM	David S. Nobes
	Fall 2021	TOLERANCES:	
Comments:		ANGULAR: $\pm 0.5^\circ$	
		LINEAR	
		X = ± 0.5	
		XX = ± 0.1	
		XXX = ± 0.025	
		SURFACE FINISH	DO NOT SCALE DRAWING
		0.6 μm	
		MATERIAL: Various	
		FILE NAME: MecE265_Car_Hub_Rim_Tire	

Student Submission
The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

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

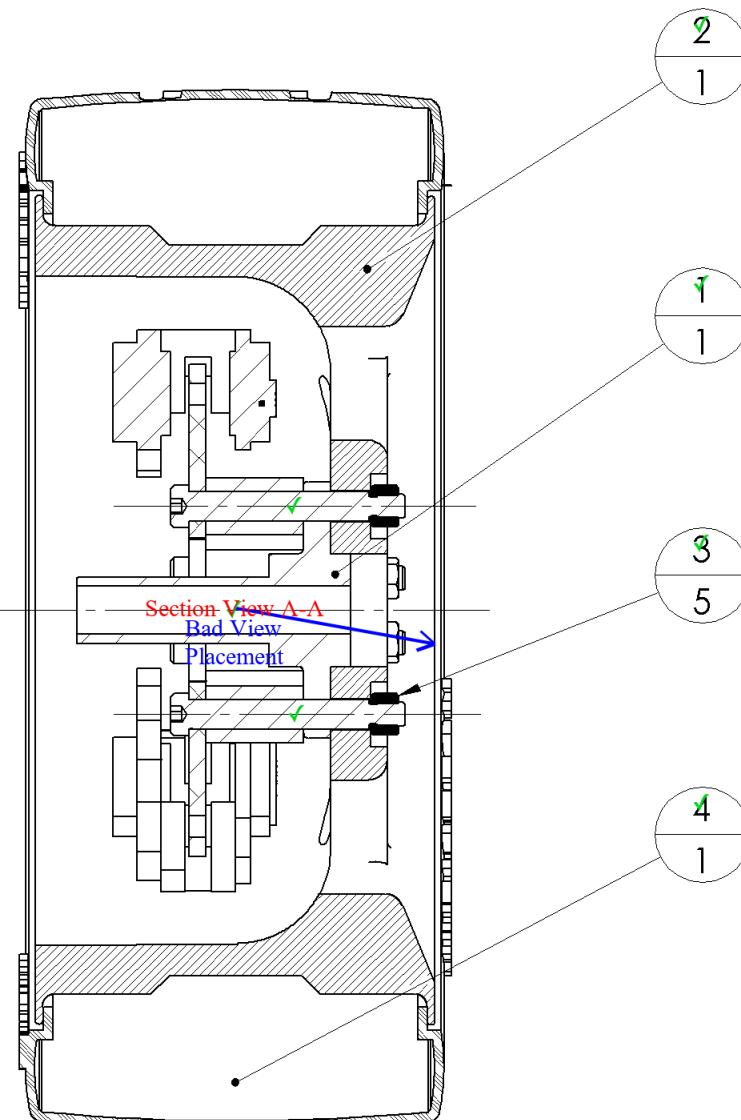
SIZE B	Assignment Number Assignment 03	REV 2
SCALE: 1:4 Mass: 175308.62 SHEET 2 OF 3		

8 7 6 5 4 3 2 1 Snapped to Corner

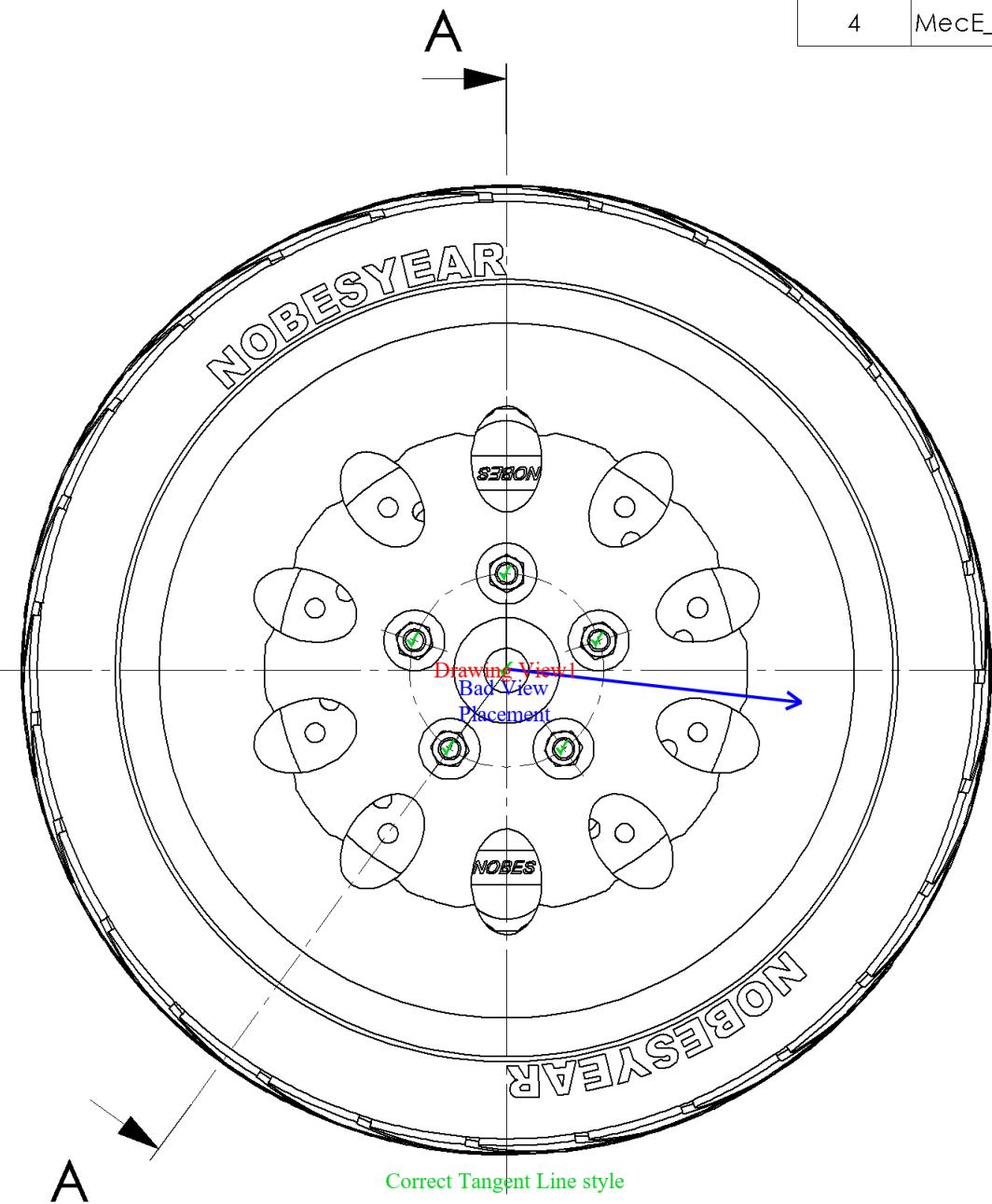
Drawing View1: 50/57
Section View A-A: 33/39
DetailItem493: 40/40
SHEET TOTAL: 172/185

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
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



SECTION A-A
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: $\pm 0.5^\circ$	Lab Day ALL
	LINEAR X = ± 0.5 XX = ± 0.1 XXX = ± 0.025	SM By D.S.Nobes
	SURFACE FINISH $0.6 \mu\text{m}$	TA Initials DSN
	DO NOT SCALE DRAWING	zacha June 30, 2022 10:46:31 AM September 23, 2010 11:25:48 AM
MATERIAL: Various	FILE NAME: MecE265_Car_Hub_Rim_Tire	

Automark of Student Submission

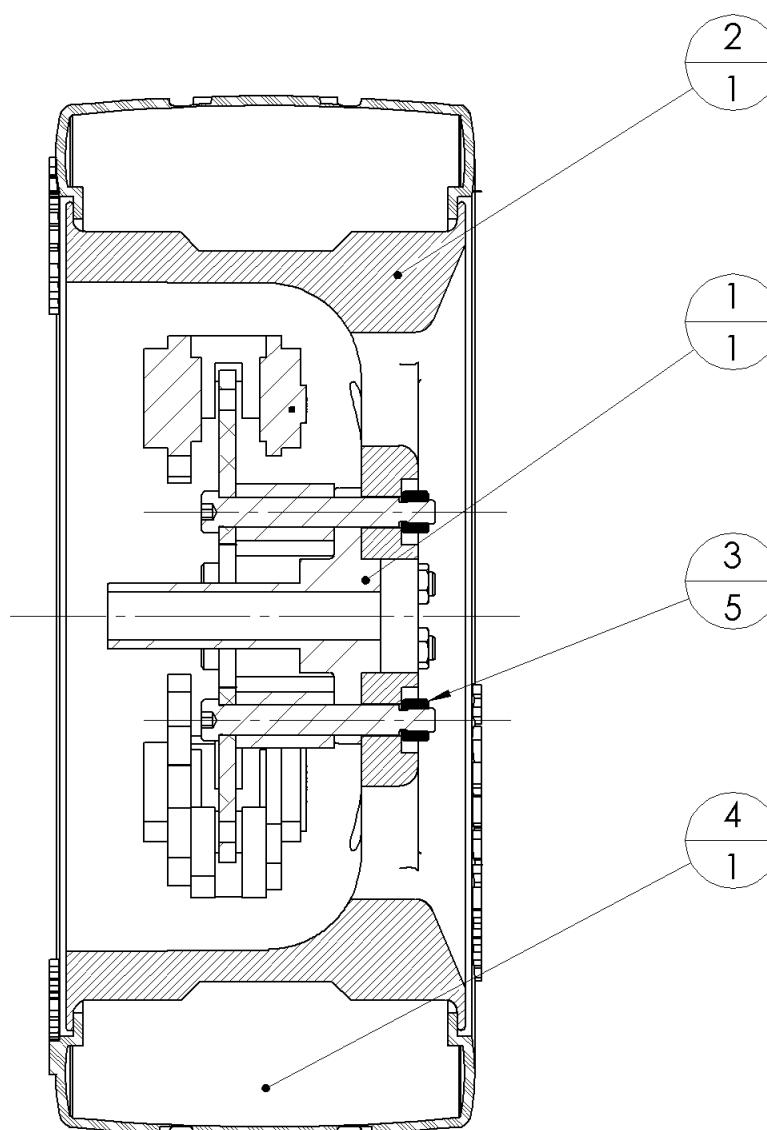
The Department of Mechanical Engineering UNIVERSITY OF ALBERTA	TITLE: Hub, Rim, Tire Assembly	
	SIZE B	Assignment Number Assignment 03
	REV 2	
SCALE: 1:4	Mass: 175308.62	SHEET 2 OF 3

8 7 6 5 4 3 2 1

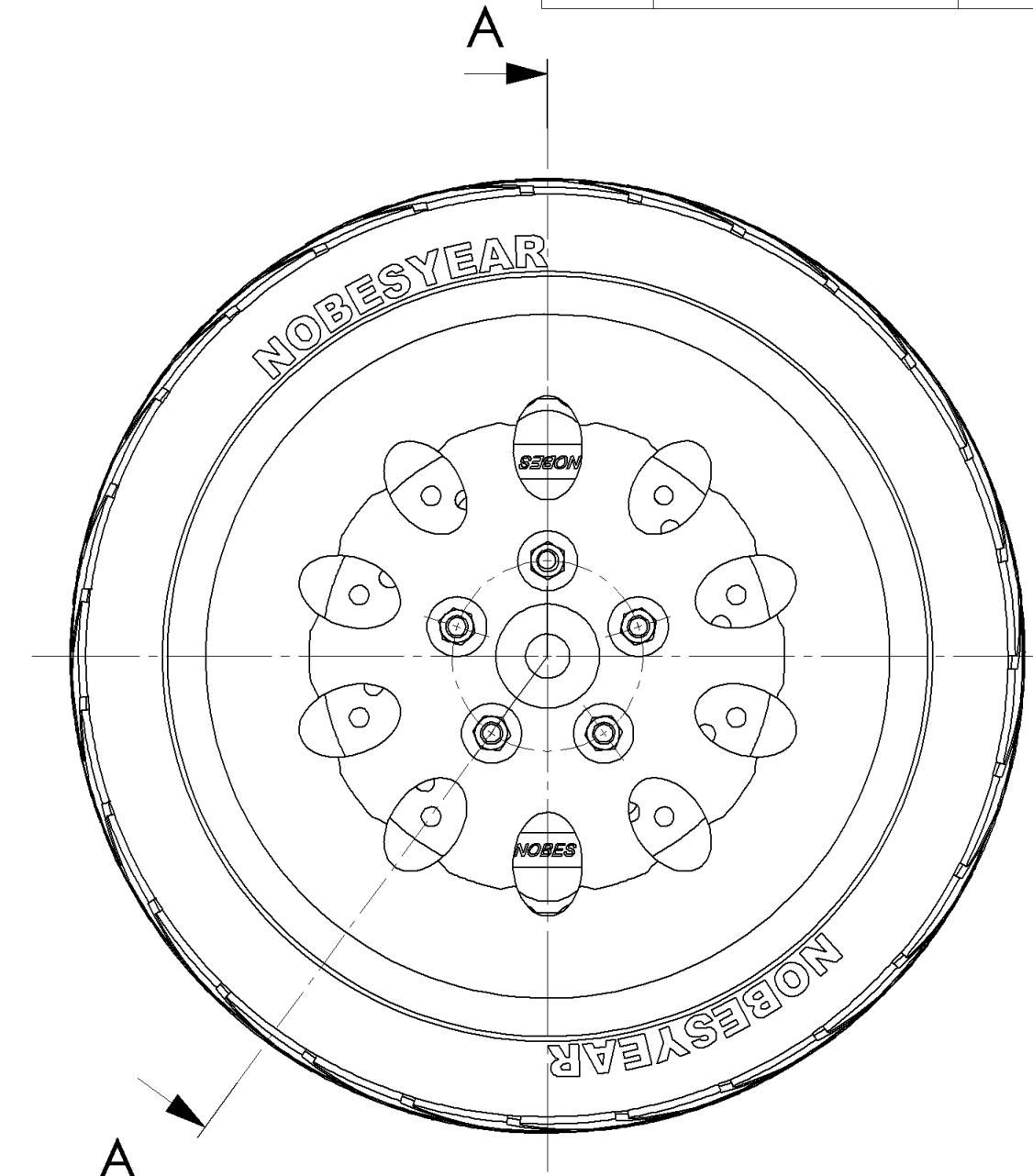
ITEM NO.	SW-File Name(File Name)	SW-Title(Title)	Material	SW-Author(Author)	QTY.
1	MecE265_Car_Hub	Hub, Disk and Calaper Assembly	Various	D.S. Nobes	1
2	dsn_Rim	Custom Low Speed Snow Rim	Pure Gold	D.S.Nobes	1
3	MecE_265_Nut	ACME HTNUT 0.500-20-D-N	Brass	Wyle E. Coyote	5
4	MecE_265_Tire	Snow Plow Car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

D

D



SECTION A-A



Assignment Solution

MecE 265	UNLESS OTHERWISE SPECIFIED:
Instructor: Dr DS Nobes	DRAWN BY:
Fall 2021	David S. Nobes
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 μm
FILE NAME: MecE265_Car_Hub_Rim_Tire	DO NOT SCALE DRAWING

The Department of Mechanical Engineering
UNIVERSITY OF ALBERTA

TITLE:

Hub, Rim, Tire
Assembly

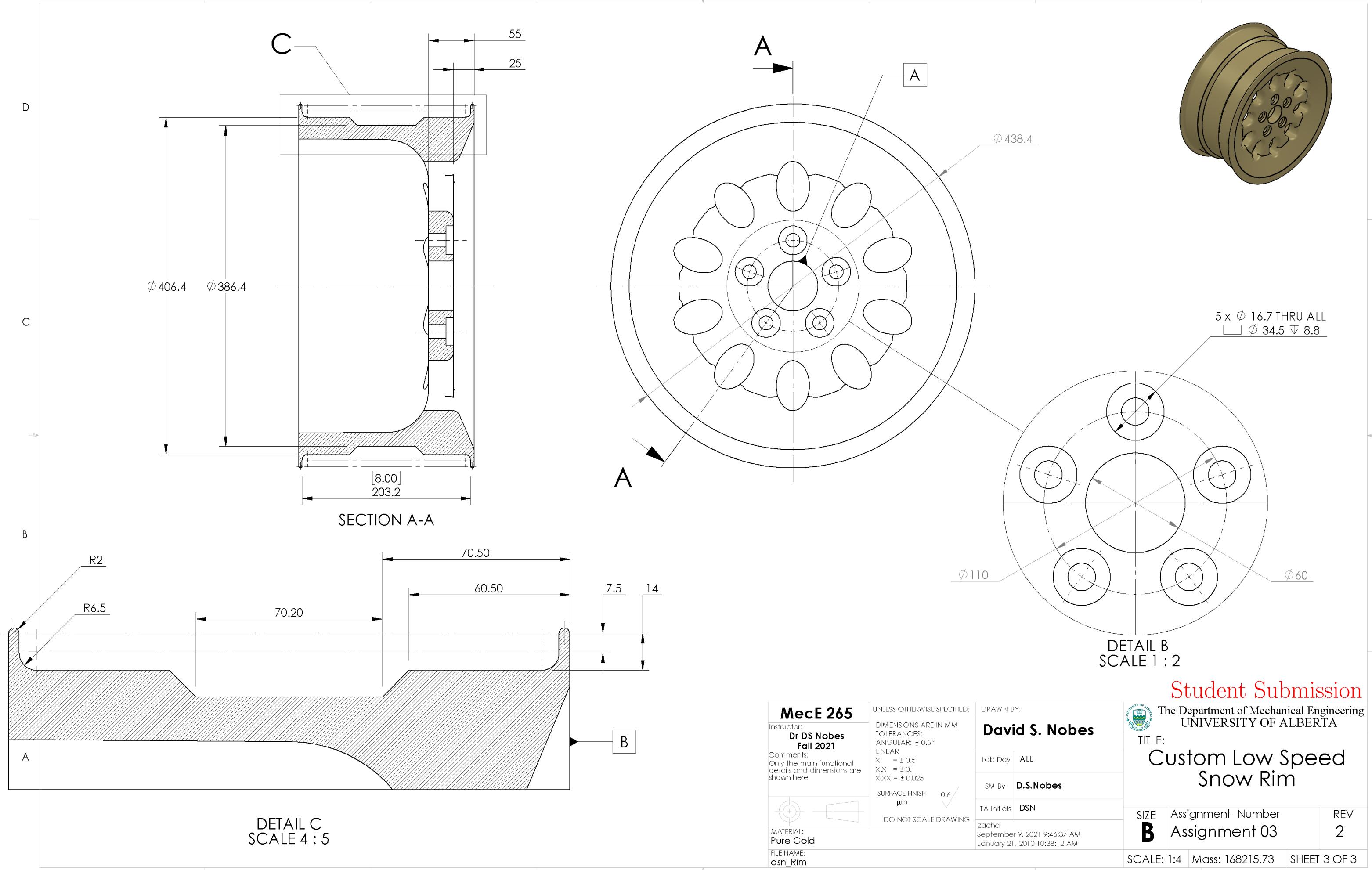
SIZE	Assignment Number	REV
B	Assignment 03	2

SCALE: 1:4 Mass: 175308.62 SHEET 2 OF 3

8 7 6 5 4 3 2 1

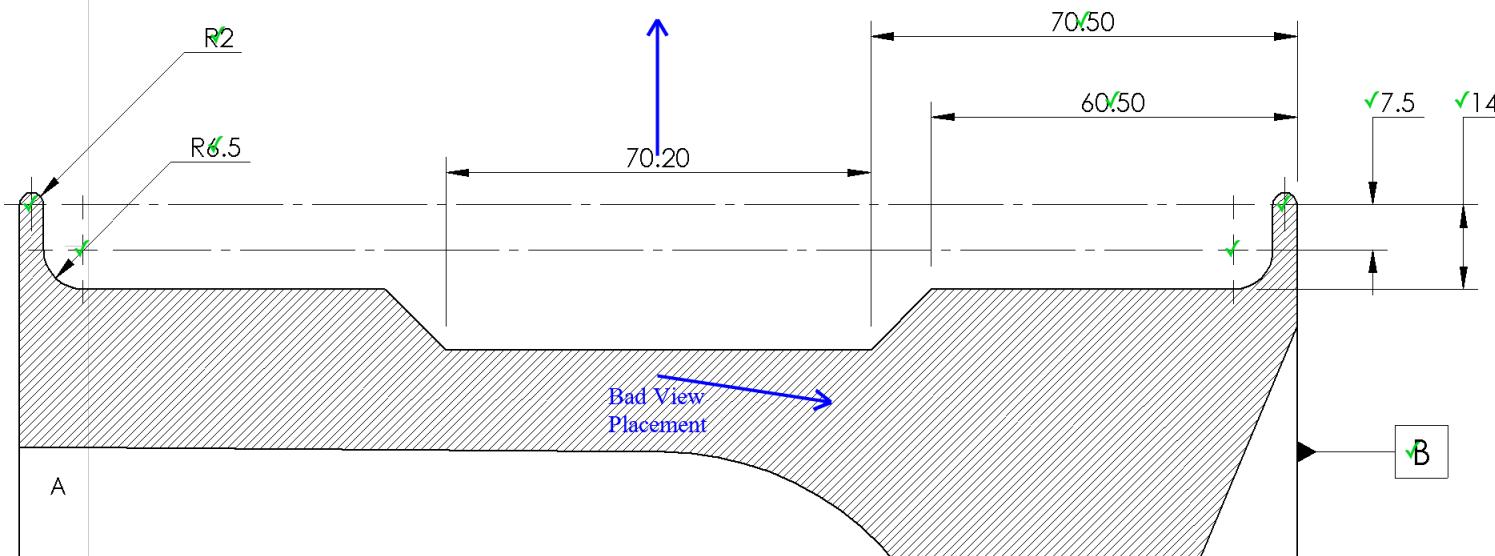
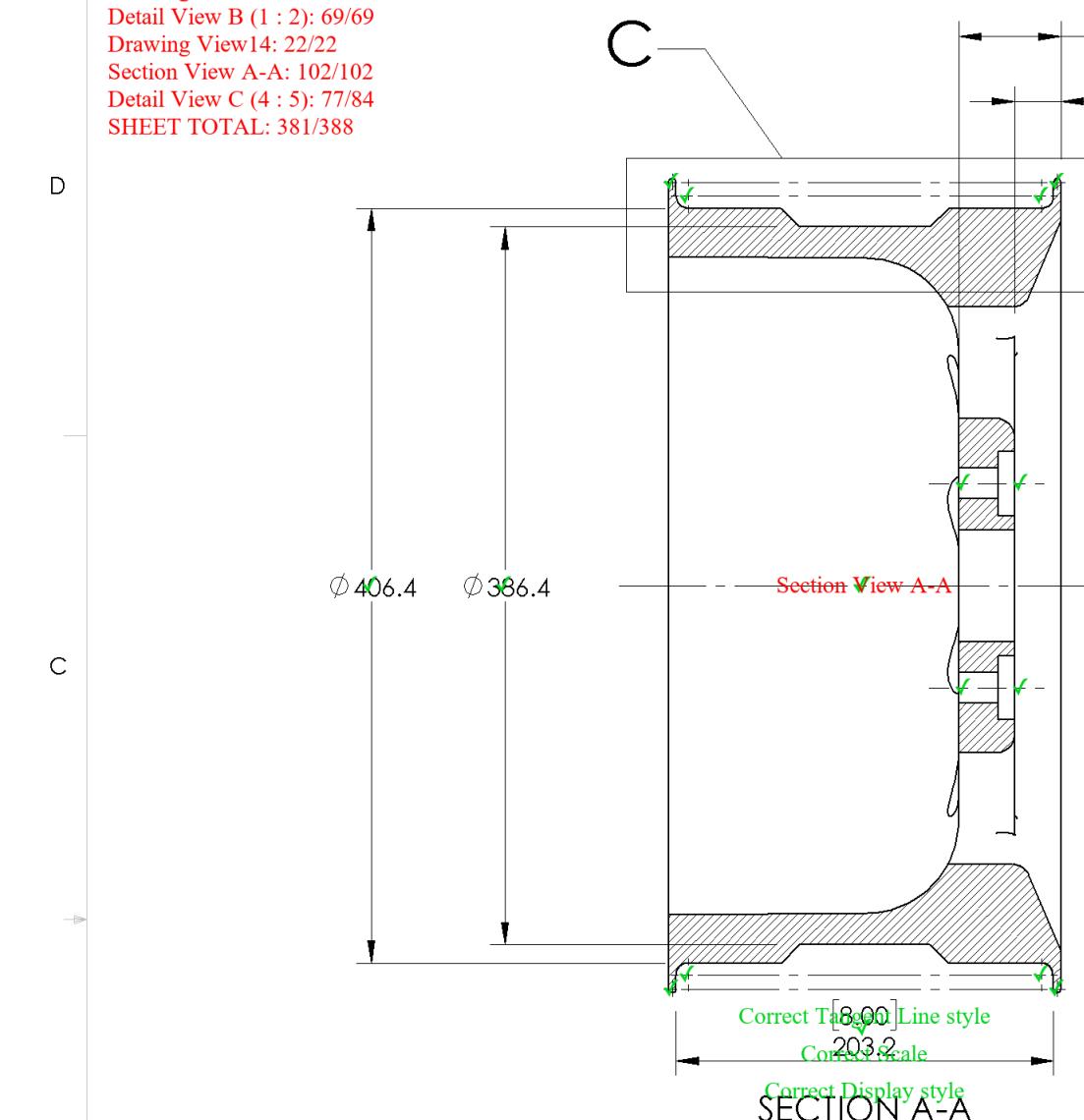
A

8 7 6 5 4 3 2 1

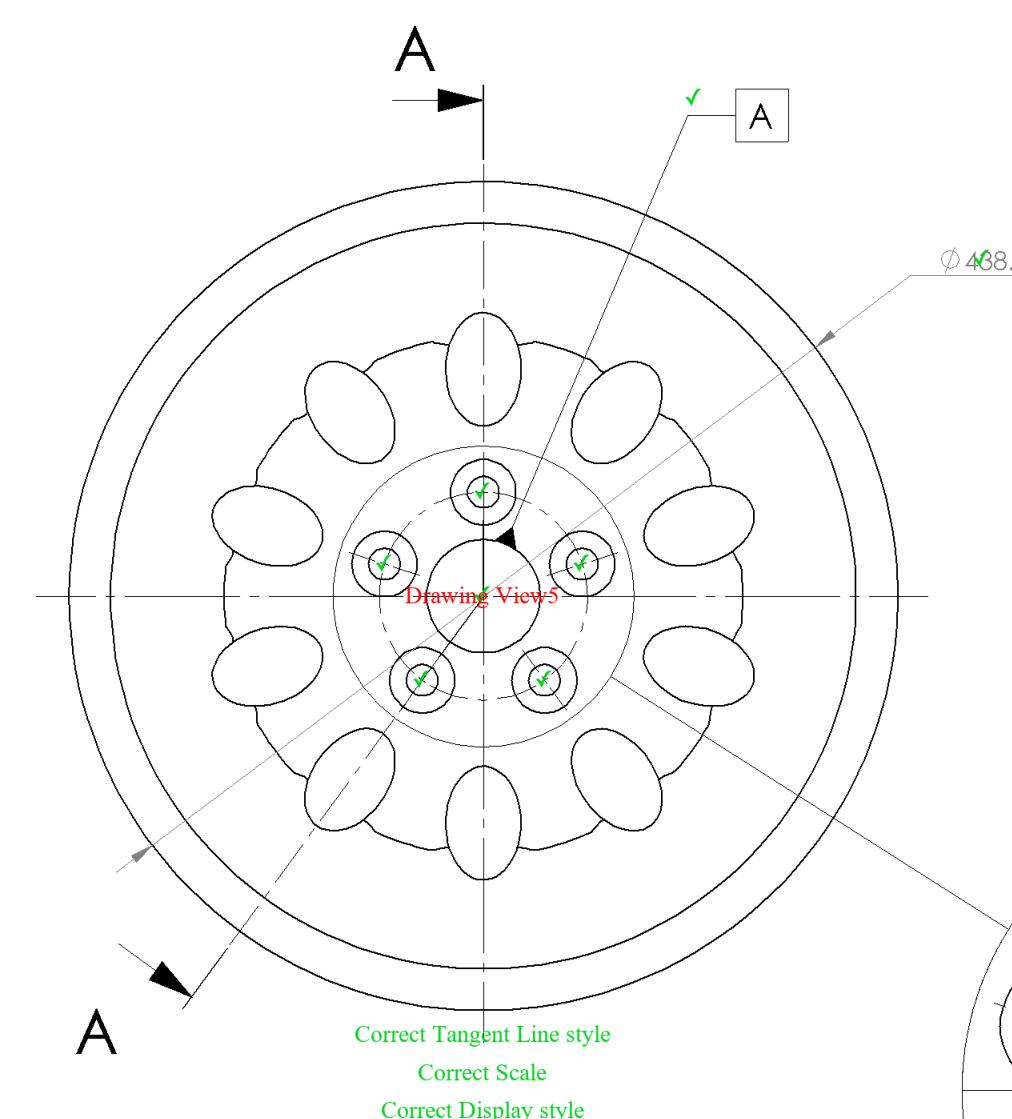


8 7 6 5 4 3 2 1

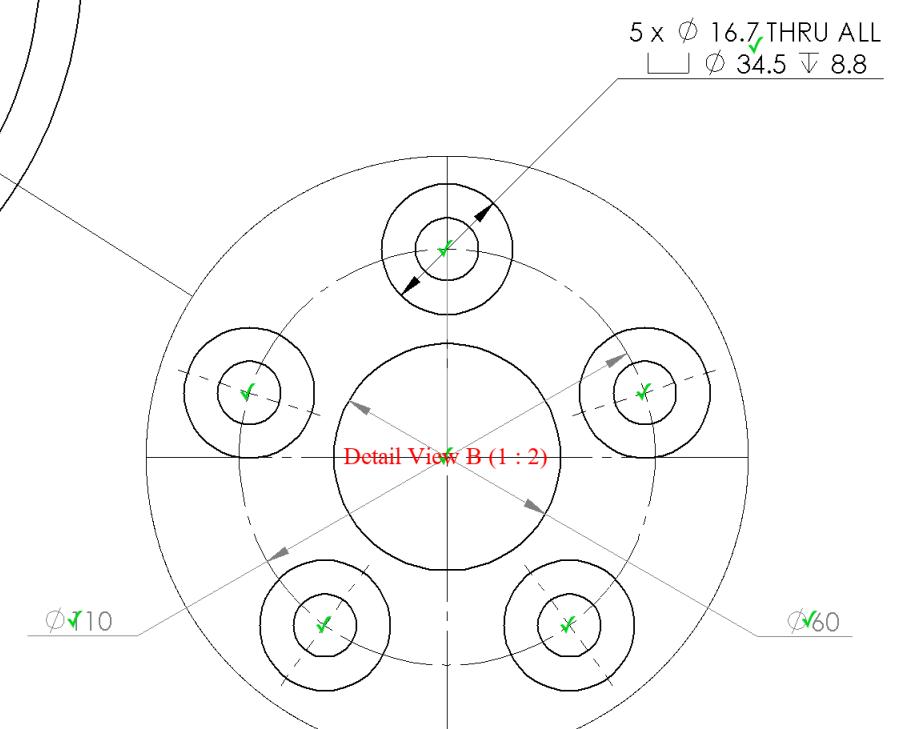
Drawing View5: 62/62
Detail View B (1 : 2): 69/69
Drawing View14: 22/22
Section View A-A: 102/102
Detail View C (4 : 5): 77/84
SHEET TOTAL: 381/388



DETAIL C
SCALE 4 : 5
Correct Display style



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

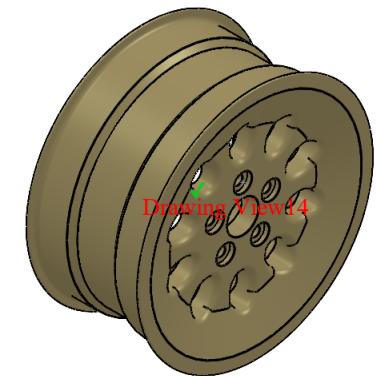
MecE 265	UNLESS OTHERWISE SPECIFIED:
Instructor: Dr DS Nobes Fall 2021	DRAWN BY:
Comments: Only the main functional details and dimensions are shown here	David S. Nobes
DIMENSIONS ARE IN MM	
TOLERANCES:	
ANGULAR: $\pm 0.5^\circ$	
LINEAR	
X = ± 0.5	
X.X = ± 0.1	
XXX = ± 0.025	
SURFACE FINISH	
0.6	μm
DO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

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

5 x $\phi 16.7$ THRU ALL
 $\phi 34.5 \downarrow 8.8$

D

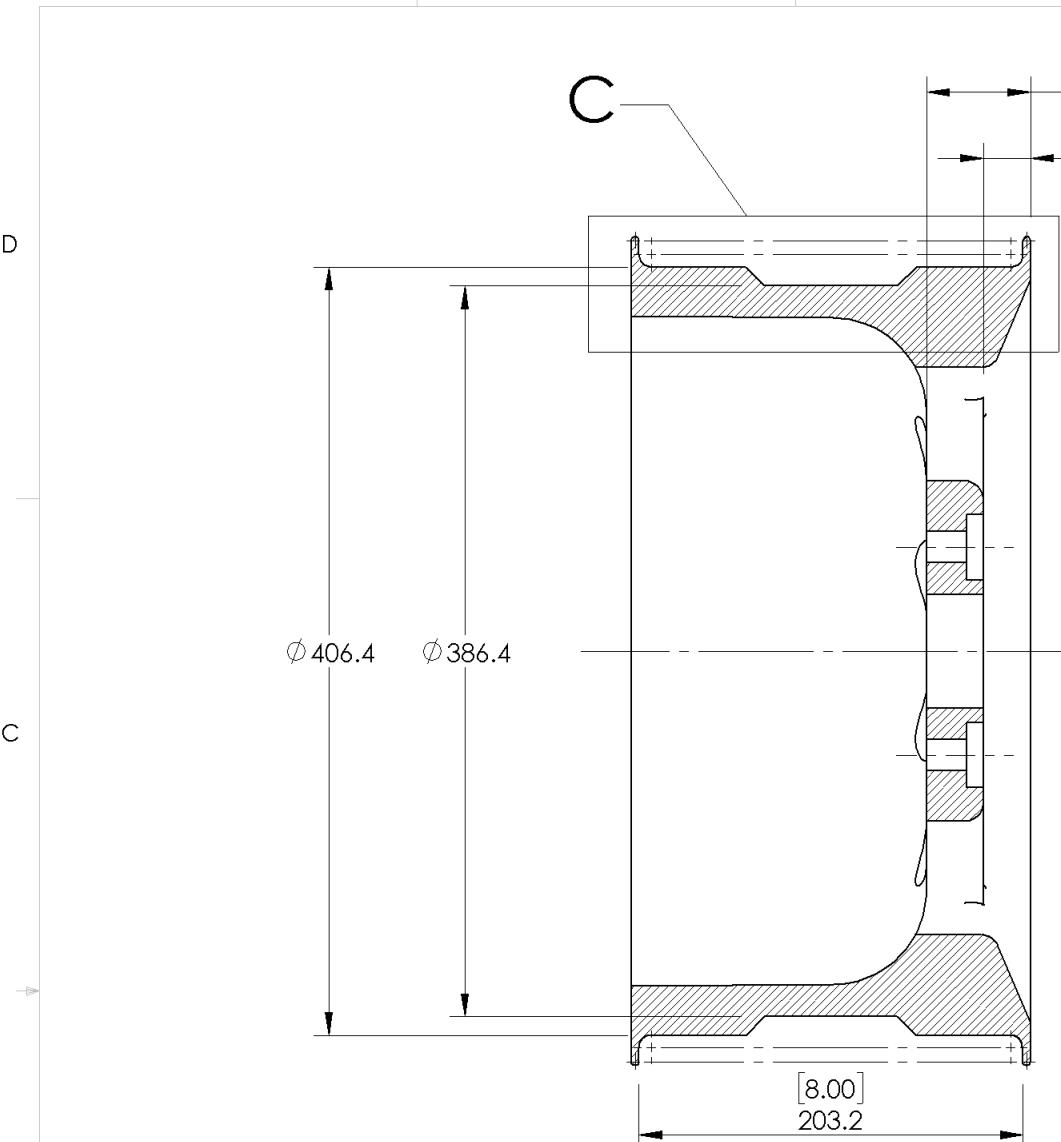
C

B

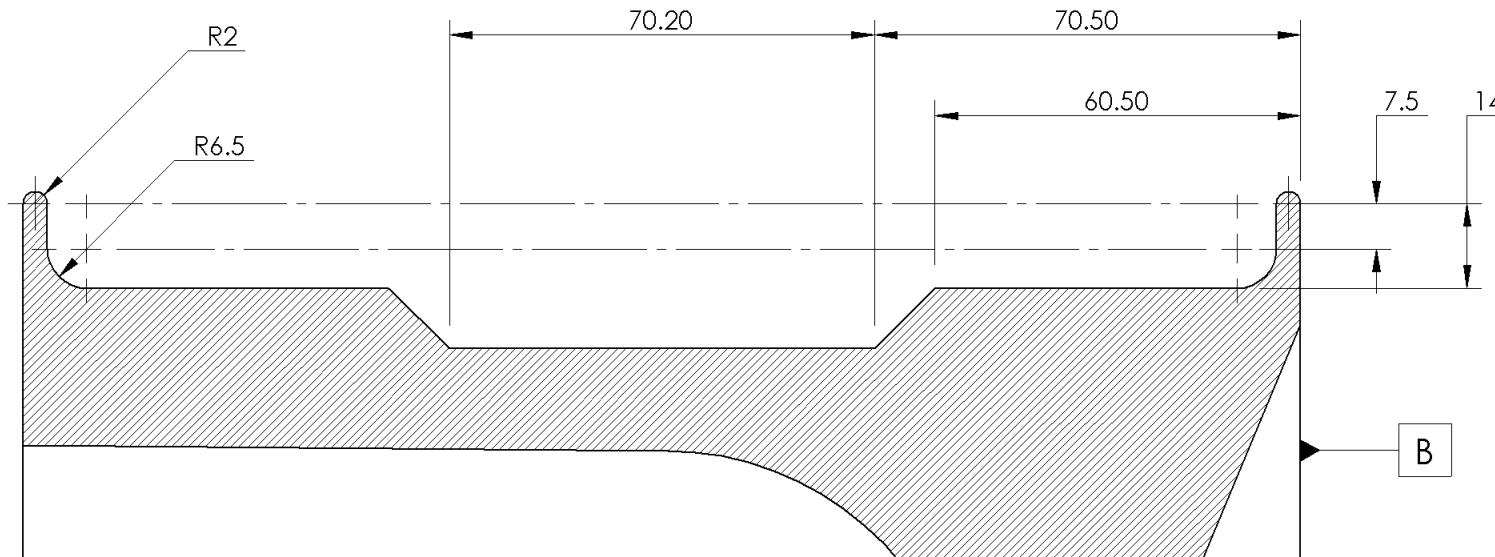
A

1

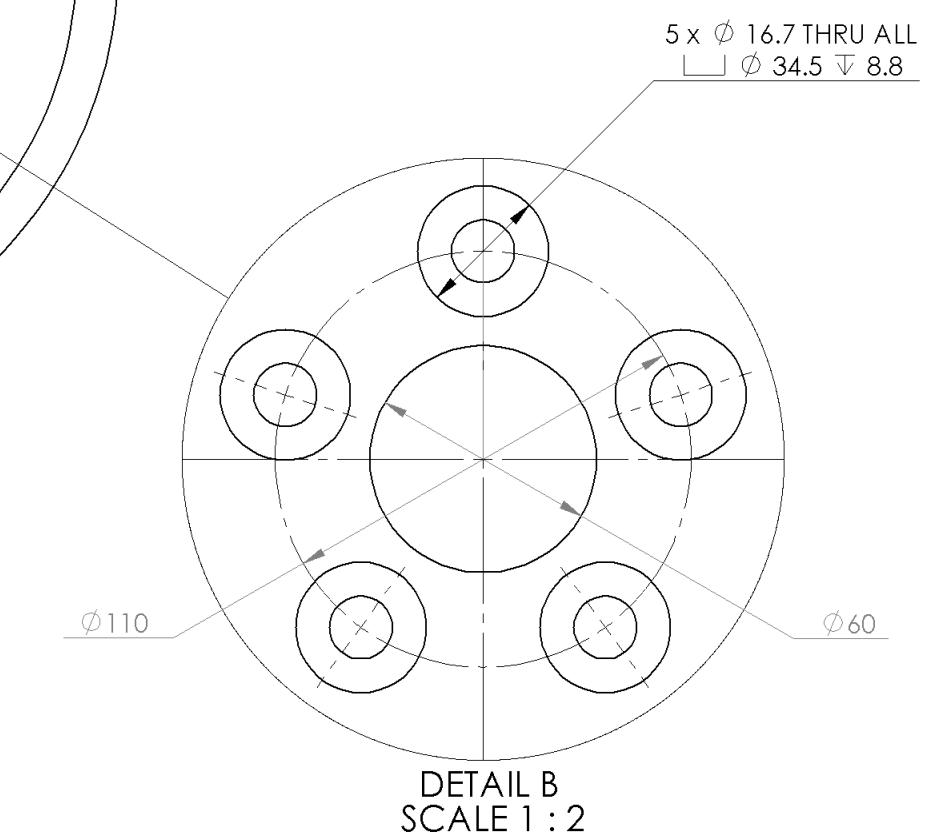
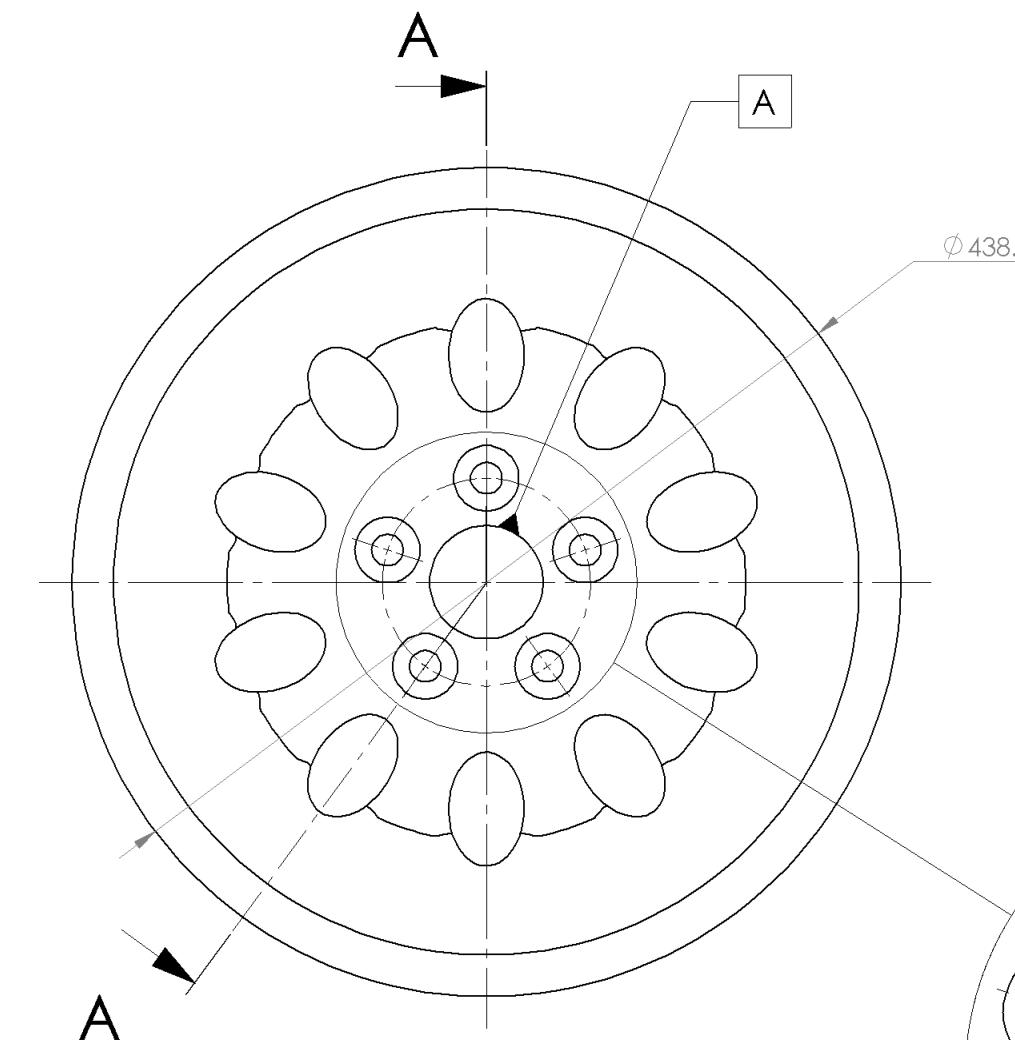
8 7 6 5 4 3 2 1



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

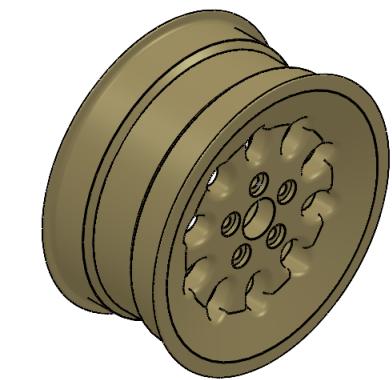
DRAWN BY: David S. Nobes
Lab Day ALL
SM By D.S.Nobes
TA Initials DSN
zacha September 9, 2021 9:46:37 AM
January 21, 2010 10:38:12 AM

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

1