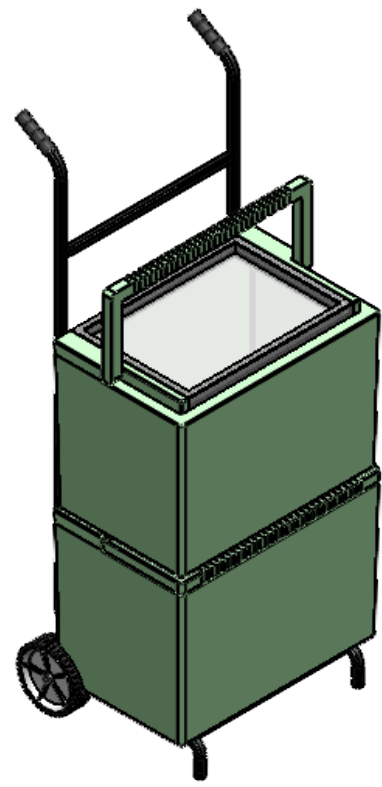
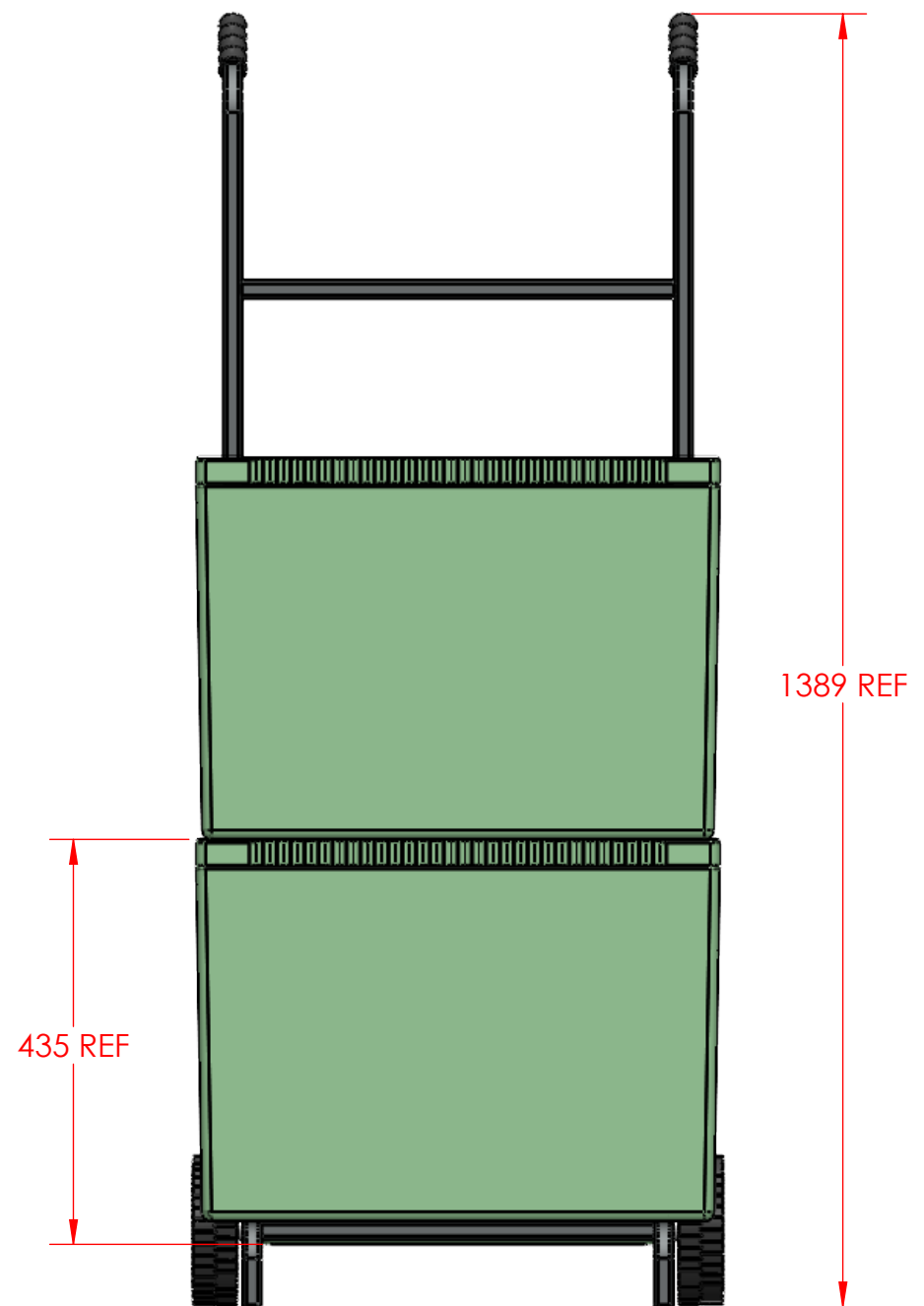
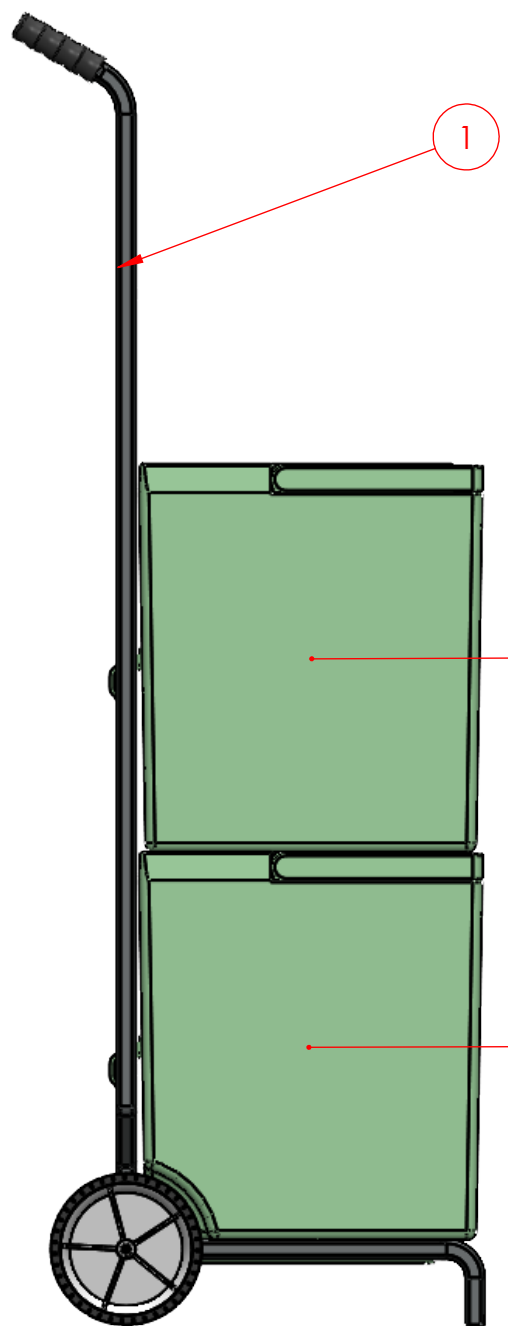
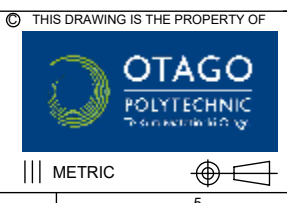


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TR101	TROLLEY	1
2	BX101	BOX	1
3	BX101	BOX	1



DO NOT SCALE
IF IN DOUBT ASK
TOLERANCE GUIDE:
MACHINED FEATURES
2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5



TOOLBOX, PORTABLE

PROJECT: ASSIGNMENT 3
SCALE@A3 1:20

MATERIAL: As Per Parts
SURFACE FINISH: As Per Parts

DATE: 14/06/21
DRAWN: JB

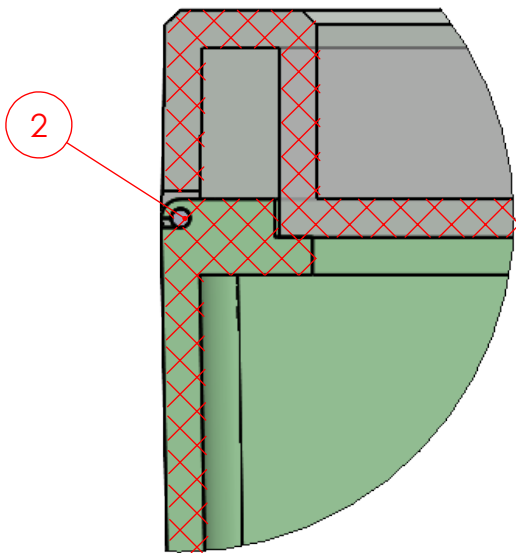
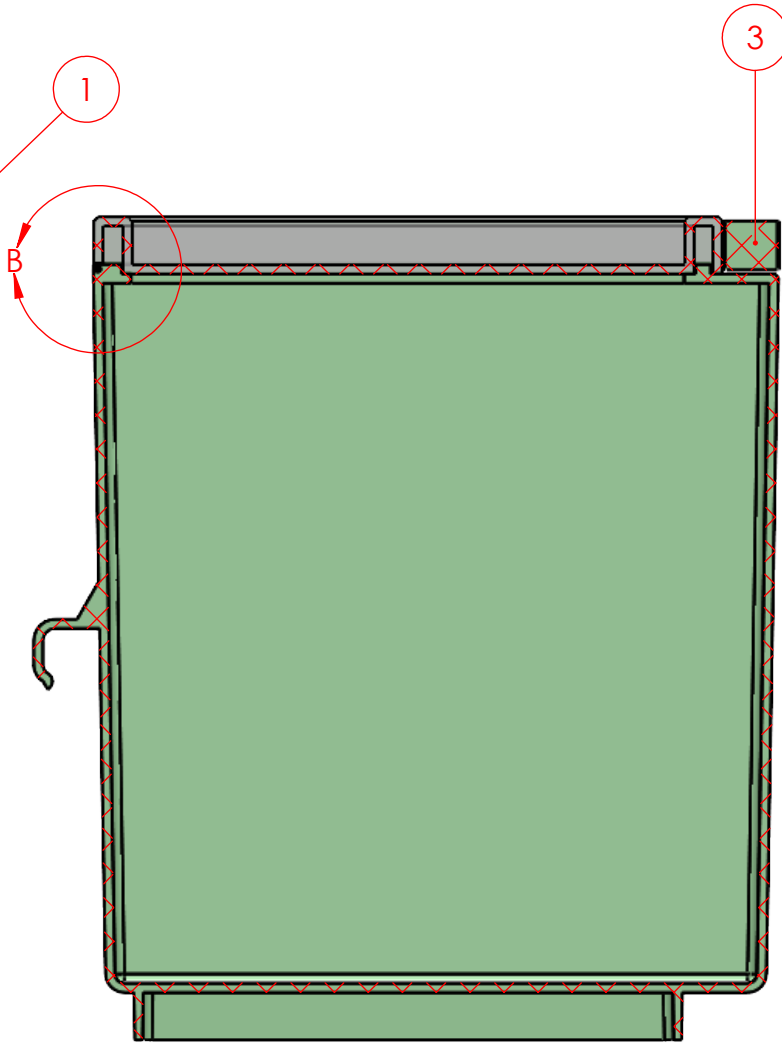
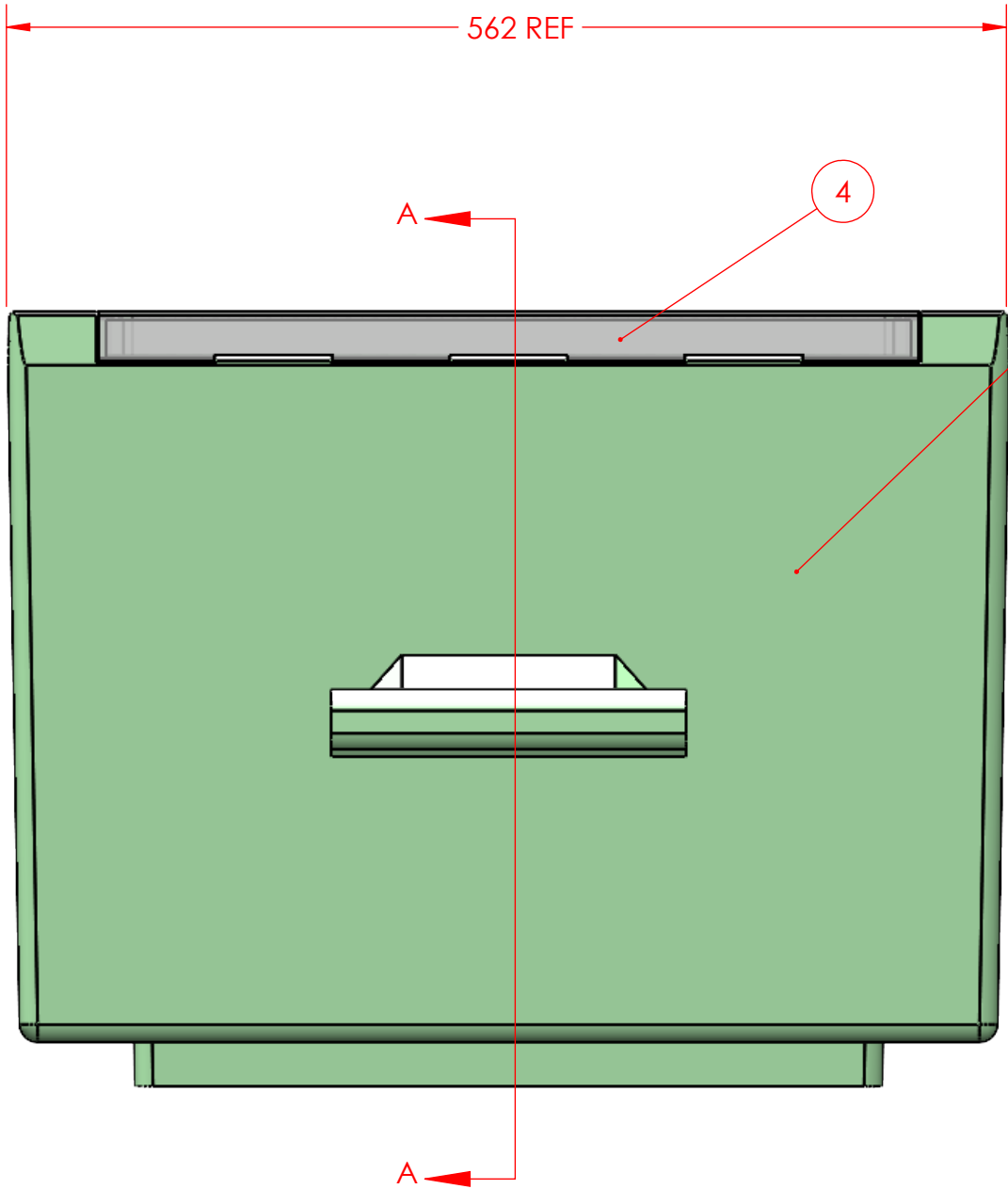
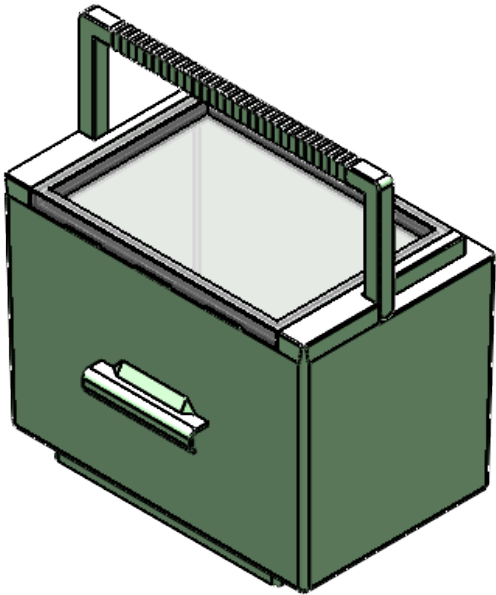
REV: **A**

SHEET
1 of 5

DRG No. **MT101**

ITEM NO.	PART NUMBER	DESCRIPTION	Material	QTY.
1	BX04	BOX, STANDARD	PBT General Purpose	1
2	BX03	PIN	1060 Alloy	1
3	BX06	HANDLE	PBT General Purpose	1
4	BX02	LID	PBT General Purpose	1

NOTE:
This was designed to be fabricated by a rotational moulding process with a typical wall thickness of 5mm.



DETAIL B
SCALE 1 : 1

SECTION A-A

DO NOT SCALE
IF IN DOUBT ASK
TOLERANCE GUIDE:
MACHINED FEATURES
2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5



BOX

PROJECT: TOOLBOX
SCALE@A3 1:10

MATERIAL: As Per Parts
SURFACE FINISH: As Per Parts

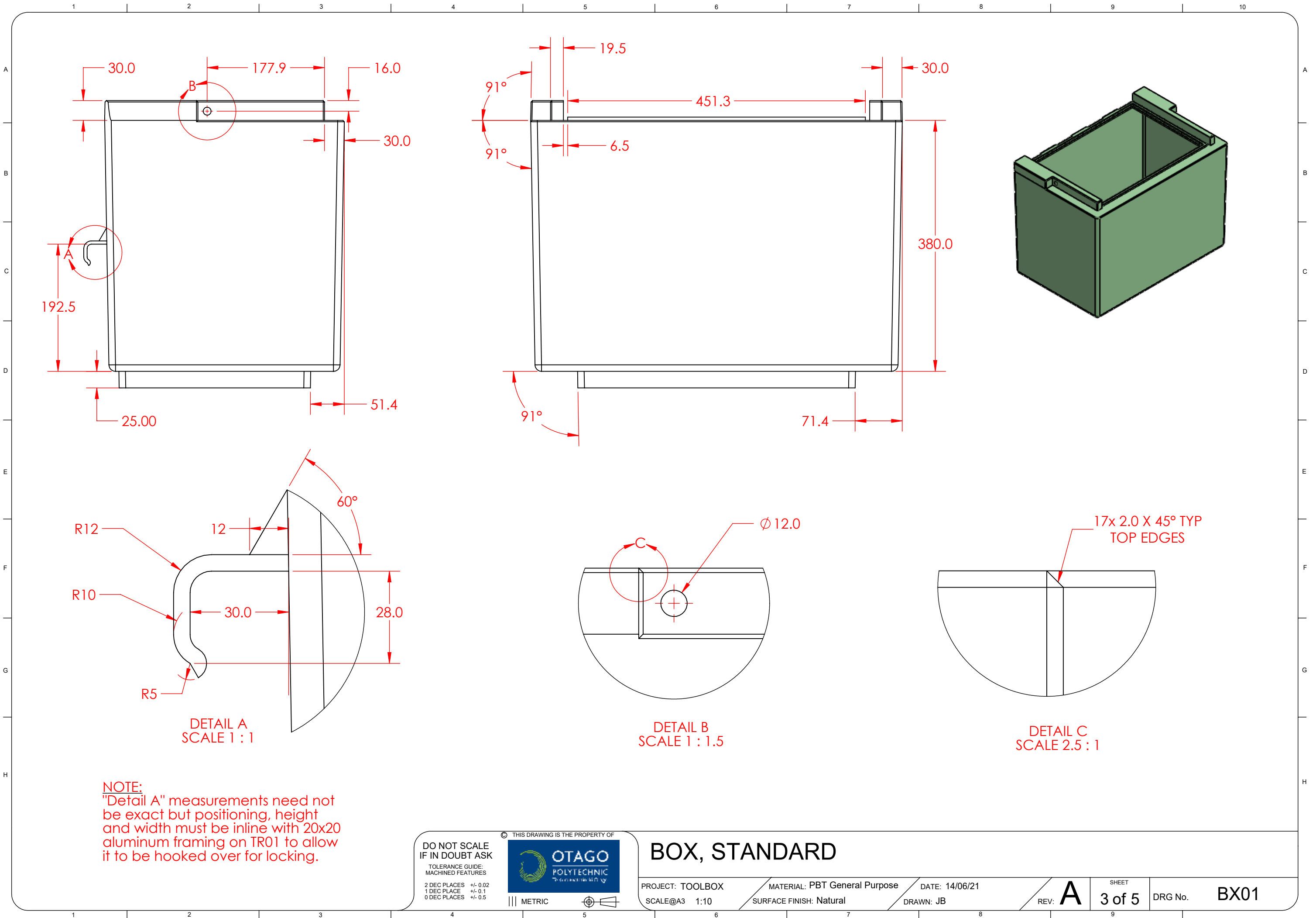
DATE: 14/06/21
DRAWN: JB

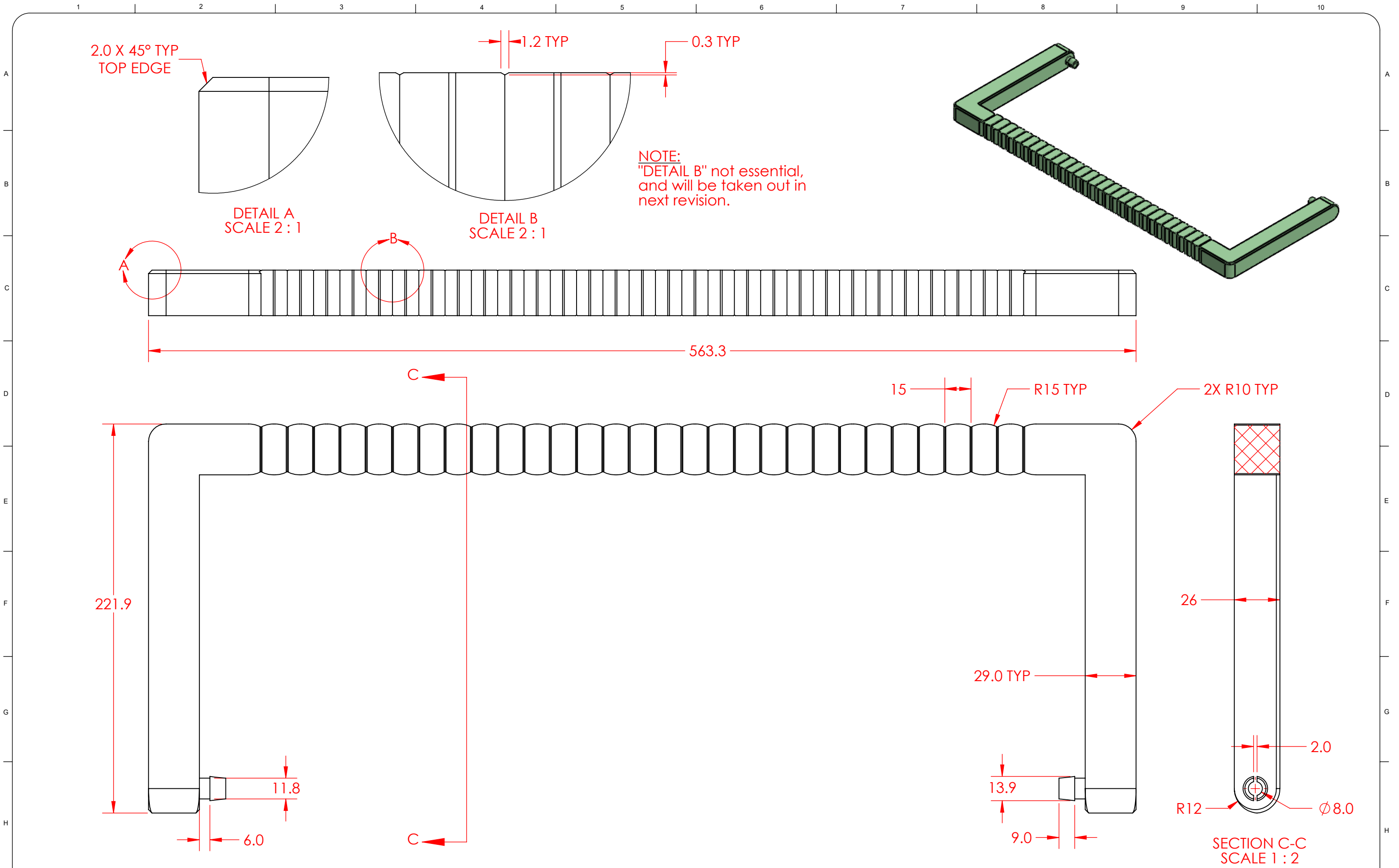
REV: **A**

SHEET
2 of 5

DRG No.

BX101





DO NOT SCALE
IF IN DOUBT ASK

TOLERANCE GUIDE:
MACHINED FEATURES

2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5

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METRIC



HANDLE

PROJECT: TOOLBOX

SCALE@A3 1:5

MATERIAL: PBT General Purpose

SURFACE FINISH: Natural

DATE: 14/06/21

DRAWN: JB

REV: **A**

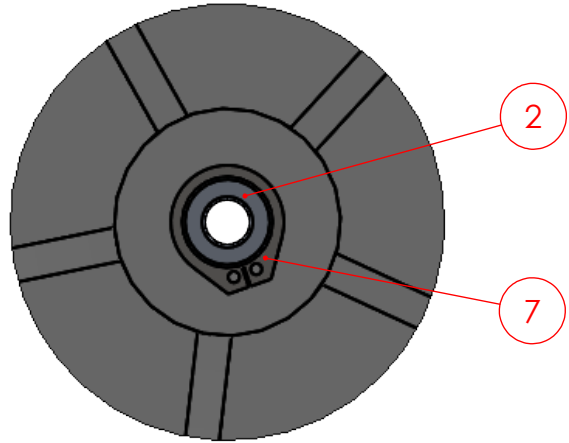
SHEET

5 of 5

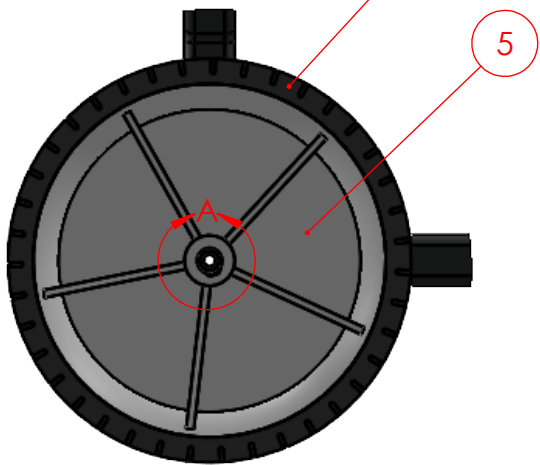
DRG No.

BX06

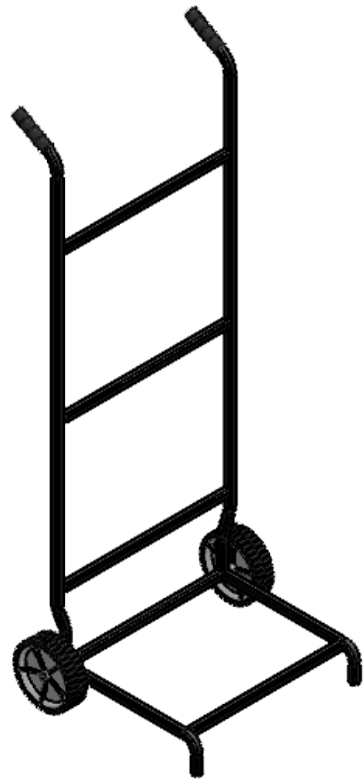
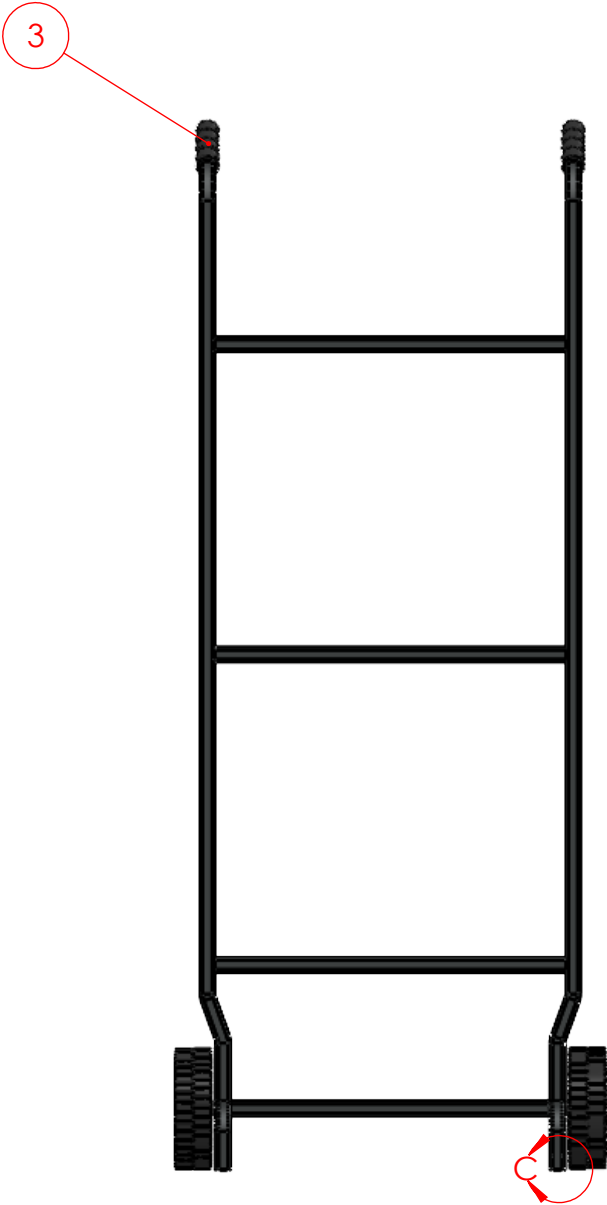
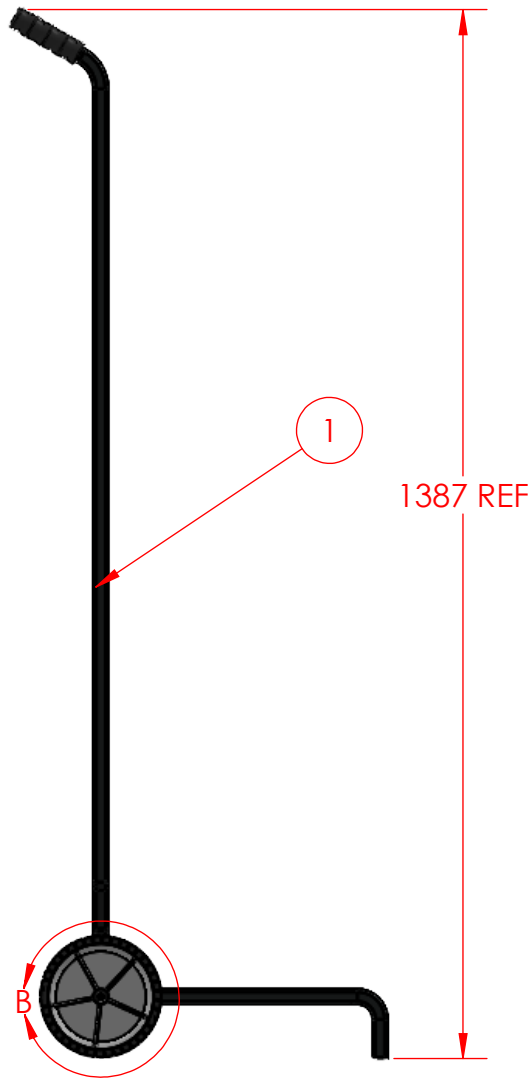
ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	FINISH	QTY.
1	TR01	FRAME	1060 Alloy	Natural	1
2	TR05	AXLE	1060 Alloy	Natural	1
3	TR02	HANDLE	Rubber	Natural	2
4	TR03	FOOTING	Rubber	Natural	2
5	WH01	RIM	PBT General Purpose	Natural	2
6	WH02	TYRE	Rubber	Natural	2
7	TR04	RING, RETAINING	Cast Alloy Steel	Natural	2



DETAIL A
SCALE 1.5 : 1



DETAIL B
SCALE 1 : 3



DETAIL C
SCALE 1 : 1

DO NOT SCALE
IF IN DOUBT ASK
TOLERANCE GUIDE:
MACHINED FEATURES
2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5



TROLLEY

PROJECT: TOOLBOX, PORTABLE
SCALE@A3 1:20

MATERIAL: As Per Parts
SURFACE FINISH: As Per Parts

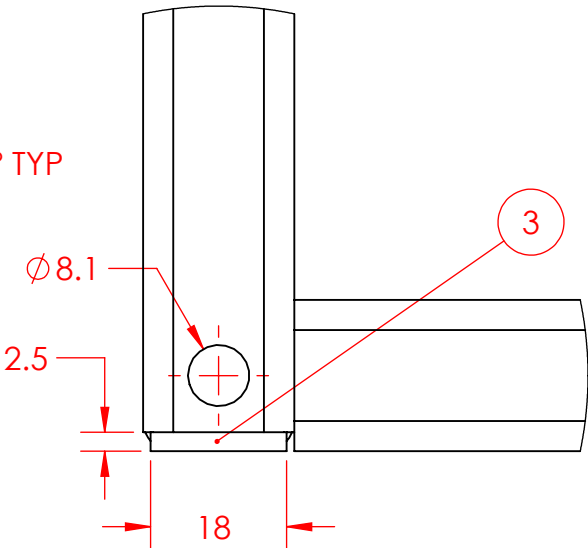
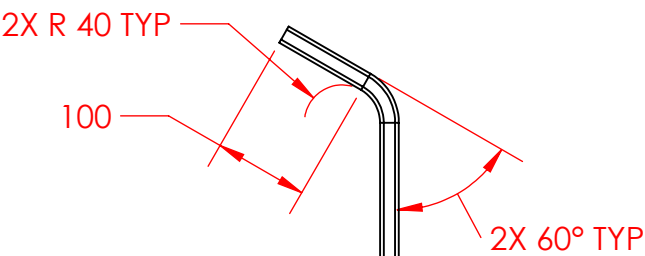
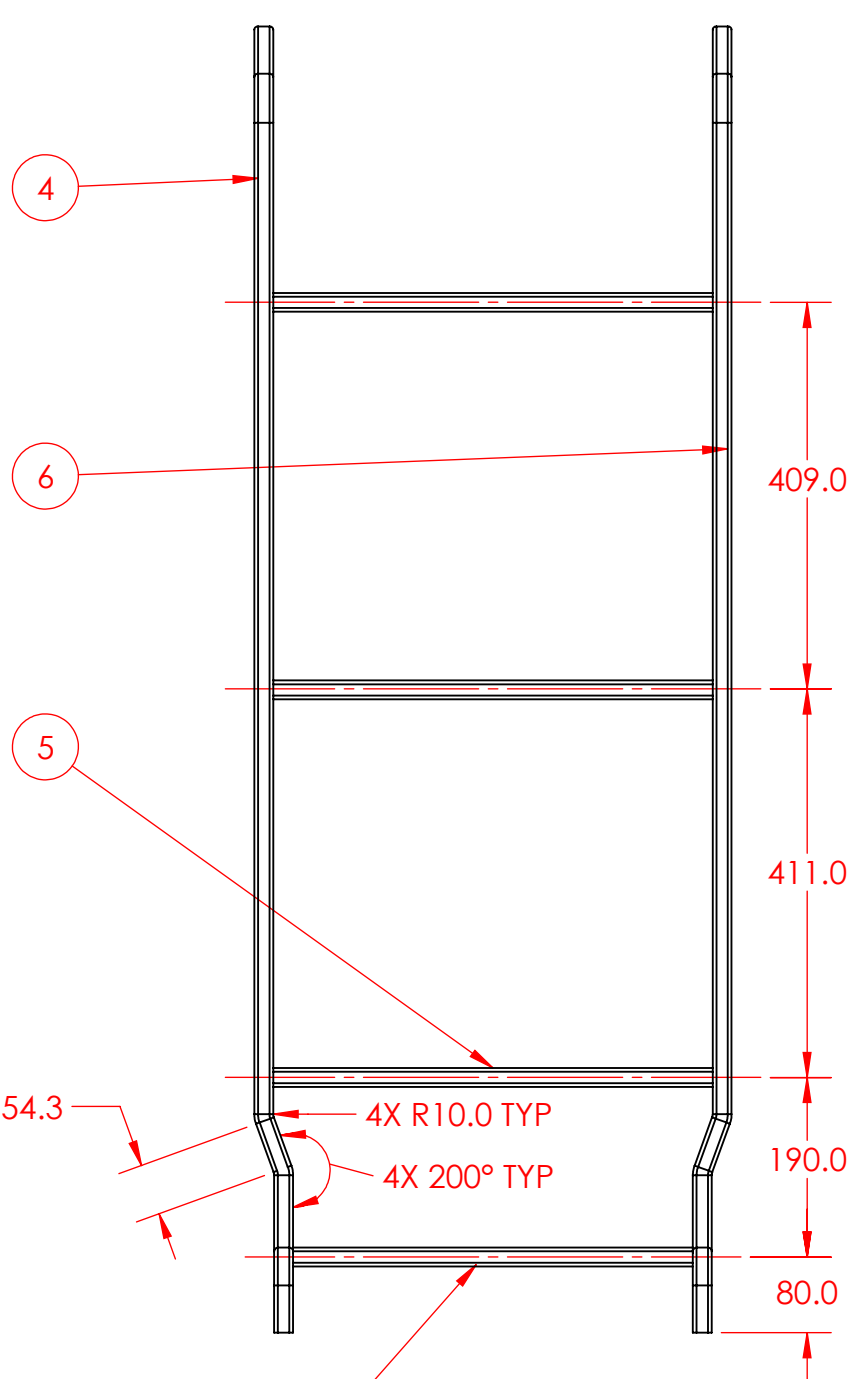
DATE: 15/06/21
DRAWN: JB

REV: **A**

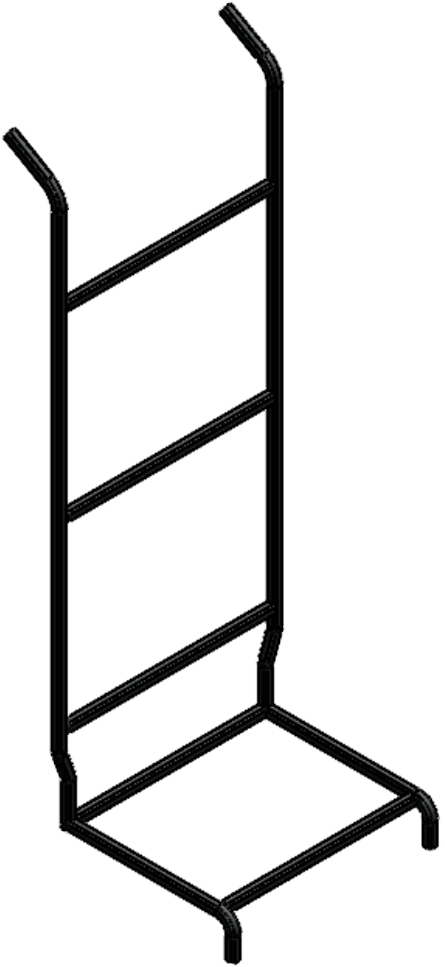
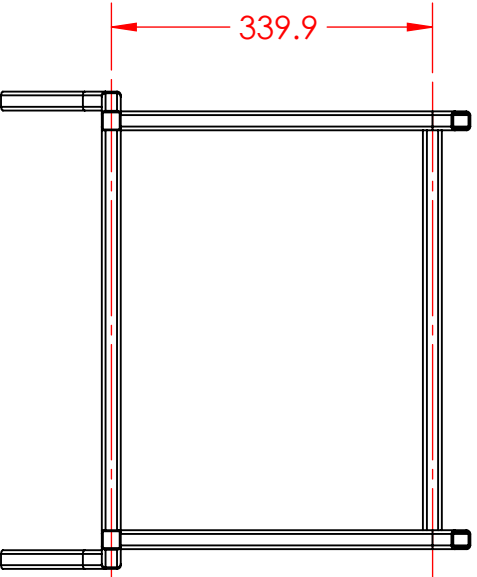
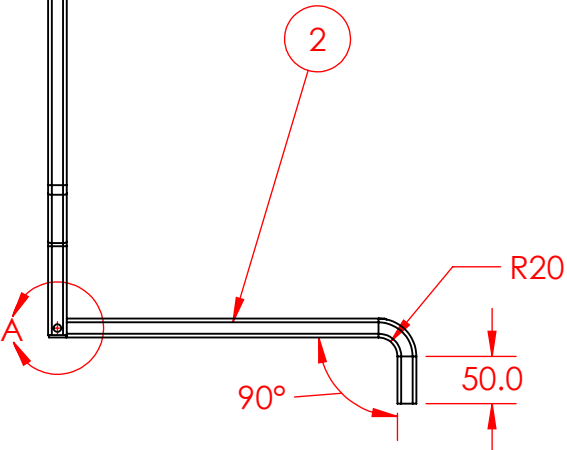
SHEET
1 of 3

DRG No. **TR101**

ITEM NO.	QTY.	DESCRIPTION	LENGTH
1	2	TUBE, SQUARE 20.00 X 20.00 X 2.00	423.05
2	2	TUBE, SQUARE 20.00 X 20.00 X 2.00	427.02
3	2	TUBE, SQUARE 20.00 X 20.00 X 2.00	
4	1	TUBE, SQUARE 20.00 X 20.00 X 2.00	1372.31
5	3	TUBE, SQUARE 20.00 X 20.00 X 2.00	465.05
6	1	TUBE, SQUARE 20.00 X 20.00 X 2.00	1363.42



BUTT EDGE
DETAIL A
SCALE 1 : 1



DO NOT SCALE
IF IN DOUBT ASK
TOLERANCE GUIDE:
MACHINED FEATURES
2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5



FRAME

PROJECT: TROLLEY
SCALE@A3 1:20

MATERIAL: 1060 Alloy
SURFACE FINISH: Natural

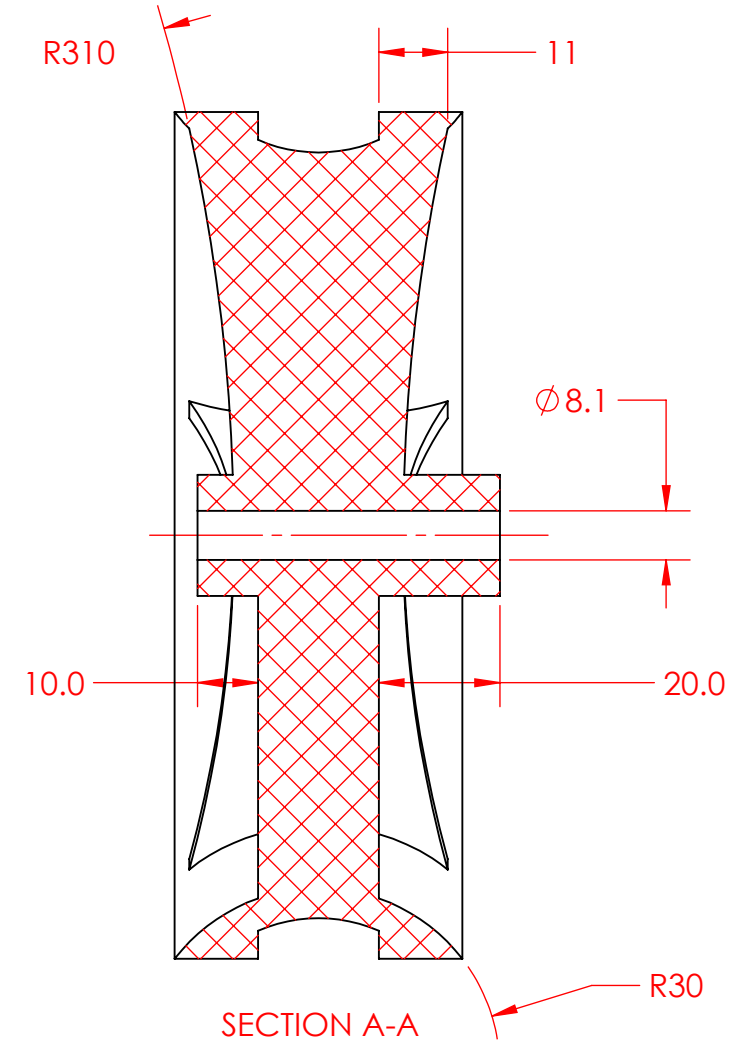
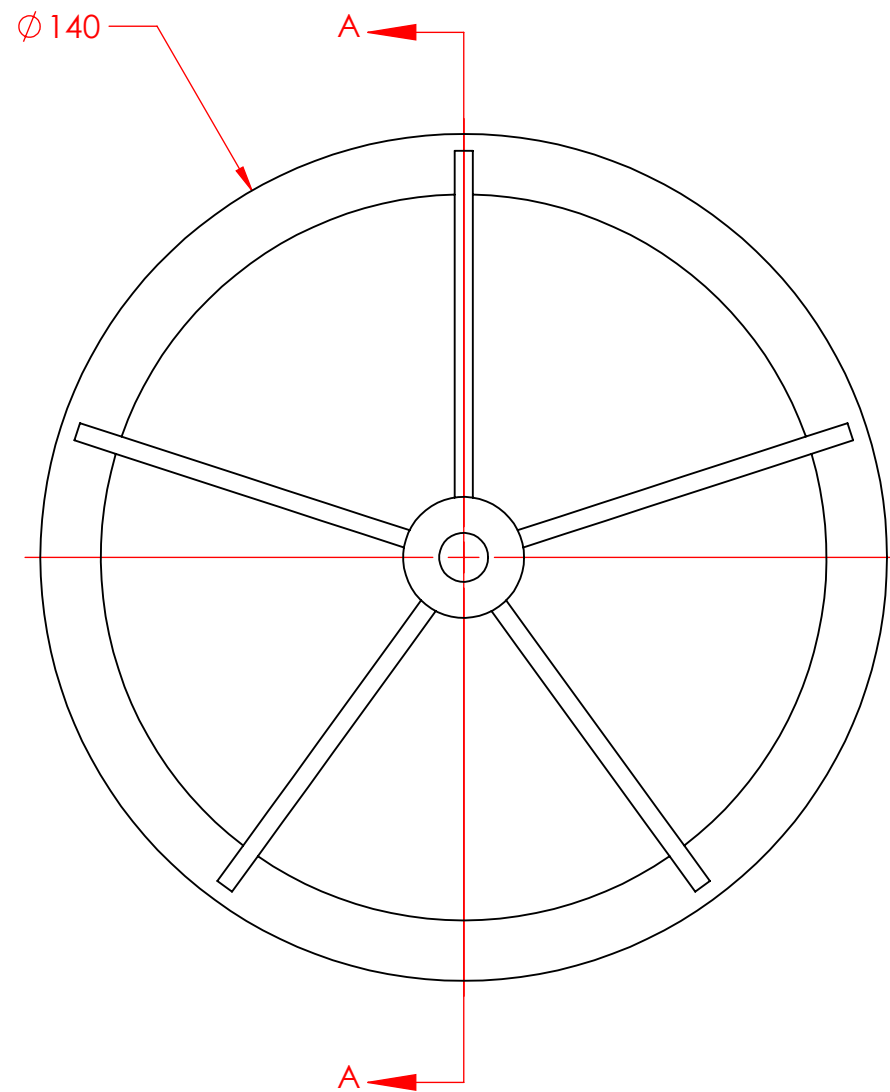
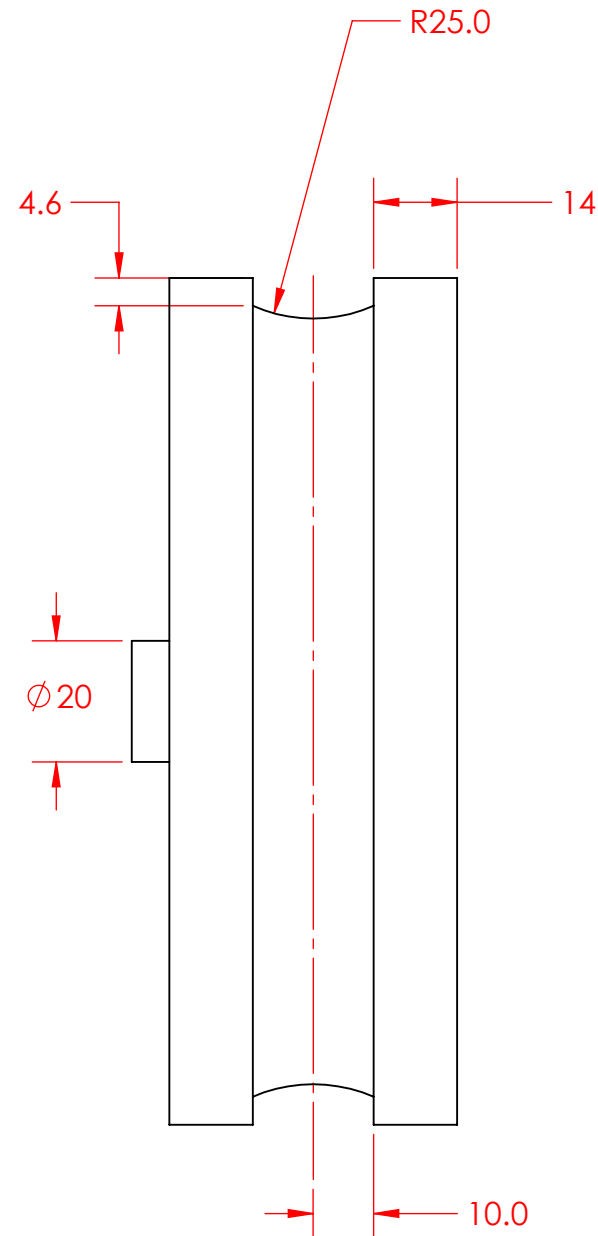
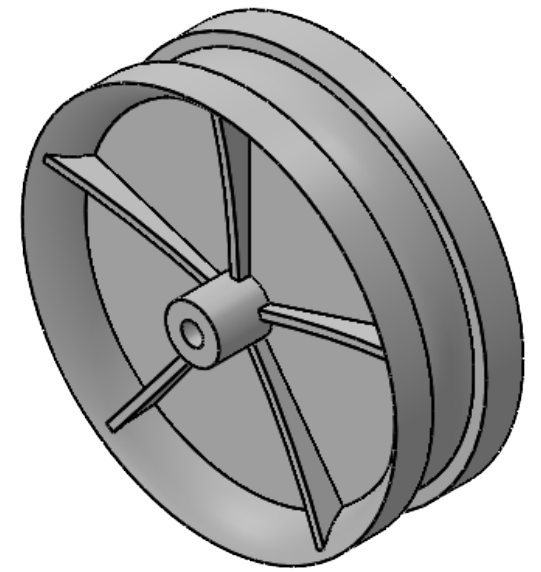
DATE: 15/06/21
DRAWN: JB

REV: **A**

SHEET
2 of 3

DRG No. TR01

NOTE:
Wheels are a press fit onto
shaft of which also has a lock
ring as a backup.



DO NOT SCALE
IF IN DOUBT ASK
TOLERANCE GUIDE:
MACHINED FEATURES
2 DEC PLACES ± 0.02
1 DEC PLACE ± 0.1
0 DEC PLACES ± 0.5



RIM

PROJECT: WHEEL
SCALE@A3 1:2

MATERIAL: PBT General Purpose
SURFACE FINISH: Natural

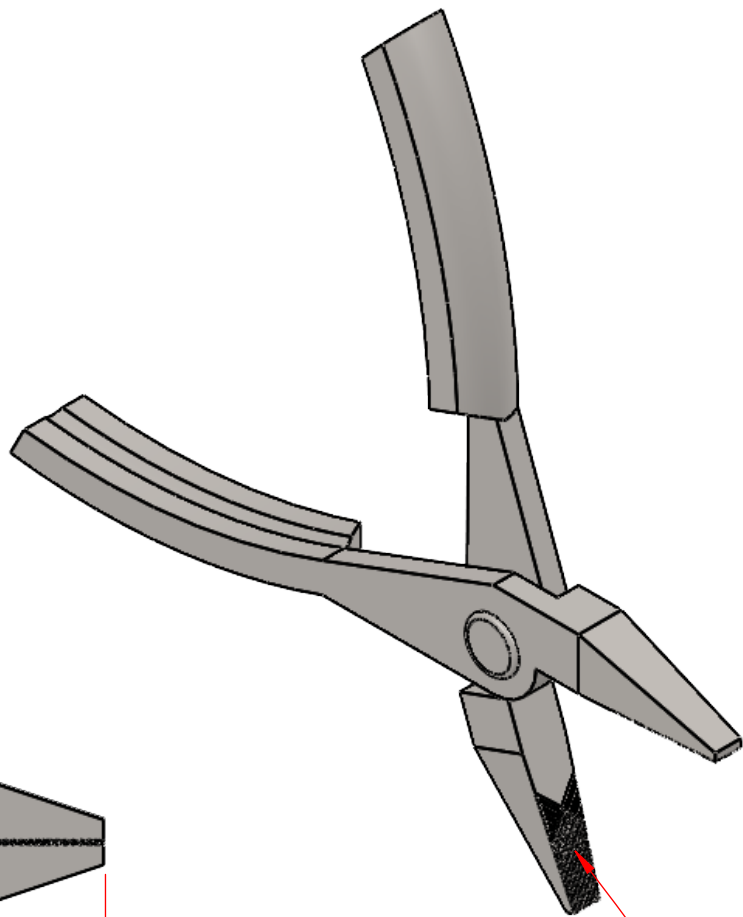
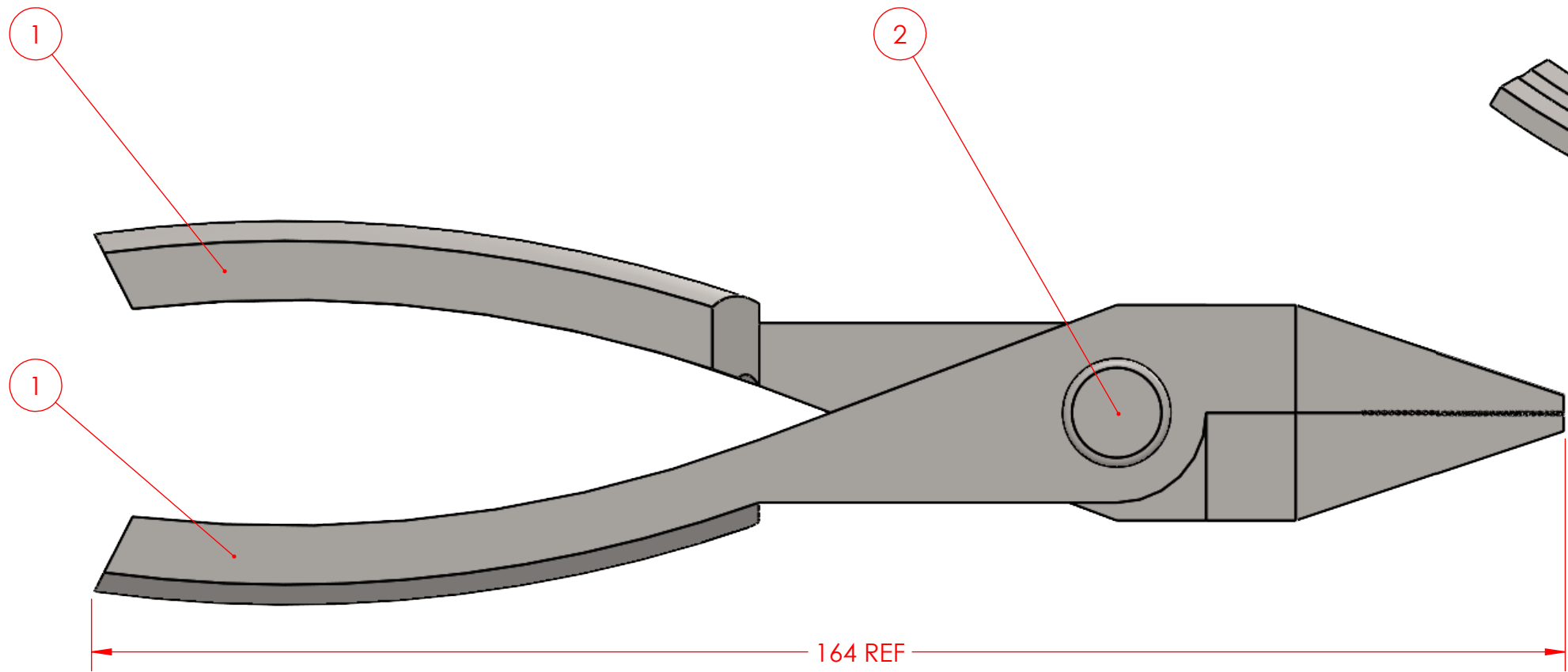
DATE: 15/06/21
DRAWN: JB

REV: **A**

SHEET
3 of 3

DRG No. **WH01**

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	FINISH	QTY.
1	PL01	BODY	Plain Carbon Steel	Natural	2
2	PL02	PIN	Plain Carbon Steel	Natural	1



MODIFICATIONS:
I changed the original design of the cuts made in the mouth of the pliers from small horizontal grooves to a cross hatch pattern, so that it had a better grip.

DO NOT SCALE
IF IN DOUBT ASK

TOLERANCE GUIDE:
MACHINED FEATURES

2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5

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PLIERS

PROJECT: TRAY, TOOL

SCALE@A3 1:2

MATERIAL: As Per Part

SURFACE FINISH: As Per Part

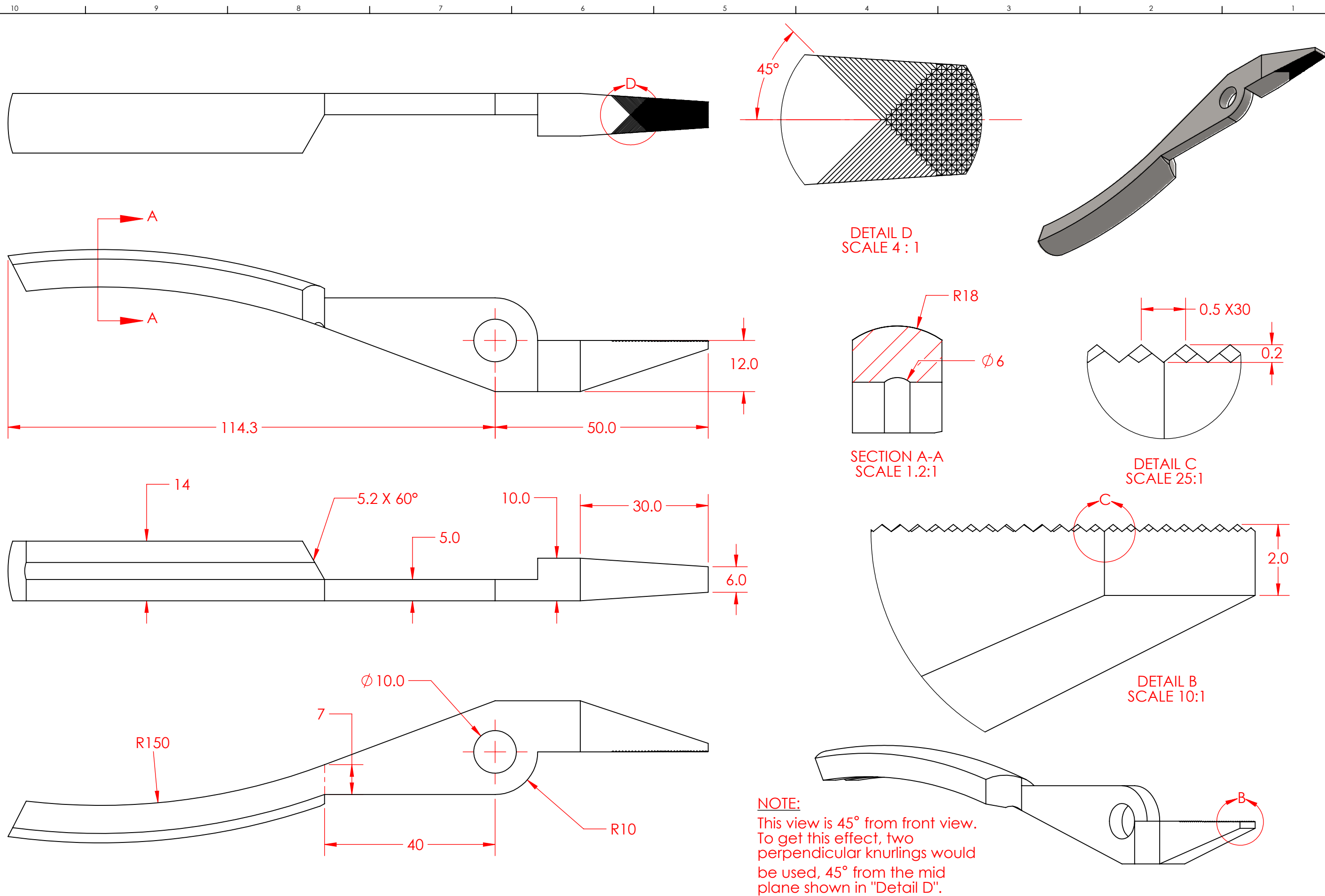
DATE: 25/01/2021

DRAWN: JB

REV: **A**

SHEET
1 of 3

DRG No. **PL101**



DO NOT SCALE IF IN DOUBT ASK
TOLERANCE GUIDE:
MACHINED FEATURES
2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5

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OTAGO POLYTECHNIC
Tairāia Mātauranga o Ōtago

METRIC

BODY

PROJECT: PLIERS
SCALE@A3 1:2

MATERIAL: Plain Carbon Steel
SURFACE FINISH: Natural

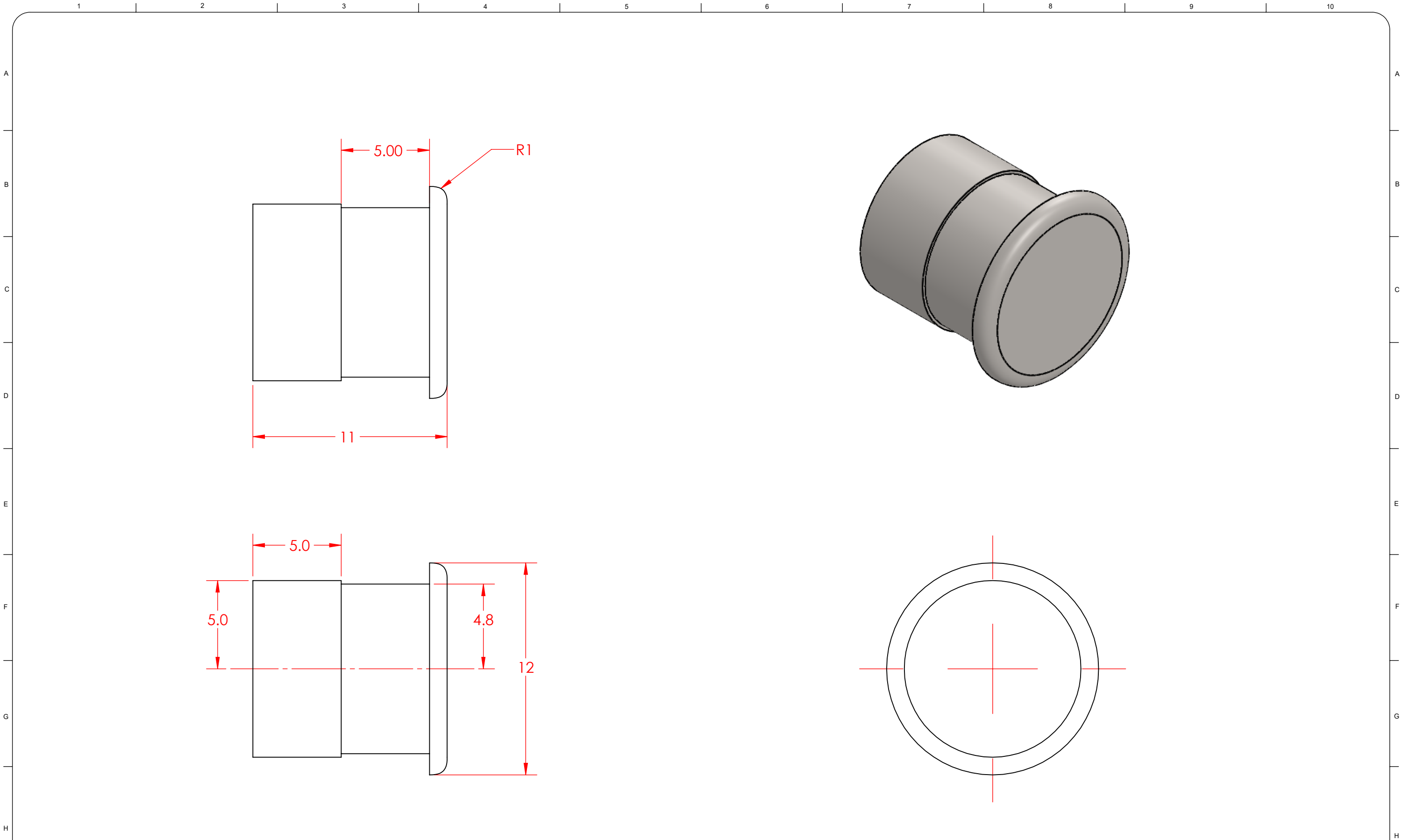
DATE: 25/01/2021
DRAWN: JB

REV: **A**

SHEET
2 of 3

DRG No.

PL01



DO NOT SCALE
IF IN DOUBT ASK

TOLERANCE GUIDE:
MACHINED FEATURES

2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5

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METRIC



PIN

PROJECT: PLIERS

SCALE@A3 5:1

MATERIAL: Plain Carbon Steel

SURFACE FINISH: Natural

DATE: 14/06/21

DRAWN: JB

REV:

A

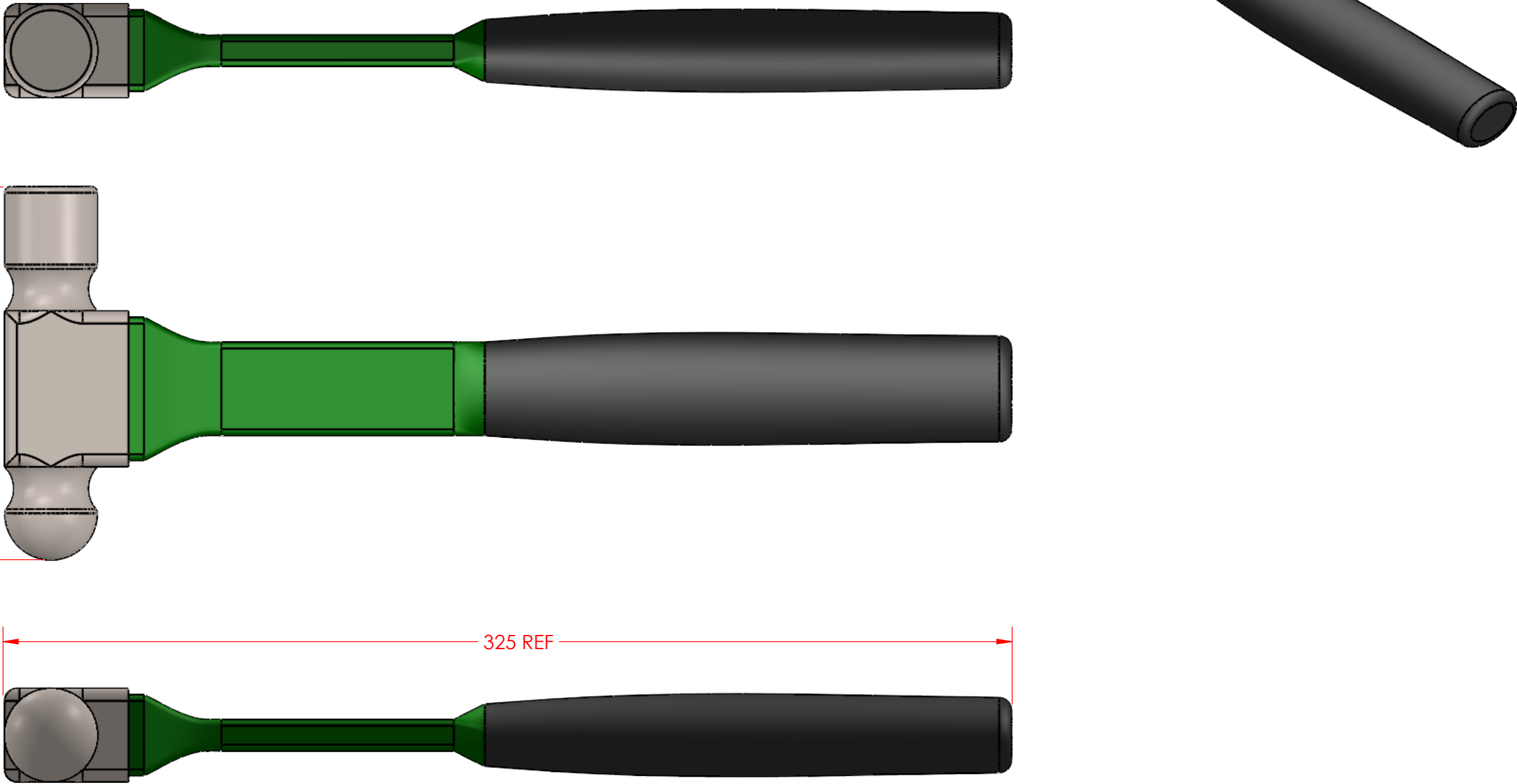
SHEET

3 of 3

DRG No.

PL02

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	FINISH	QTY.
1	HM01	HANDLE	PE High Density	Natural	1
2	HM02	HEAD	AISI Type 316L stainless steel	Natural	1




DO NOT SCALE
IF IN DOUBT ASK

TOLERANCE GUIDE:
MACHINED FEATURES

2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5

THIS DRAWING IS THE PROPERTY OF



METRIC

HAMMER

PROJECT: TRAY, TOOL
SCALE@A3 1:2

MATERIAL: As Per Parts
SURFACE FINISH: As Per Parts

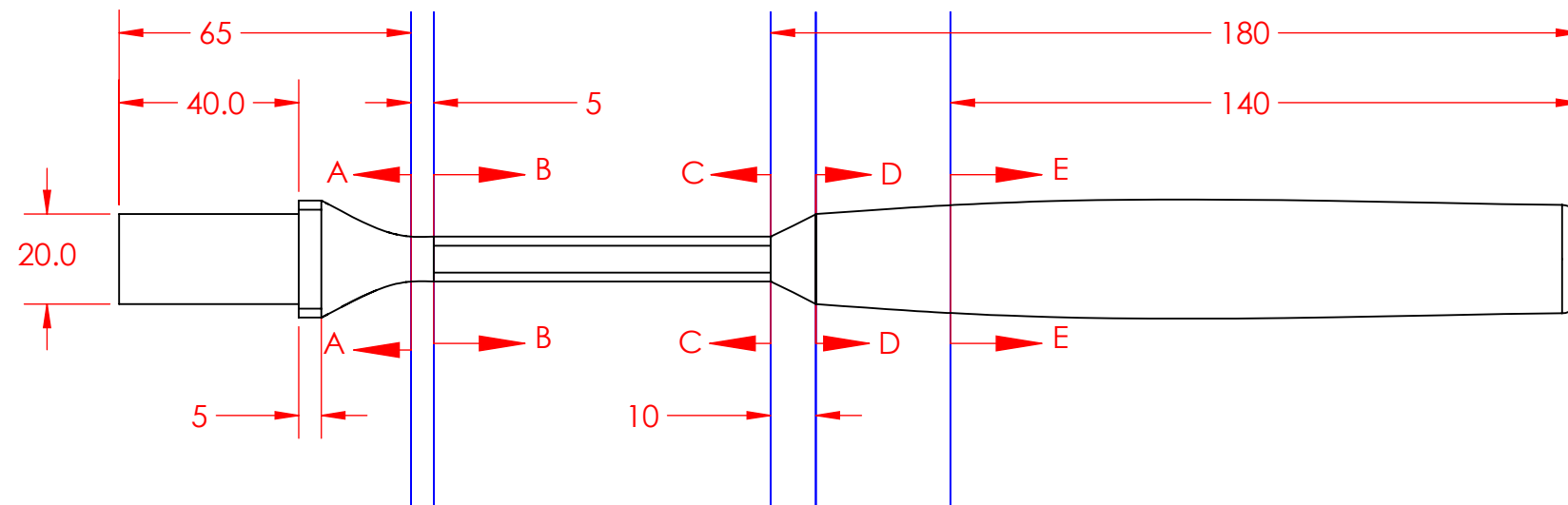
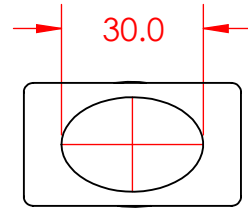
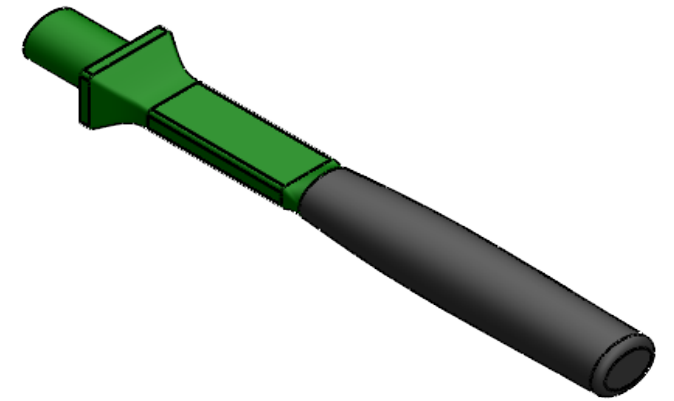
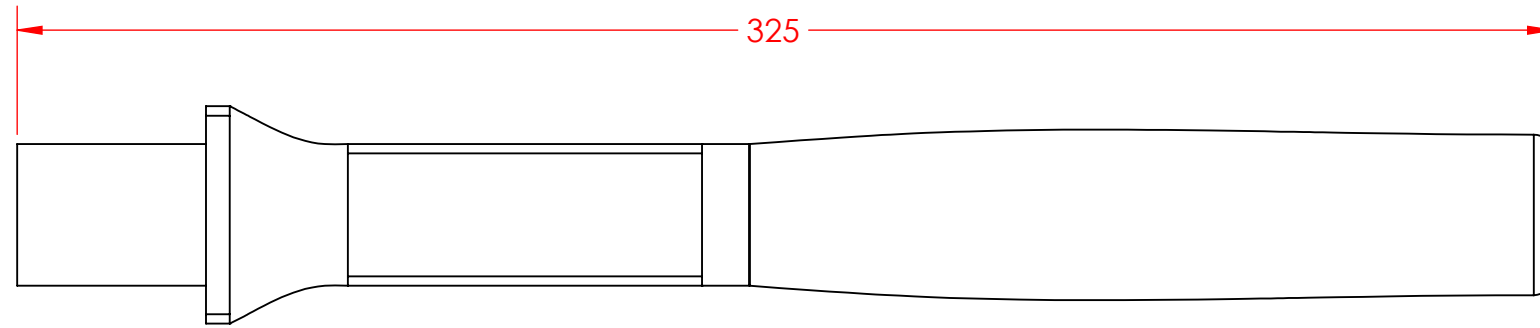
DATE: 25/01/2021
DRAWN: JB

REV: **A**

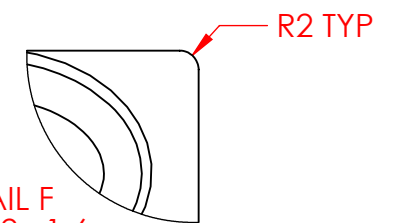
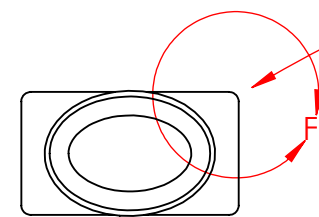
SHEET
1 of 3

DRG No. **HM101**

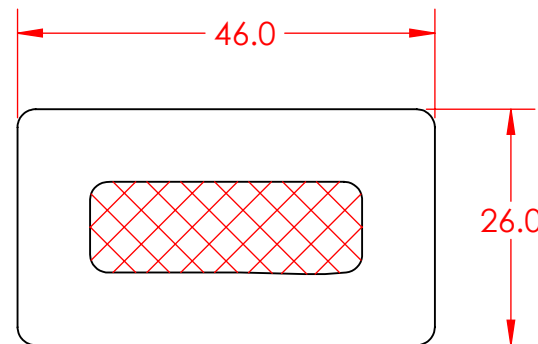
MODIFICATIONS:
Handle has been redesigned to look like a standard hammer handle rather than just a strait bit of wood.



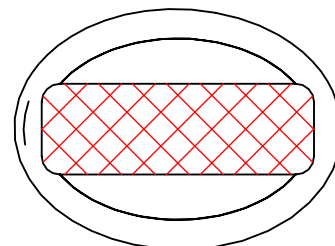
Fillets are the same throughout this part, just to remove sharp edges.



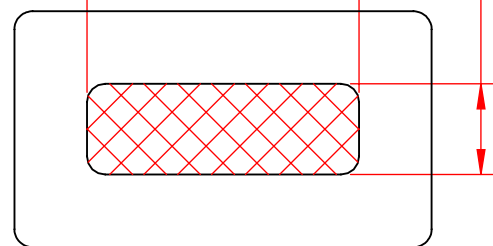
DETAIL F
SCALE 2 : 1.6



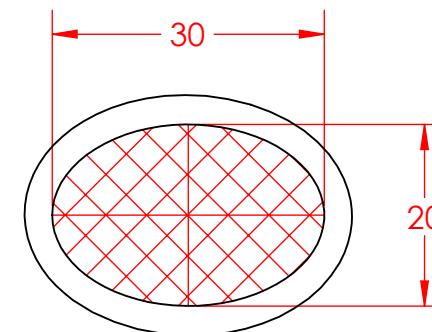
SECTION A-A



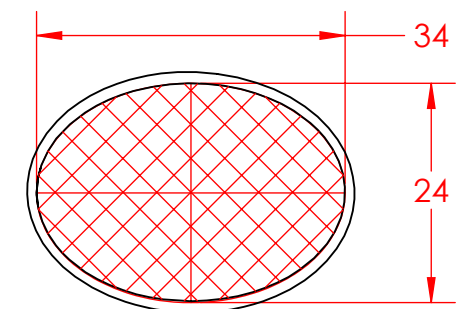
SECTION B-B



SECTION C-C



SECTION D-D



SECTION E-E

DO NOT SCALE
IF IN DOUBT ASK
TOLERANCE GUIDE:
MACHINED FEATURES
2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5



HANDLE

PROJECT: HAMMER
SCALE@A3 1:2

MATERIAL: PE High Density
SURFACE FINISH: Natural

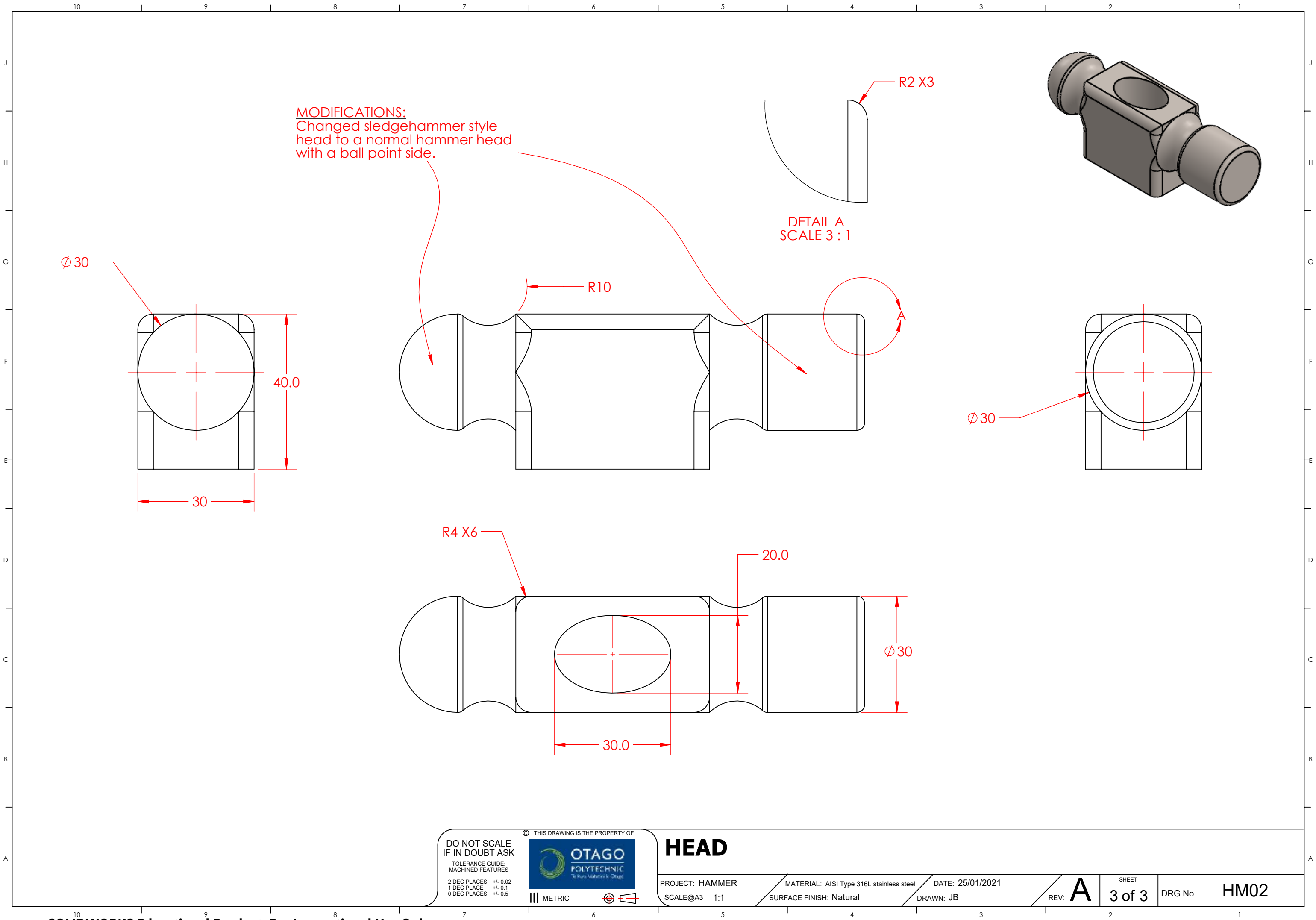
DATE: 25/01/2021
DRAWN: JB

REV: A

SHEET
2 of 3

DRG No.

HM01



DO NOT SCALE
IF IN DOUBT ASK

TOLERANCE GUIDE:
MACHINED FEATURES

2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5

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POLYTECHNIC
Te Kura Matatiri ki Otago

METRIC

HEAD

PROJECT: HAMMER

SCALE@A3 1:1

MATERIAL: AISI Type 316L stainless steel

SURFACE FINISH: Natural

DATE: 25/01/2021

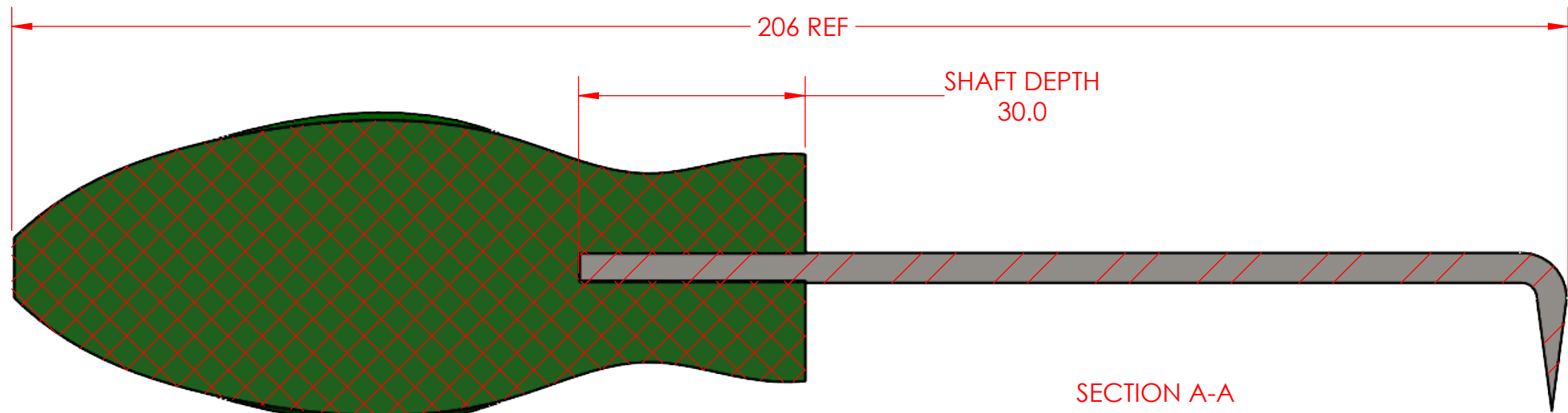
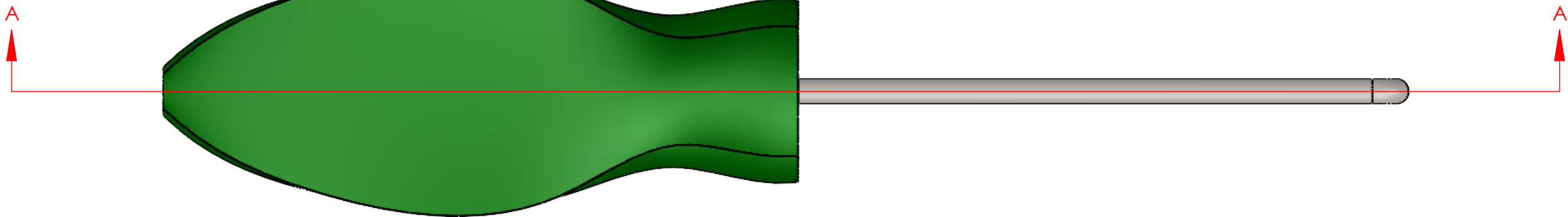
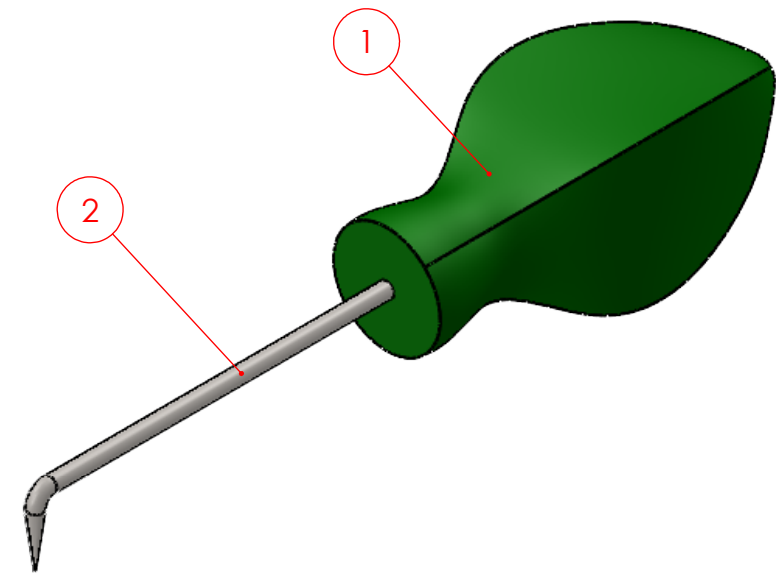
DRAWN: JB

REV: **A**

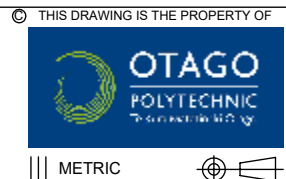
SHEET
3 of 3

DRG No. HM02

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	Finish	QTY.
1	SC01	HANDLE	PBT General Purpose	Natural	1
2	SC02	SHAFT	Plain Carbon Steel	Natural	1



DO NOT SCALE
IF IN DOUBT ASK
TOLERANCE GUIDE:
MACHINED FEATURES
2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5



SCRIBER

PROJECT: TRAY, TOOL
SCALE@A3 1:2

MATERIAL: As Per Parts
SURFACE FINISH: As Per Parts

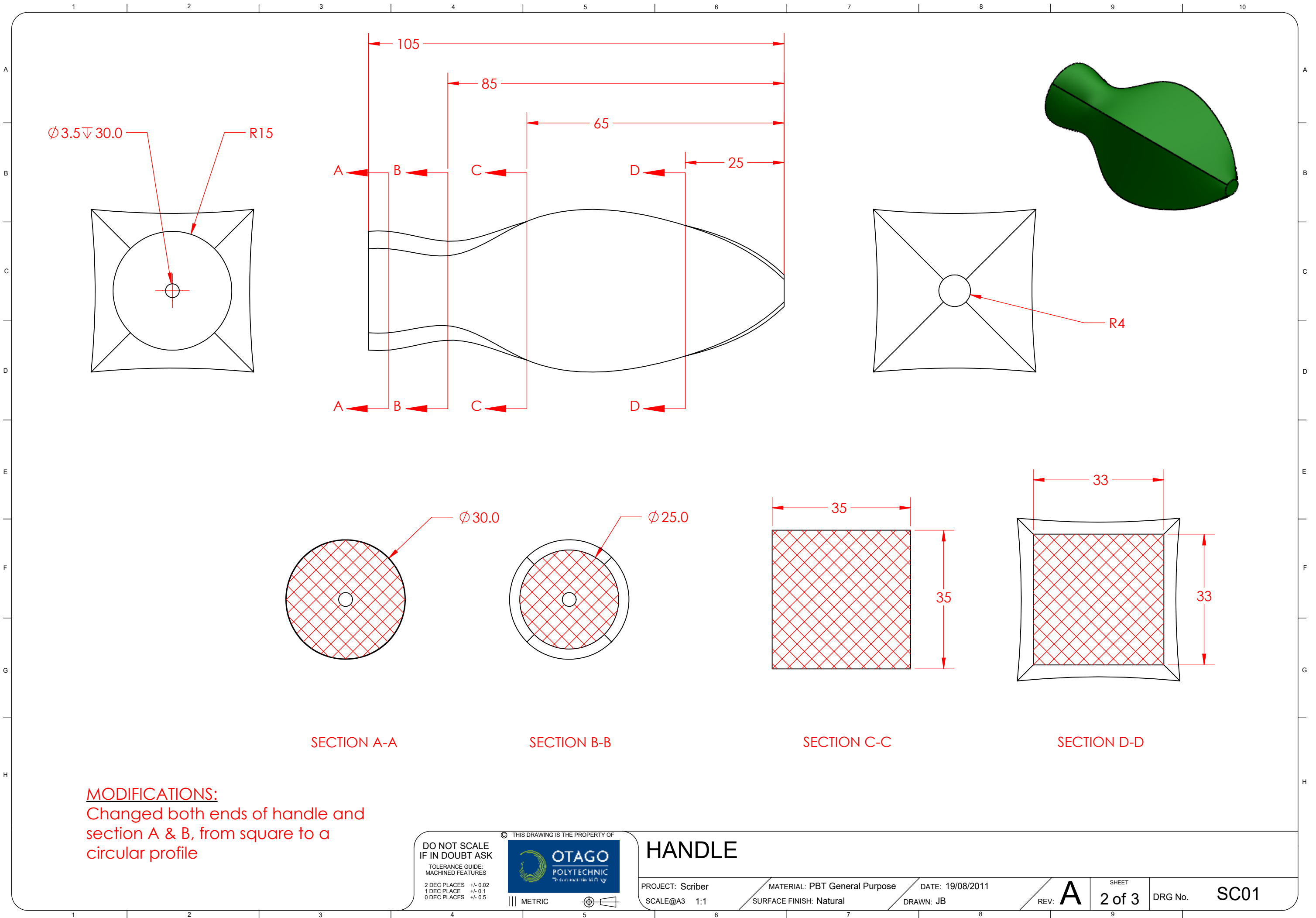
DATE: 19/08/2011
DRAWN: JB

REV: **A**

SHEET
1 of 3

DRG No.

SC101



MODIFICATIONS:
Changed both ends of handle and
section A & B, from square to a
circular profile

DO NOT SCALE
IF IN DOUBT ASK
TOLERANCE GUIDE:
MACHINED FEATURES
2 DEC PLACES ± 0.02
1 DEC PLACE ± 0.1
0 DEC PLACES ± 0.5



HANDLE

PROJECT: Scriber
SCALE@A3 1:1

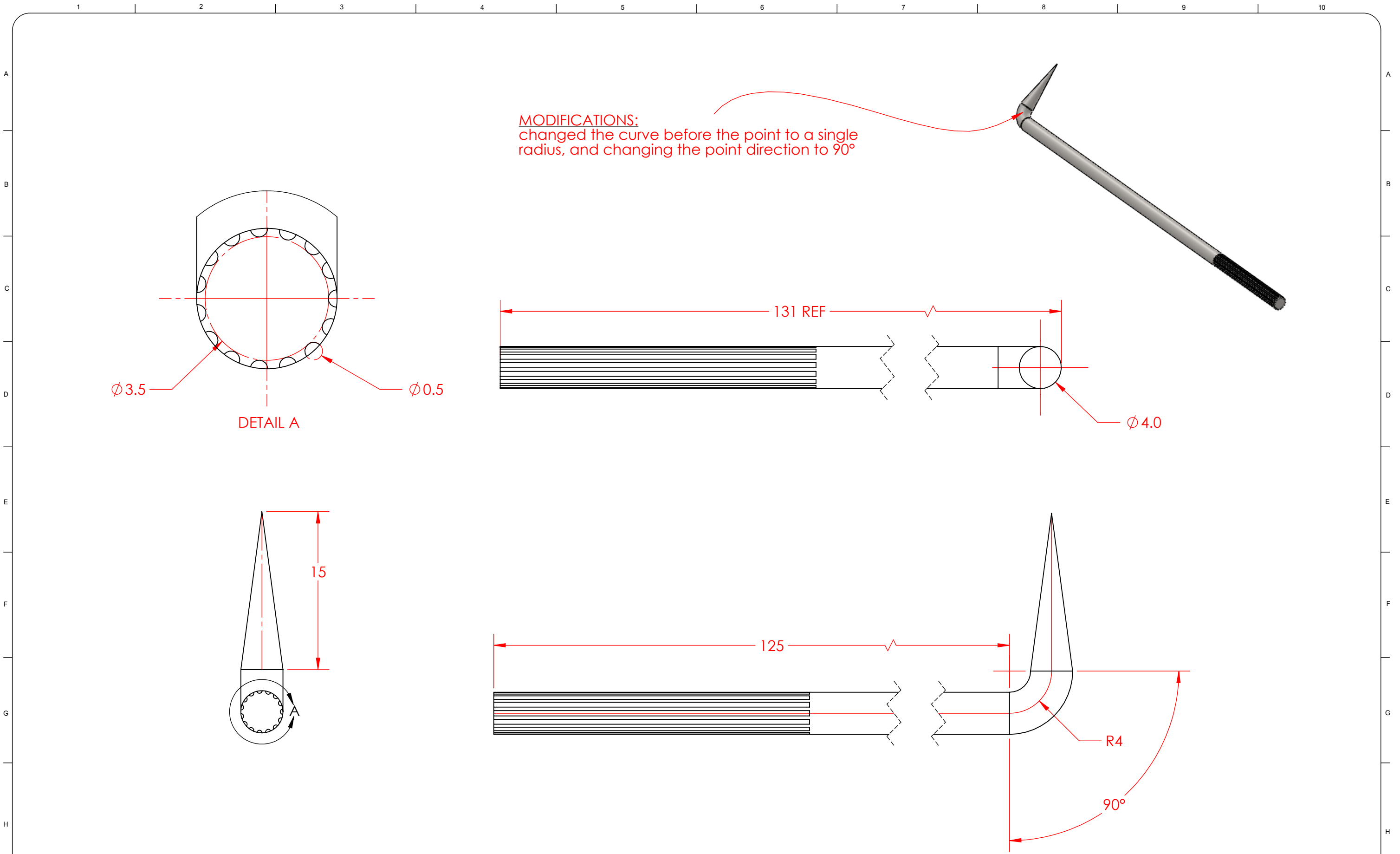
MATERIAL: PBT General Purpose
SURFACE FINISH: Natural

DATE: 19/08/2011
DRAWN: JB

REV: **A**

SHEET
2 of 3

DRG No. SC01



MODIFICATIONS:
changed the curve before the point to a single
radius, and changing the point direction to 90°

DO NOT SCALE
IF IN DOUBT ASK
TOLERANCE GUIDE:
MACHINED FEATURES
2 DEC PLACES +/- 0.02
1 DEC PLACE +/- 0.1
0 DEC PLACES +/- 0.5



SHAFT

PROJECT: Scribe
SCALE@A3 1:1

MATERIAL: Plain Carbon Steel
SURFACE FINISH: Natural

DATE: 19/08/2011
DRAWN: JB

REV: **A**

SHEET
3 of 3

DRG No. SC02