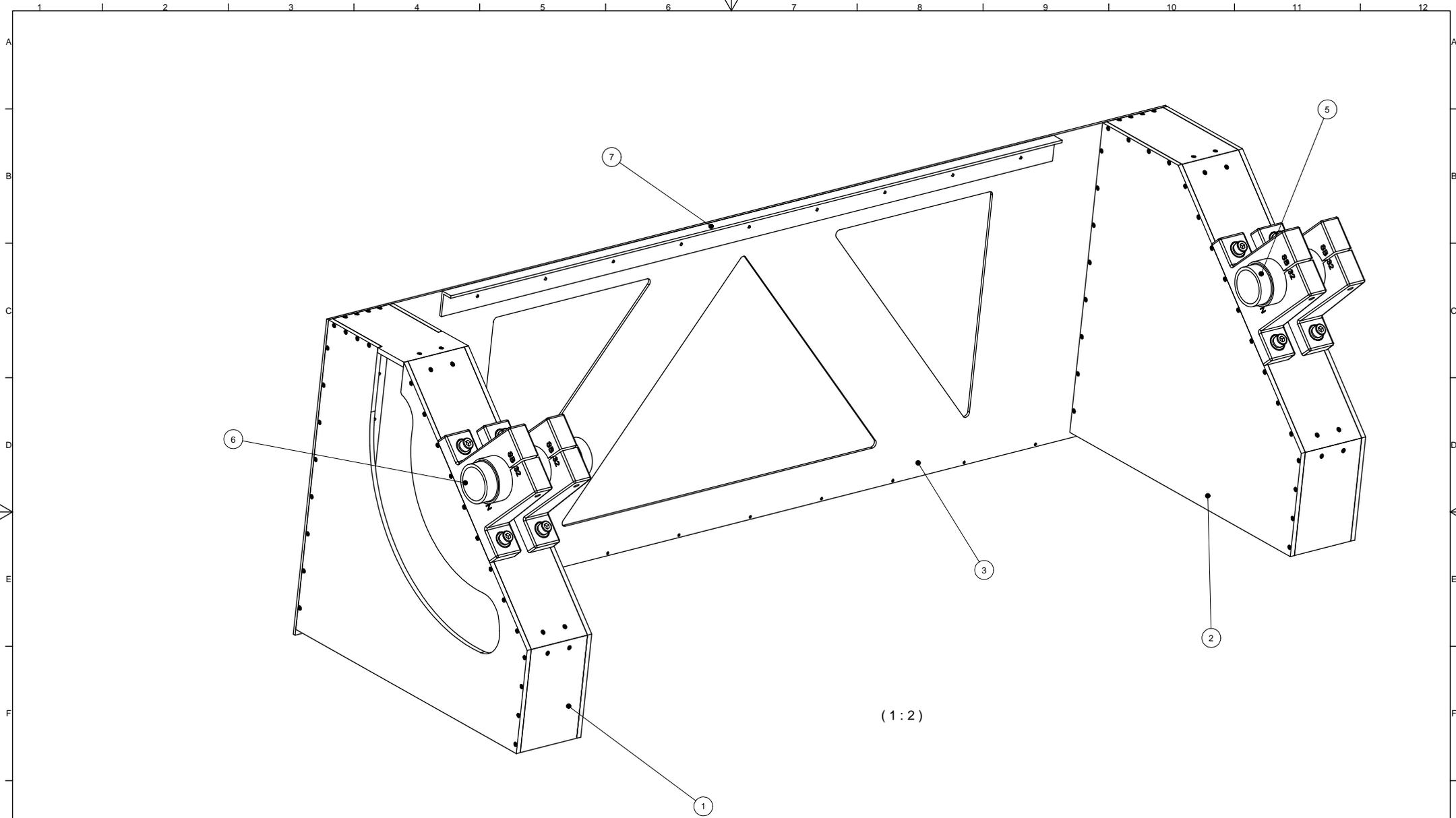


7	32	BS 4464 - M3 Form A	Spring Washer
6	32	BS 4168 - M3 x 16	Hexagon Socket Head Cap Screw
5	12	ISO 10642 - M3 x 12 or BS equivalent	Hexagon Socket Countersunk Head Screw
4	3	GLAS-4-1-005 r1	Temporary base support
3	1	GLAS-4-3-000 r1	Umbilical swing arm assy
2	1	GLAS-4-2-000 r2	Laser cradle
1	1	GLAS-4-1-000 r1	Laser gimbal assy
ITEM	QTY	PART NUMBER	DESCRIPTION

<small> ALL DIMENSIONS UNLESS SPECIFIED ARE IN MILLIMETERS (INCHES) GENERAL TOL: 0.1 ANGULAR TOL: 0.05 SURFACE FINISH: (SEE DRAWING) 3.2 UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE TO THE OUTSIDE UNLESS OTHERWISE SPECIFIED DIMENSIONS TO THE INSIDE ARE TO BE INDICATED BY A DIMENSION LINE WITH A SMALL DIAMETER ARROW POINTING TO THE INSIDE SURFACE </small>	<small> Material Finish </small>	<small> Drawn by jolley </small>	<small> Date 08/08/2005 </small>	<small> Revision 2 </small>	GLAS Laser Cradle Assembly
<small> Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400 </small>					<small> Part Number GLAS-4-000 r2 </small>
					<small> A1 Sheet 1 / 1 </small>



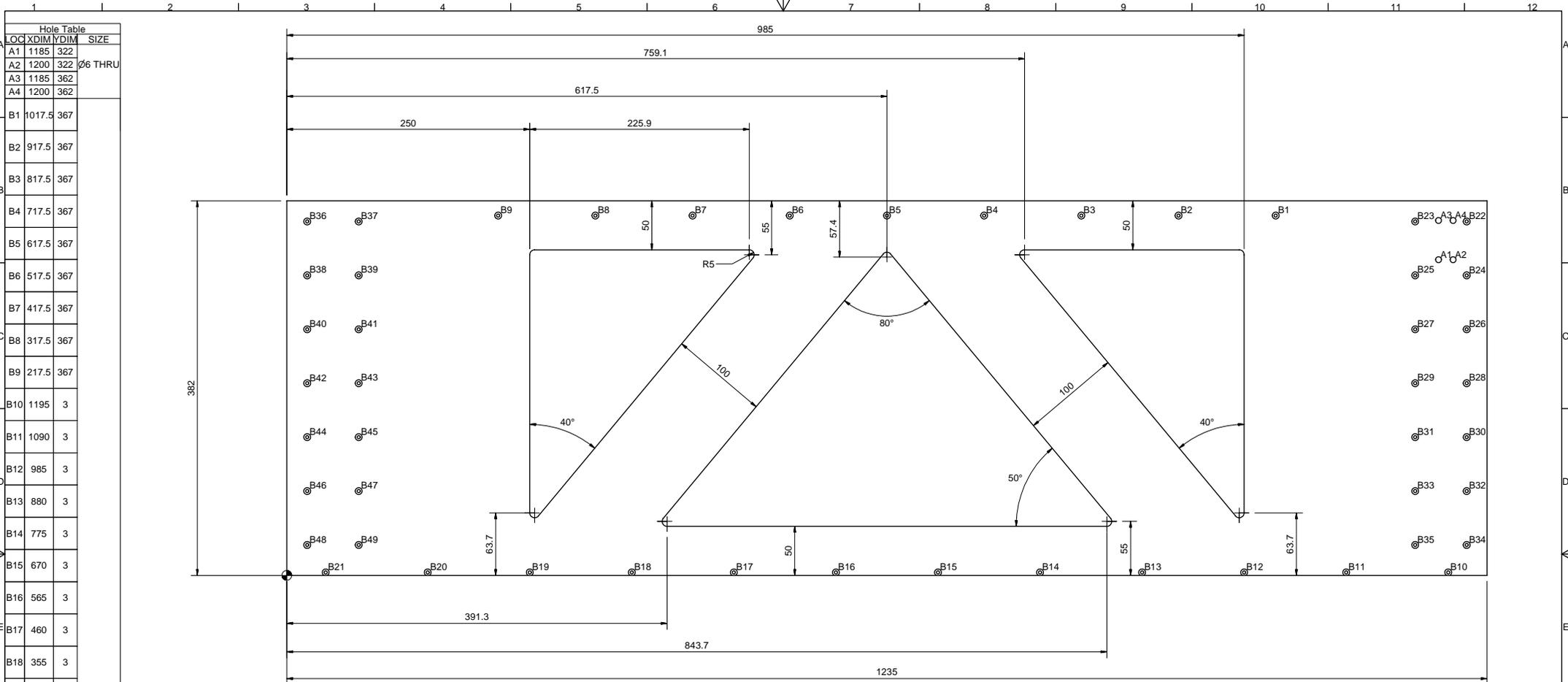


(1:2)

12	9	ISO 10642 - M3 x 8	Hexagon Socket Countersunk Head Screw
11	8	BS 4320 - M8 (Form A)	Bright Washer
10	8	BS 4464 - M8 Form A	Spring Washer
9	8	BS 4168 - M8 x 25	Hexagon Socket Head Cap Screw
8	28	BS 4168 - M3 x 16	Hexagon Socket Countersunk Head Screw
7	1	GLAS-4-1-004 r1	Back plate stiffener
6	1	GLAS-4-1-003 r1	Axle - long
5	1	GLAS-4-1-002 r1	Axle - short
4	4		Axle stand
3	1	GLAS-4-1-001 r1	Back plate
2	1	GLAS-4-4-000 r1	End support
1	1	GLAS-4-5-000 r1	End support - umbilical
ITEM	QTY	PART NUMBER	DESCRIPTION

<small> ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED GENERAL TOL: 0.1 ANGULAR TOL: 0.05 SURFACE FINISH: (see ISO 13001:2) </small>	<small> FINISH UNLESS OTHERWISE SPECIFIED: </small>	<small> DRAWN BY jolley </small>	<small> DATE 01/07/2005 </small>	<small> REVISION 1 </small>	Laser Gimbal Assembly Laser Cradle Support
<small> ISAAC: Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400 </small>				<small> PART NUMBER GLAS-4-1-000 r1 </small>	





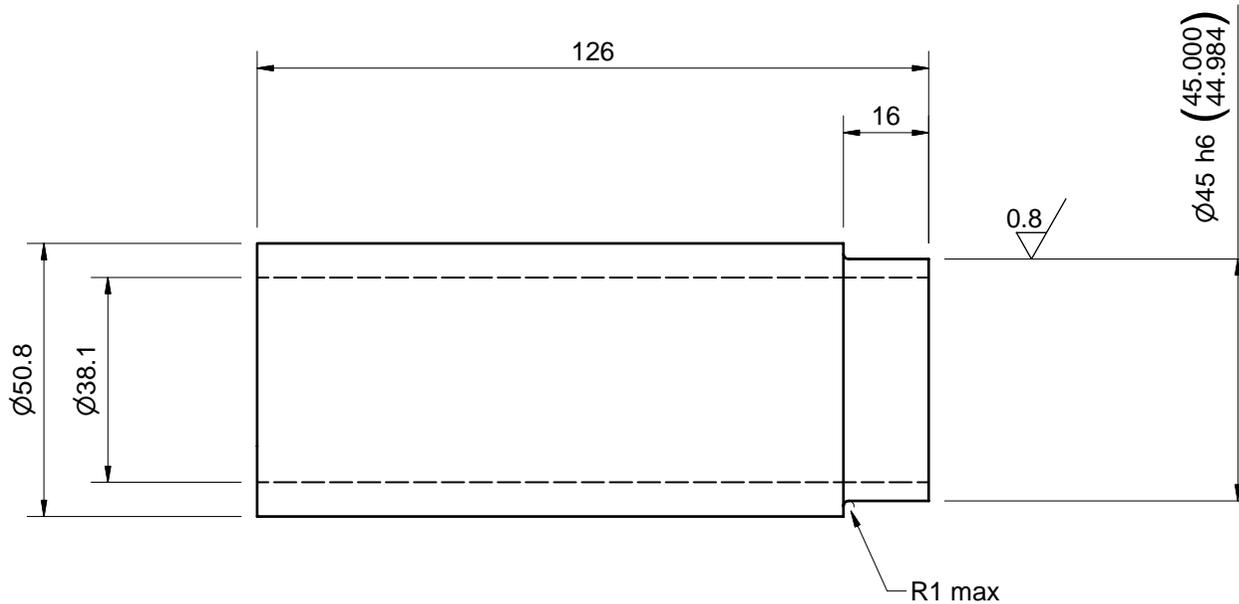
Hole Table			
LOC	XDIM	YDIM	SIZE
A1	1185	322	Ø6 THRU
A2	1200	322	
A3	1185	362	
A4	1200	362	

B1	1017.5	367
B2	917.5	367
B3	817.5	367
B4	717.5	367
B5	617.5	367
B6	517.5	367
B7	417.5	367
B8	317.5	367
B9	217.5	367
B10	1195	3
B11	1090	3
B12	985	3
B13	880	3
B14	775	3
B15	670	3
B16	565	3
B17	460	3
B18	355	3
B19	250	3
B20	145	3
B21	40	3
B22	1214	361
B23	1161	361
B24	1214	306
B25	1161	306
B26	1214	251
B27	1161	251
B28	1214	196
B29	1161	196
B30	1214	141
B31	1161	141

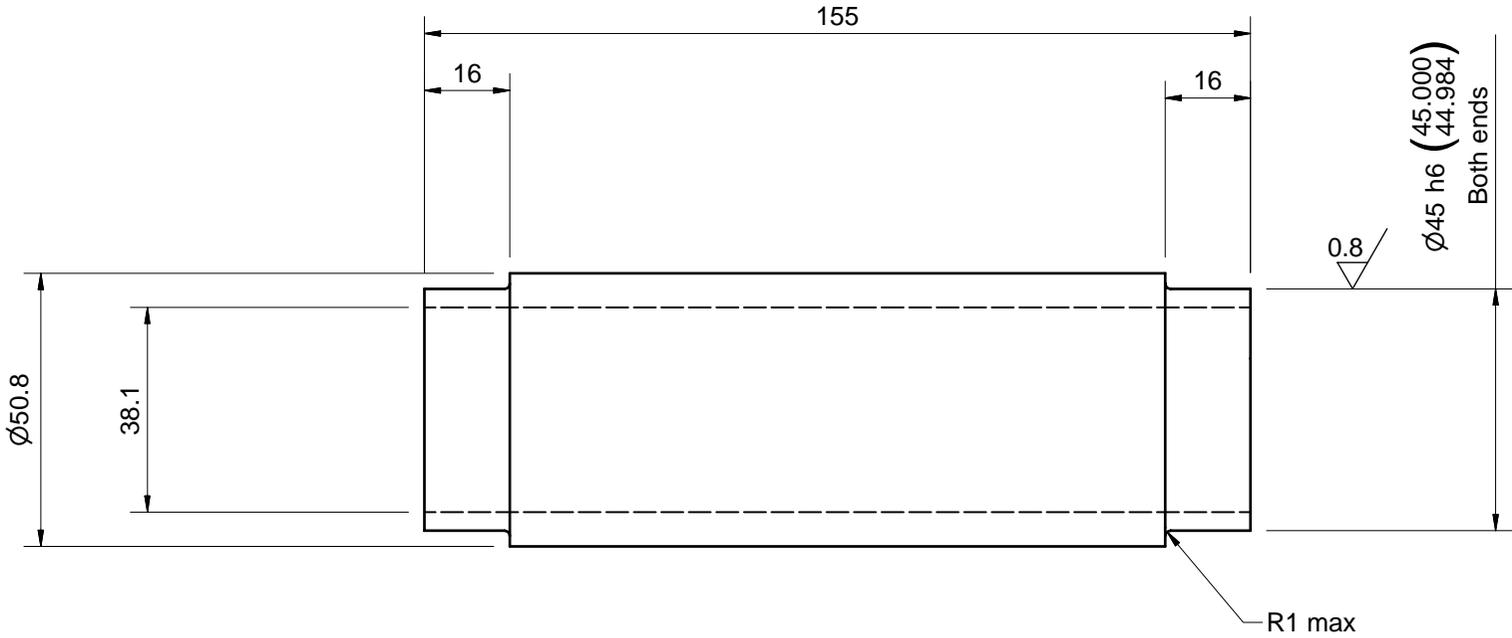
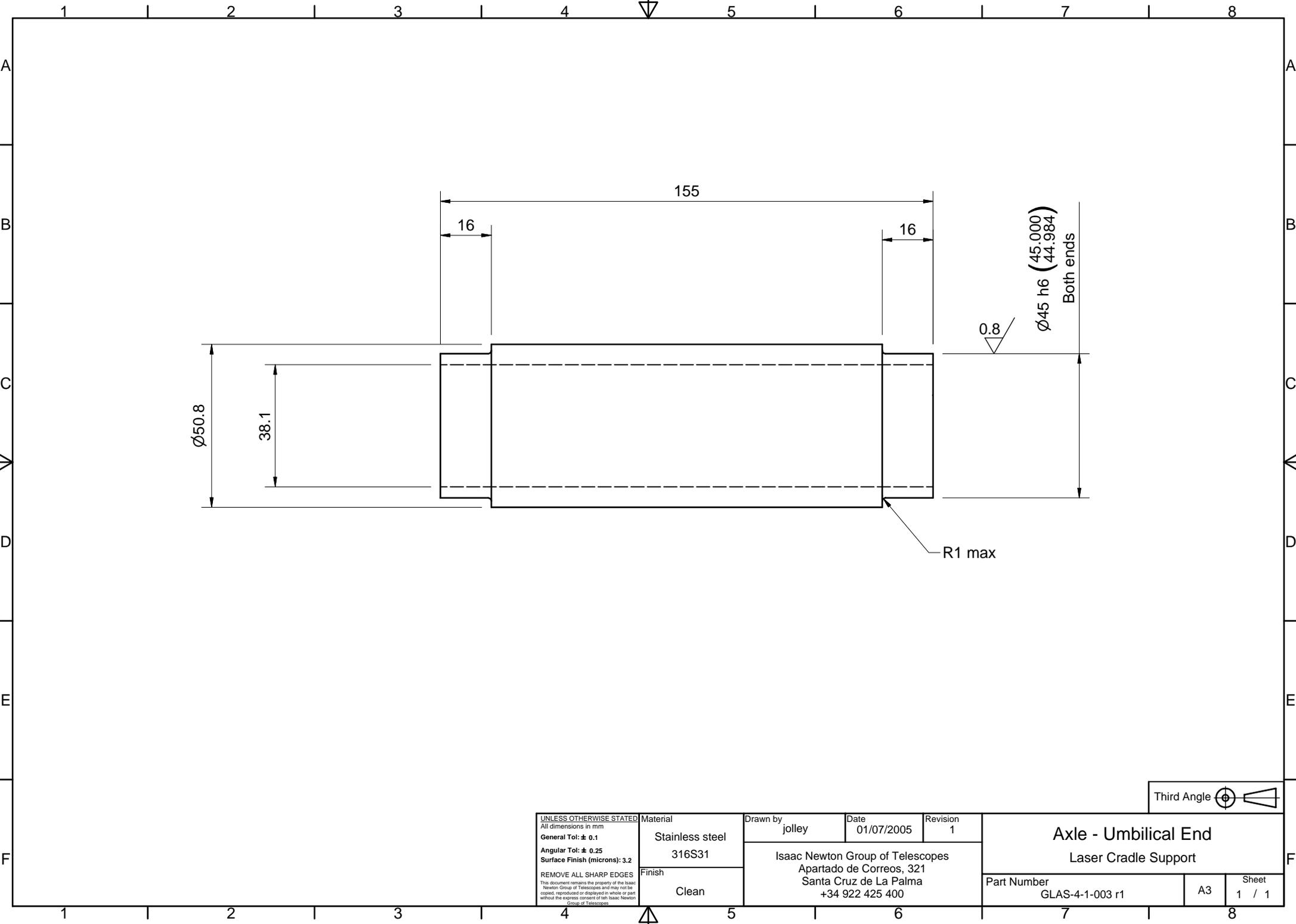
Hole Table			
LOC	XDIM	YDIM	SIZE
B32	1214	86	Ø3.2 CSK Ø7 X 90°
B33	1161	86	
B34	1214	31	
B35	1161	31	
B36	21	361	
B37	74	361	
B38	21	306	
B39	74	306	
B40	21	251	

Hole Table			
LOC	XDIM	YDIM	SIZE
B41	74	251	Ø3.2 CSK Ø7 X 90°
B42	21	196	
B43	74	196	
B44	21	141	
B45	74	141	
B46	21	86	
B47	74	86	
B48	21	31	
B49	74	31	

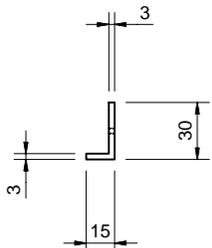
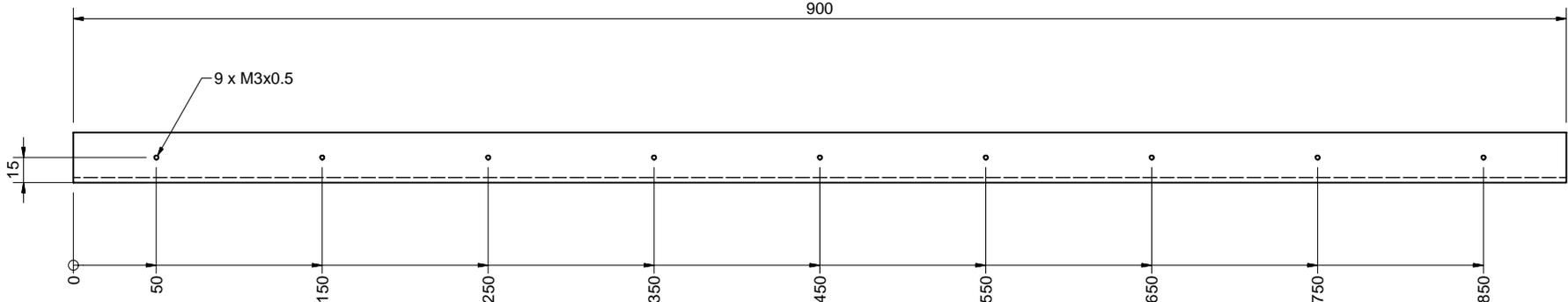
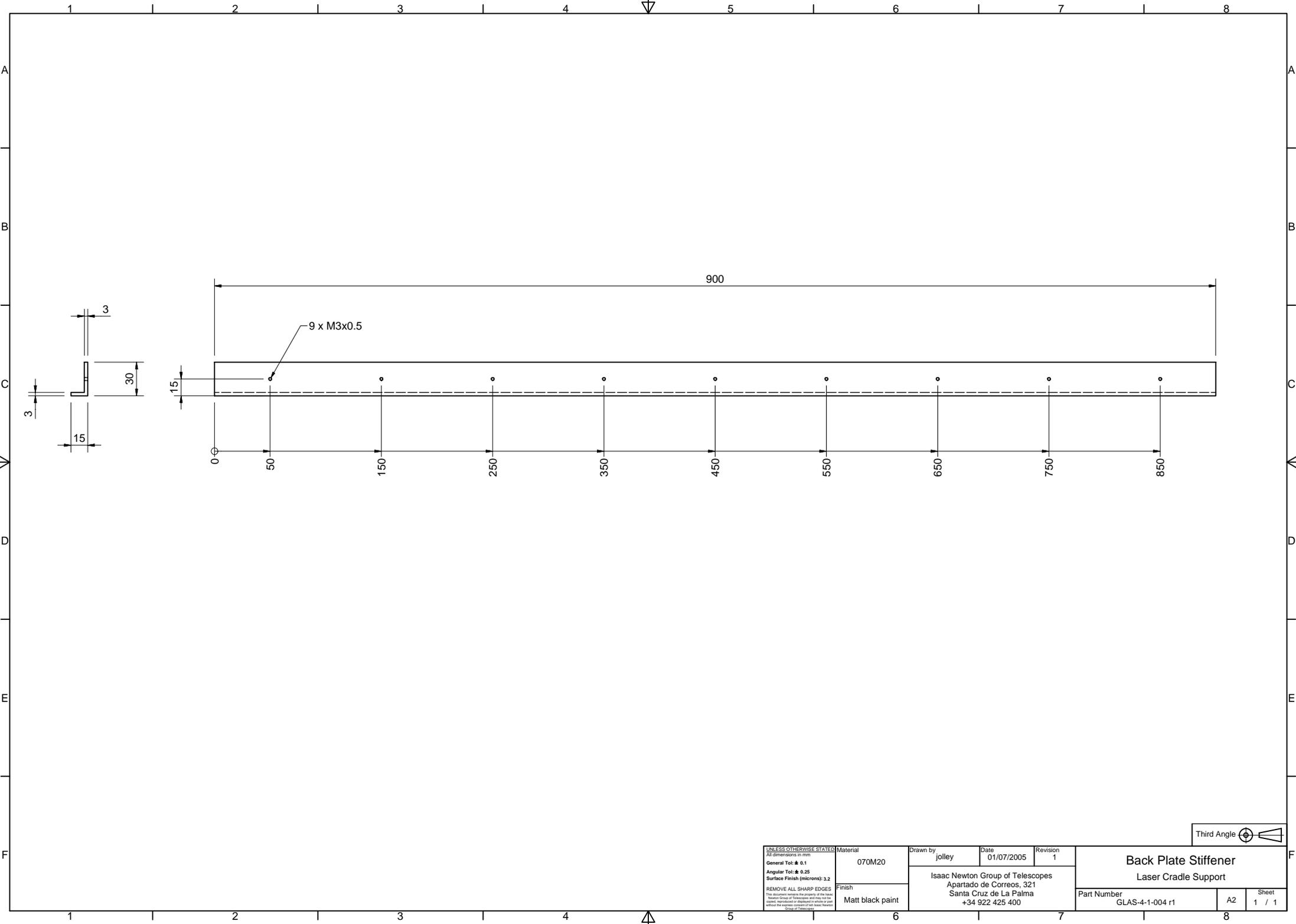
<small> ALL DIMENSIONS IN MILLIMETERS GENERAL TOL. ± 0.1 ANGULAR TOL. ± 0.05 SURFACE FINISH (RMS) 3.2 FINISH MATT BLACK PAINT </small>	<small> MATERIAL 070M20 </small>	<small> DRAWN BY jolley </small>	<small> DATE 01/07/2005 </small>	<small> REVISION 1 </small>	<small> THIRD ANGLE </small>
<small> ISAAC NEWTON GROUP OF TELESCOPES APARTADO DE CORREOS, 321 SANTA CRUZ DE LA PALMA +34 922 425 400 </small>					<small> PART NUMBER GLAS-4-1-001 r1 </small>
				<small> SHEET 1 / 1 </small>	



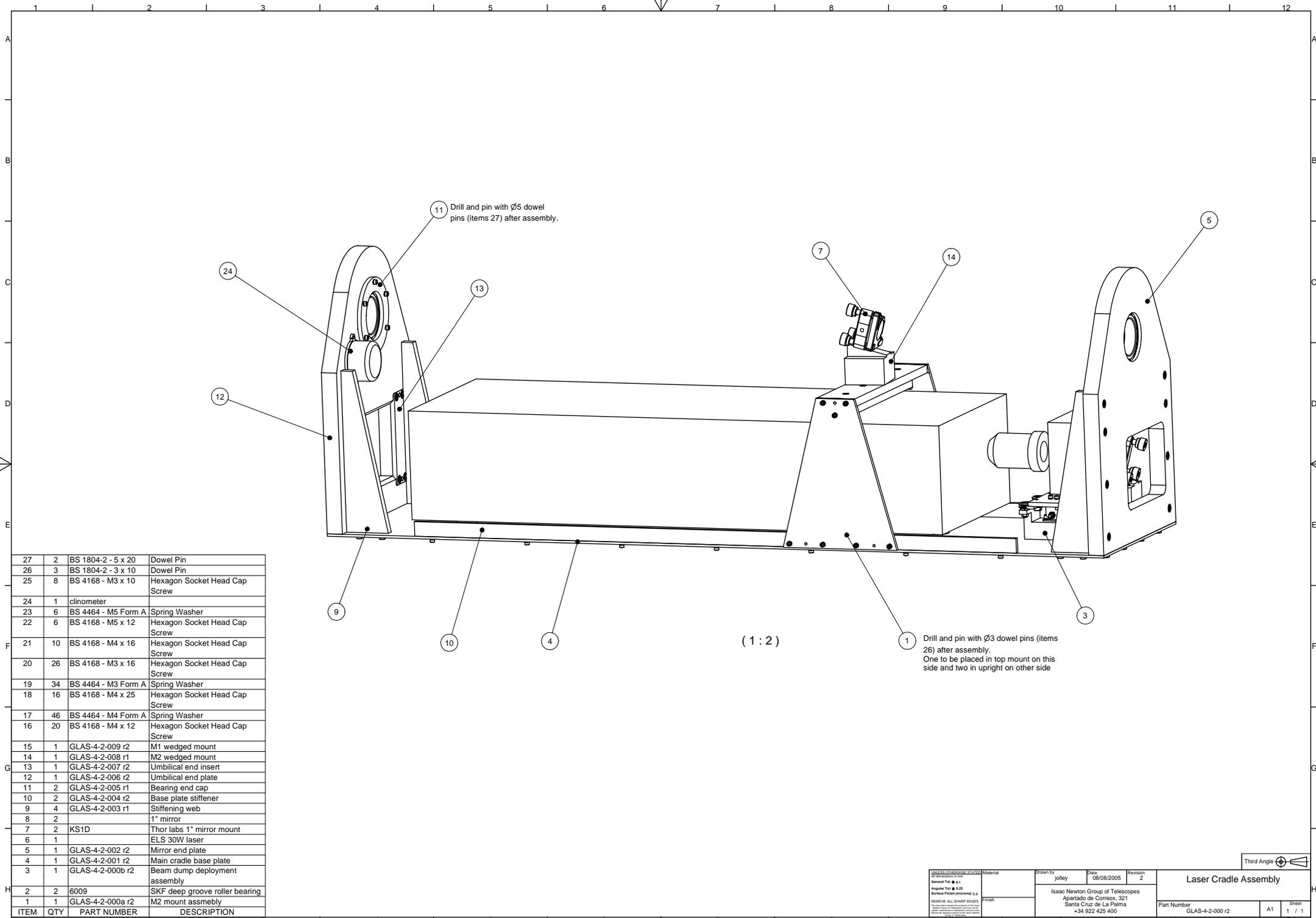
<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Axle Laser Cradle Support		
	Stainless Steel	jolley	01/07/2005	1			
	316S31	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	A3	Sheet 1 / 1
Finish	Clean				GLAS-4-1-002 r1		



<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Axle - Umbilical End Laser Cradle Support		
	Stainless steel	jolley	01/07/2005	1			
	316S31	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
Finish	Clean				GLAS-4-1-003 r1	A3	1 / 1



<small>UNLESS OTHERWISE STATED: All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or distributed in whole or in part without the written consent of the Isaac Newton Group of Telescopes.</small> </small>	Material	Drawn by	Date	Revision	Back Plate Stiffener Laser Cradle Support	
	070M20	jolley	01/07/2005	1		
Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
Matt black paint				GLAS-4-1-004 r1	A2 1 / 1	



27	2	BS 1804-2 - 5 x 20	Dowel Pin
26	3	BS 1804-2 - 3 x 10	Dowel Pin
25	8	BS 4168 - M3 x 10	Hexagon Socket Head Cap Screw
24	1	clinometer	
23	6	BS 4464 - M5 Form A	Spring Washer
22	6	BS 4168 - M5 x 12	Hexagon Socket Head Cap Screw
21	10	BS 4168 - M4 x 16	Hexagon Socket Head Cap Screw
20	26	BS 4168 - M3 x 16	Hexagon Socket Head Cap Screw
19	34	BS 4464 - M3 Form A	Spring Washer
18	16	BS 4168 - M4 x 25	Hexagon Socket Head Cap Screw
17	46	BS 4464 - M4 Form A	Spring Washer
16	20	BS 4168 - M4 x 12	Hexagon Socket Head Cap Screw
15	1	GLAS-4-2-009 r2	M1 wedged mount
14	1	GLAS-4-2-008 r1	M2 wedged mount
13	1	GLAS-4-2-007 r2	Umbilical end insert
12	1	GLAS-4-2-006 r2	Umbilical end plate
11	2	GLAS-4-2-005 r1	Bearing end cap
10	2	GLAS-4-2-004 r2	Base plate stiffener
9	4	GLAS-4-2-003 r1	Stiffening web
8	2		1" mirror
7	2	KS1D	Thor labs 1" mirror mount
6	1		ELS 30W laser
5	1	GLAS-4-2-002 r2	Mirror end plate
4	1	GLAS-4-2-001 r2	Main cradle base plate
3	1	GLAS-4-2-000b r2	Beam dump deployment assembly
2	2	6009	SKF deep groove roller bearing
1	1	GLAS-4-2-000a r2	M2 mount assmblly
ITEM	QTY	PART NUMBER	DESCRIPTION

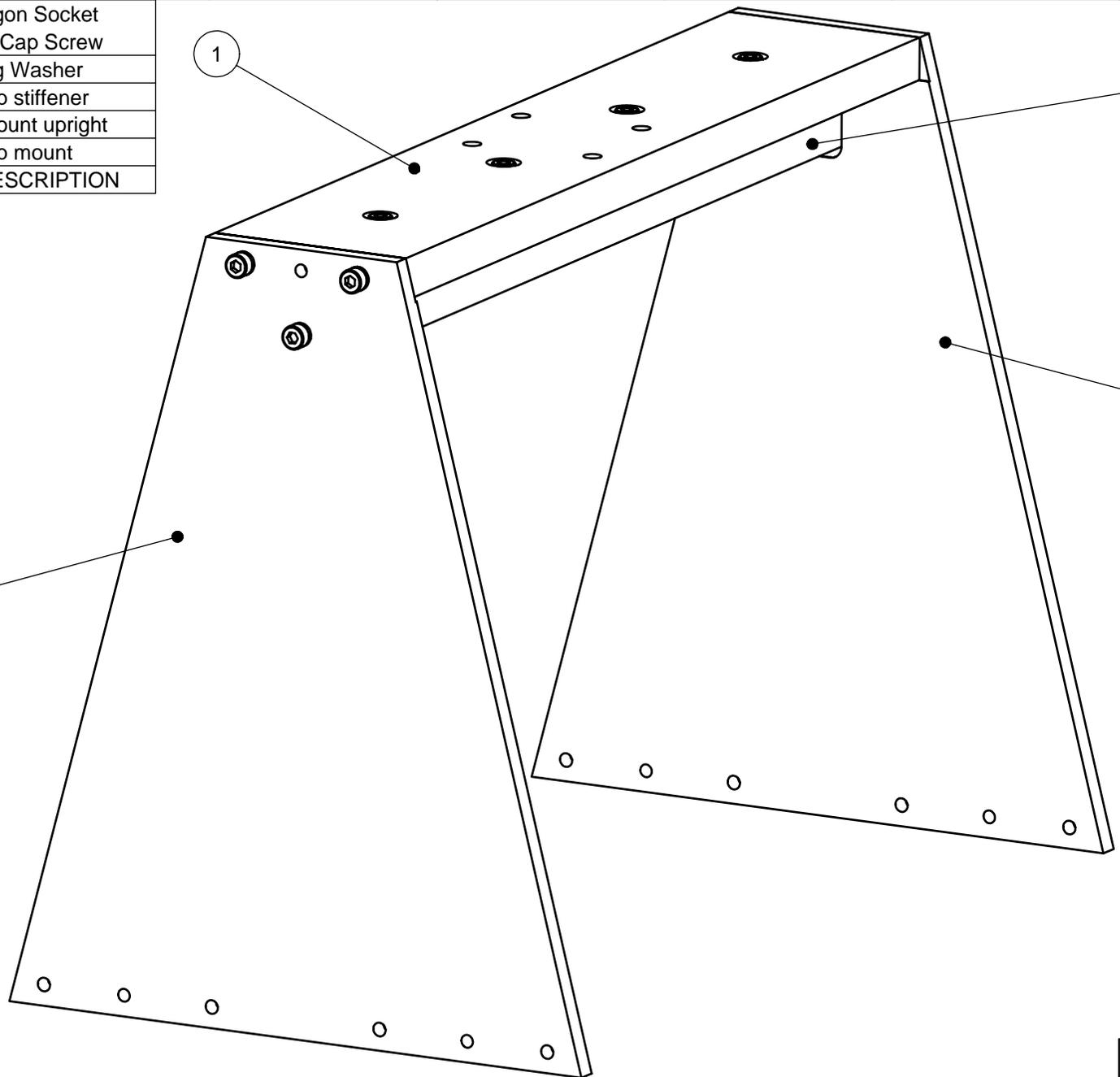
(1:2)

1 Drill and pin with Ø3 dowel pins (items 26) after assembly. One to be placed in top mount on this side and two in upright on other side

<small> ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED GENERAL TOL. ± 0.1 ANGLE TOL. ± 0.5 SURFACE FINISH (UNLESS SPECIFIED) 125 RMS (MAXIMUM) UNLESS OTHERWISE SPECIFIED UNLESS OTHERWISE SPECIFIED </small>	<small> MATERIAL FINISH </small>	<small> DRAWN BY jolley </small>	<small> DATE 08/08/2005 </small>	<small> REVISION 2 </small>	Laser Cradle Assembly
<small> Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400 </small>					
<small> PART NUMBER GLAS-4-2-000 r2 </small>					<small> SHEET 1 / 1 </small>



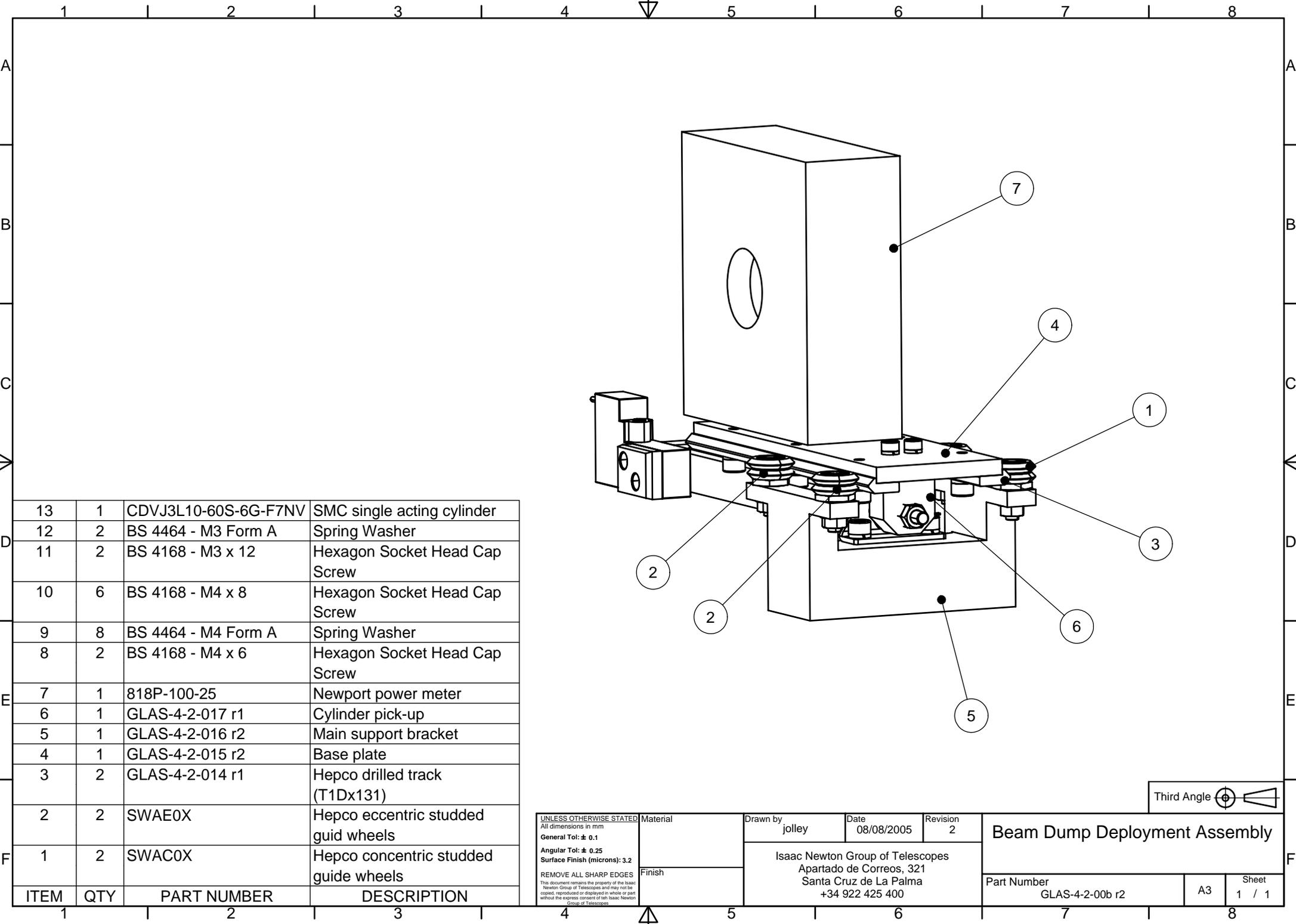
ITEM	QTY	PART NUMBER	DESCRIPTION
5	10	BS 4168 - M3 x 16	Hexagon Socket Head Cap Screw
4	10	BS 4464 - M3 Form A	Spring Washer
3	1	GLAS-4-2-013 r2	M2 top stiffener
2	2	GLAS-4-2-012 r2	M2 mount upright
1	1	GLAS-4-2-011 r2	M2 top mount



UNLESS OTHERWISE STATED
 All dimensions in mm
 General Tol: ± 0.1
 Angular Tol: ± 0.25
 Surface Finish (microns): 3.2
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Material
 Drawn by jolley
 Date 08/08/2005
 Revision 2
 Isaac Newton Group of Telescopes
 Apartado de Correos, 321
 Santa Cruz de La Palma
 +34 922 425 400

M2 Mount Assembly
 Part Number GLAS-4-2-000a r2
 A3
 Sheet 1 / 1



13	1	CDVJ3L10-60S-6G-F7NV	SMC single acting cylinder
12	2	BS 4464 - M3 Form A	Spring Washer
11	2	BS 4168 - M3 x 12	Hexagon Socket Head Cap Screw
10	6	BS 4168 - M4 x 8	Hexagon Socket Head Cap Screw
9	8	BS 4464 - M4 Form A	Spring Washer
8	2	BS 4168 - M4 x 6	Hexagon Socket Head Cap Screw
7	1	818P-100-25	Newport power meter
6	1	GLAS-4-2-017 r1	Cylinder pick-up
5	1	GLAS-4-2-016 r2	Main support bracket
4	1	GLAS-4-2-015 r2	Base plate
3	2	GLAS-4-2-014 r1	Hepco drilled track (T1Dx131)
2	2	SWAE0X	Hepco eccentric studded guide wheels
1	2	SWAC0X	Hepco concentric studded guide wheels
ITEM	QTY	PART NUMBER	DESCRIPTION

UNLESS OTHERWISE STATED
 All dimensions in mm
 General Tol: ± 0.1
 Angular Tol: ± 0.25
 Surface Finish (microns): 3.2
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Material

Finish

Drawn by
 jolley

Date
 08/08/2005

Revision
 2

Isaac Newton Group of Telescopes
 Apartado de Correos, 321
 Santa Cruz de La Palma
 +34 922 425 400

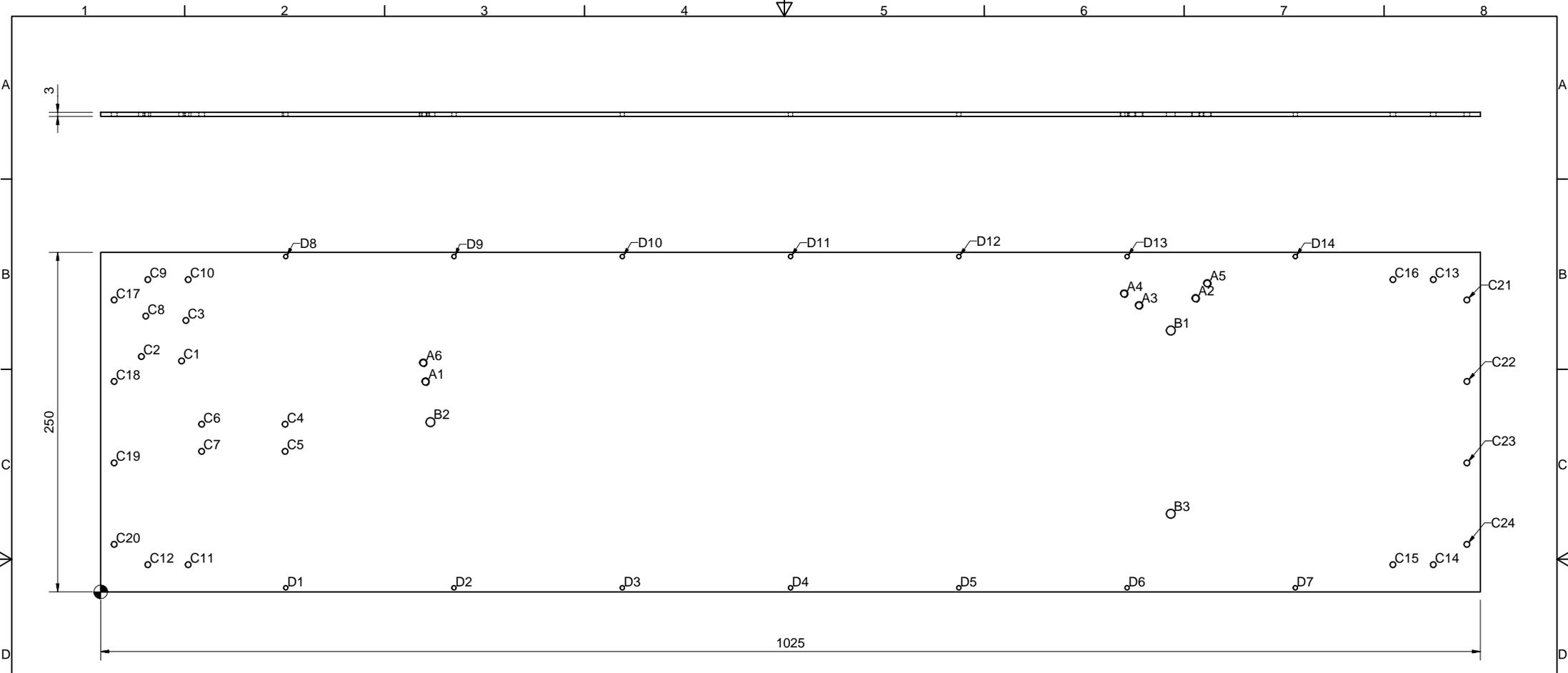
Beam Dump Deployment Assembly

Part Number
 GLAS-4-2-00b r2

A3

Sheet
 1 / 1





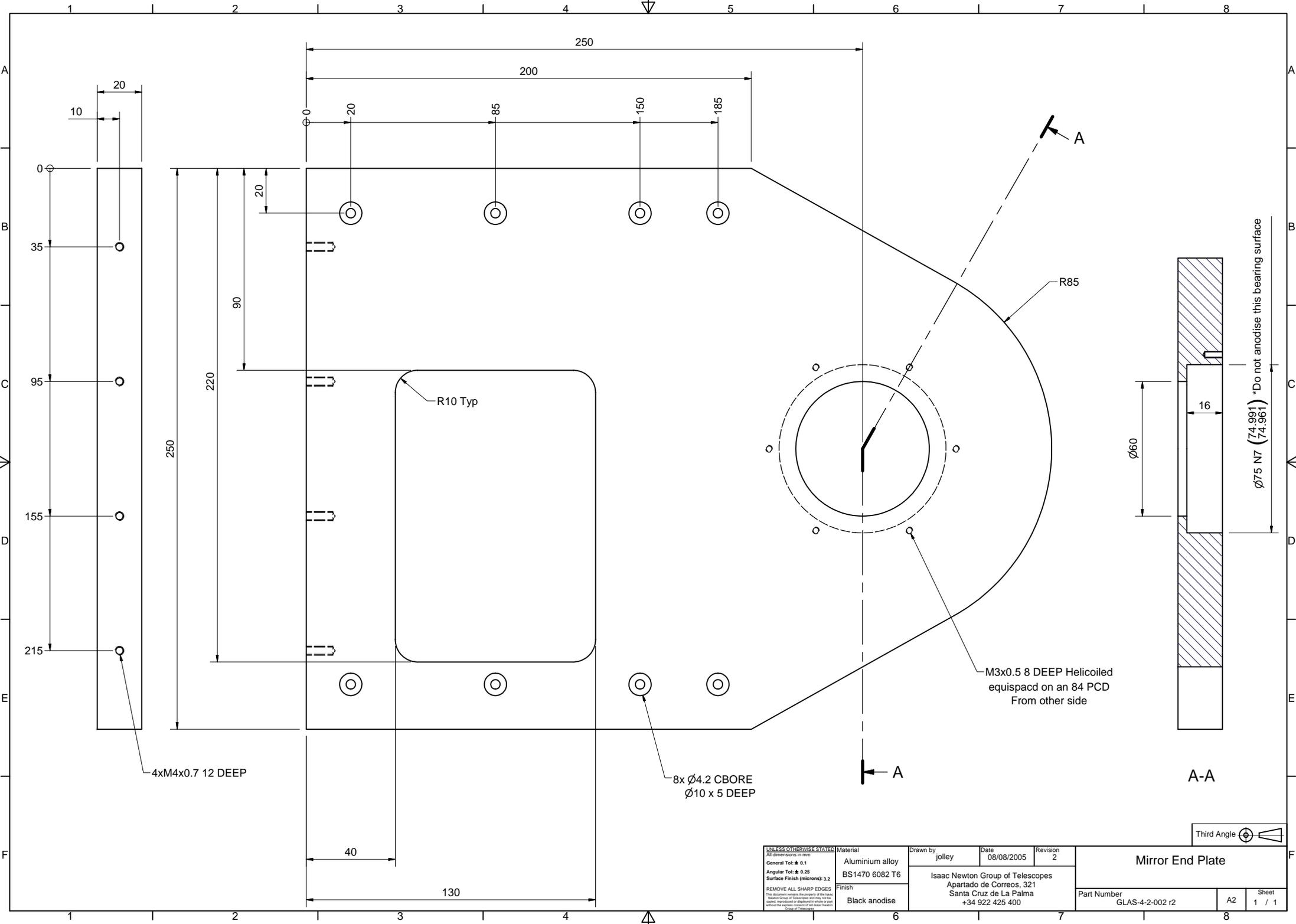
Hole Table			
LOC	XDIM	YDIM	SIZE
A1	241.35	154.78	M6x1
A2	813.47	216.14	
A3	771.36	210.97	
A4	760.33	219.59	
A5	822.09	227.17	
A6	239.64	168.67	Ø6.5 THRU
B1	795	192.5	
B2	245	125	
B3	795	57.5	Ø4.2 THRU
C1	60.08	170.1	
C2	30.26	173.34	
C3	63.32	199.93	
C4	137	123.5	
C5	137	103.5	
C6	75	123.5	
C7	75	103.5	
C8	33.5	203.17	Ø3.2 THRU
C9	35	230	
C10	65	230	
C11	65	20	
C12	35	20	
C13	990	230	
C14	990	20	
C15	960	20	
C16	960	230	
C17	10	215	
C18	10	155	
C19	10	95	
C20	10	35	
C21	1015	215	
C22	1015	155	
C23	1015	95	
C24	1015	35	

Hole Table			
LOC	XDIM	YDIM	SIZE
C9	35	230	Ø3.2 THRU
C10	65	230	
C11	65	20	
C12	35	20	
C13	990	230	
C14	990	20	
C15	960	20	
C16	960	230	
C17	10	215	
C18	10	155	
C19	10	95	
C20	10	35	
C21	1015	215	
C22	1015	155	
C23	1015	95	
C24	1015	35	

Hole Table			
LOC	XDIM	YDIM	SIZE
D1	137.5	3	Ø3.2 THRU
D2	262.5	3	
D3	387.5	3	
D4	512.5	3	
D5	637.5	3	
D6	762.5	3	
D7	887.5	3	
D8	137.5	247	
D9	262.5	247	
D10	387.5	247	
D11	512.5	247	
D12	637.5	247	
D13	762.5	247	
D14	887.5	247	

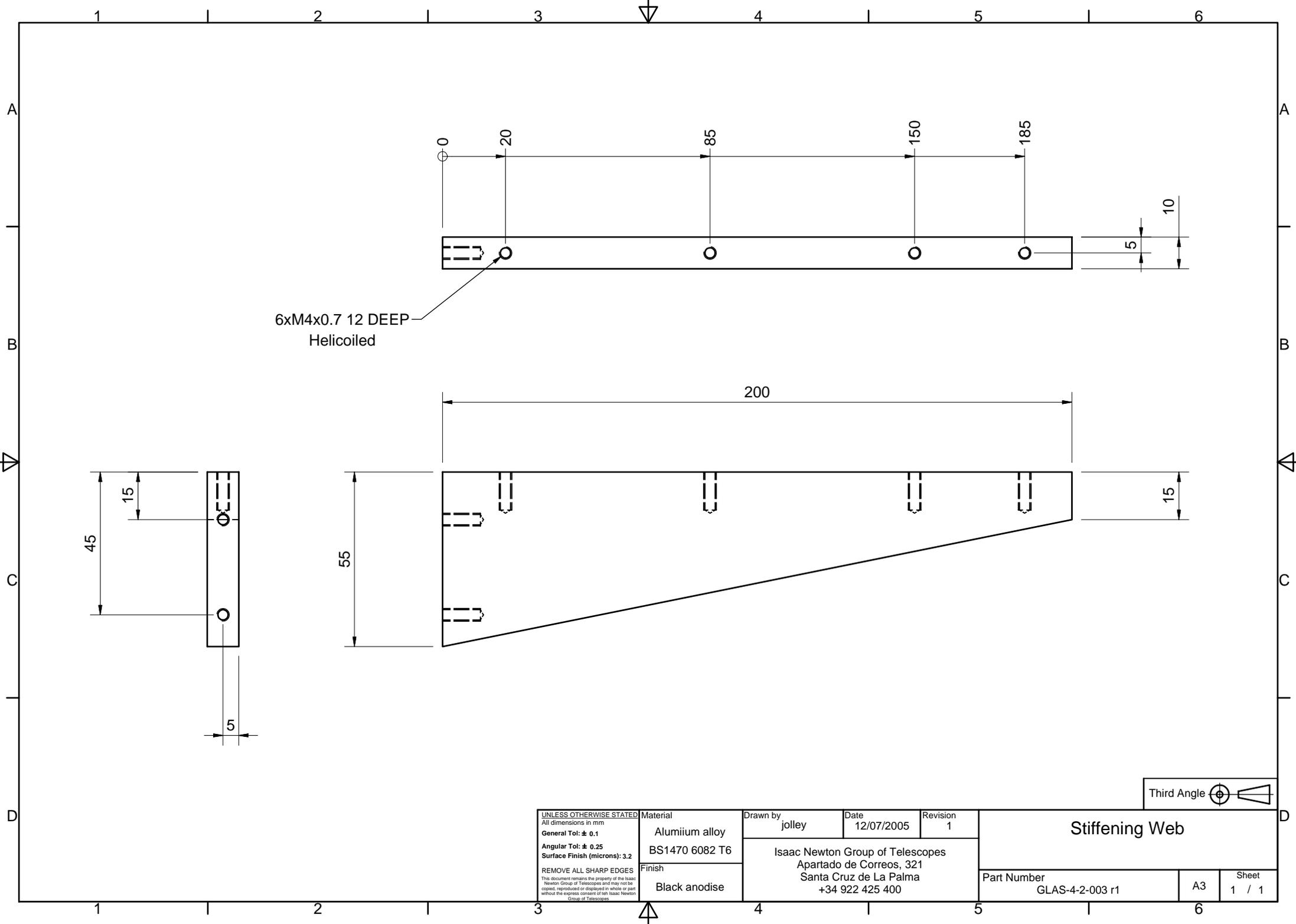
<small>UNLESS OTHERWISE STATED: All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document contains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or distributed in whole or in part without the written consent of the Isaac Newton Group of Telescopes.</small> </small>	Material	070M20 (EN3B)	Drawn by	jolley	Date	08/08/2005	Revision	2	Main Laser Cradle Base Plate
	Finish	Matt black paint	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	GLAS-4-2-001 r2	Sheet	





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		BS1470 6082 T6	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400									
	Finish	Black anodise										
Mirror End Plate								Part Number	GLAS-4-2-002 r2	A2	Sheet	1 / 1

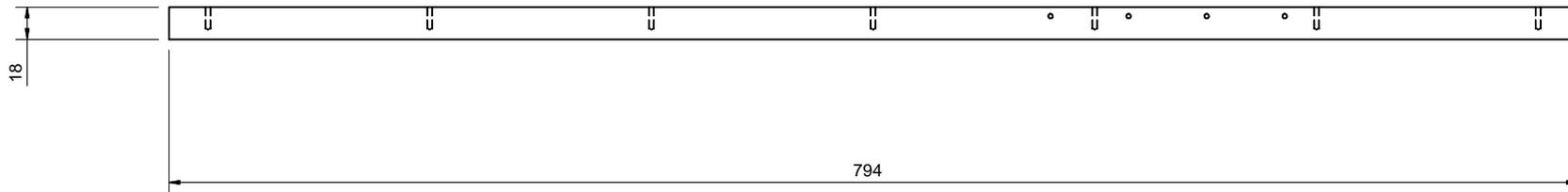
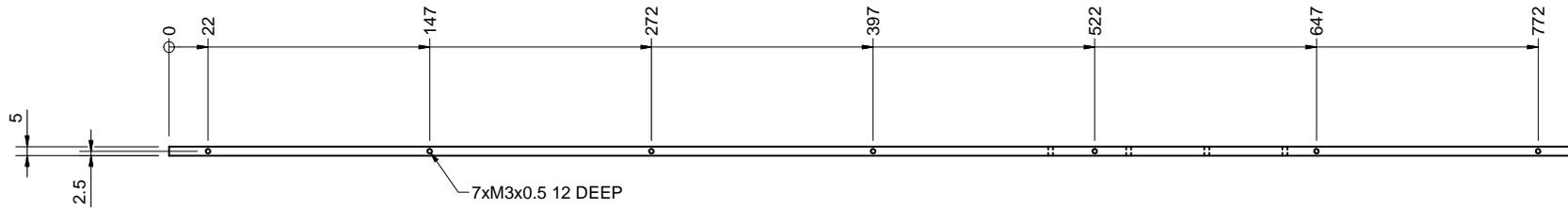




6xM4x0.7 12 DEEP
Helicoiled



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	Aluminium alloy BS1470 6082 T6	jolley	12/07/2005	1			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
	Black anodise				GLAS-4-2-003 r1	A3	1 / 1

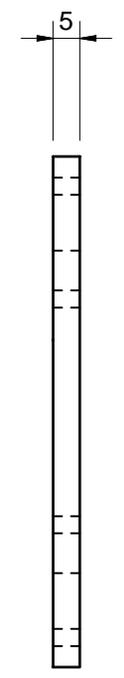
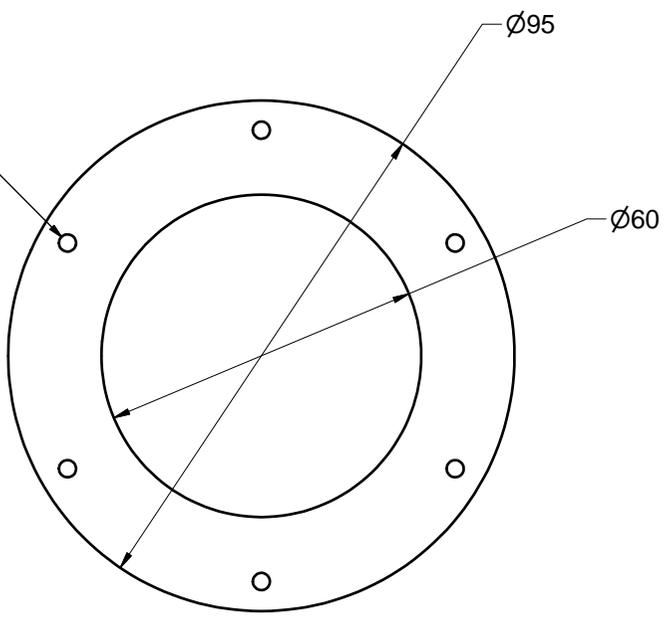


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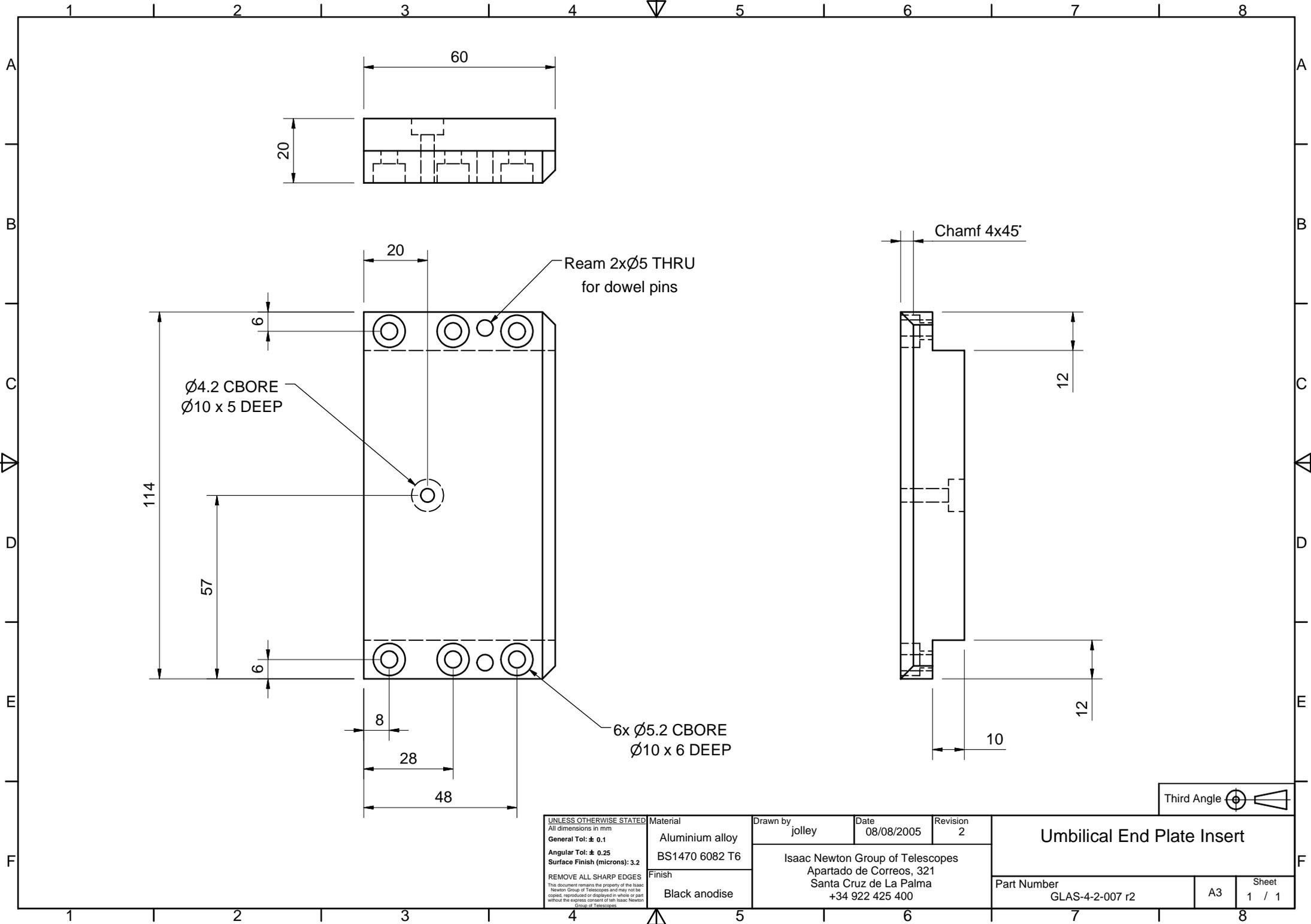
<small>UNLESS OTHERWISE STATED: All dimensions in mm General Tol: \pm 0.1 Angular Tol: \pm 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or distributed in whole or in part without the written consent of the Isaac Newton Group of Telescopes.</small> </small>	Material	Drawn by	Date	Revision	Base Plate Stiffener
	070M20 (EN3B)	jolley	08/08/2005	2	
Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet
Matt black paint				GLAS-4-2-004 r2	A2 1 / 1

6xØ3.2 THRU equi-spaced on an 84 PCD



Third Angle

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	Aluminium alloy BS1470 6082 T6	jolley	12/07/2005	1			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	A3	Sheet 1 / 1
	Black anodise				GLAS-4-2-005 r1		



UNLESS OTHERWISE STATED
 All dimensions in mm
 General Tol: ± 0.1
 Angular Tol: ± 0.25
 Surface Finish (microns): 3.2
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Material
 Aluminium alloy
 BS1470 6082 T6
 Finish
 Black anodise

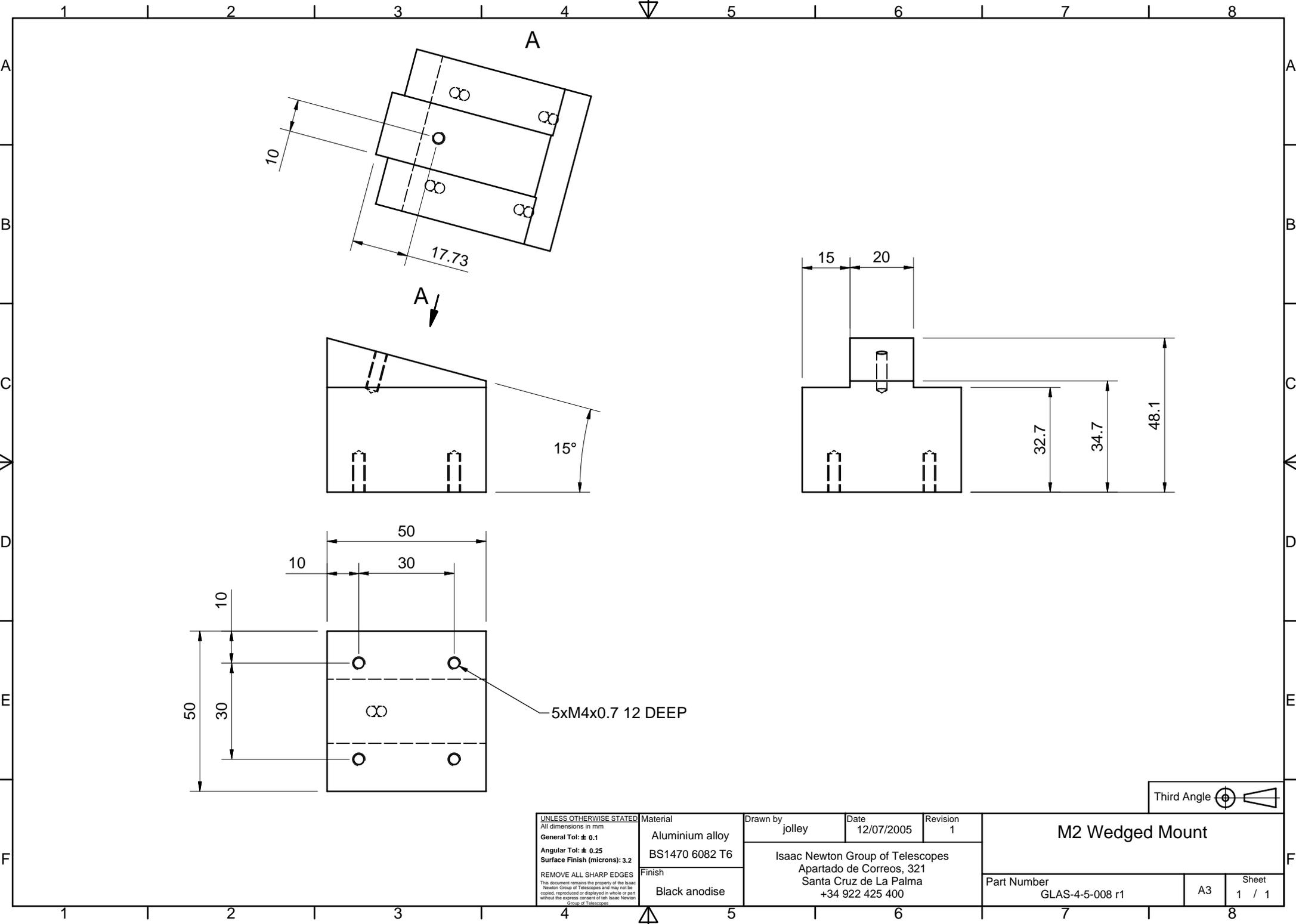
Drawn by
 jolley
 Date
 08/08/2005
 Revision
 2
 Isaac Newton Group of Telescopes
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 +34 922 425 400

Umbilical End Plate Insert

Part Number
 GLAS-4-2-007 r2

A3

Sheet
 1 / 1



UNLESS OTHERWISE STATED
 All dimensions in mm
 General Tol: ± 0.1
 Angular Tol: ± 0.25
 Surface Finish (microns): 3.2
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Material
 Aluminium alloy
 BS1470 6082 T6
Finish
 Black anodise

Drawn by
 jolley

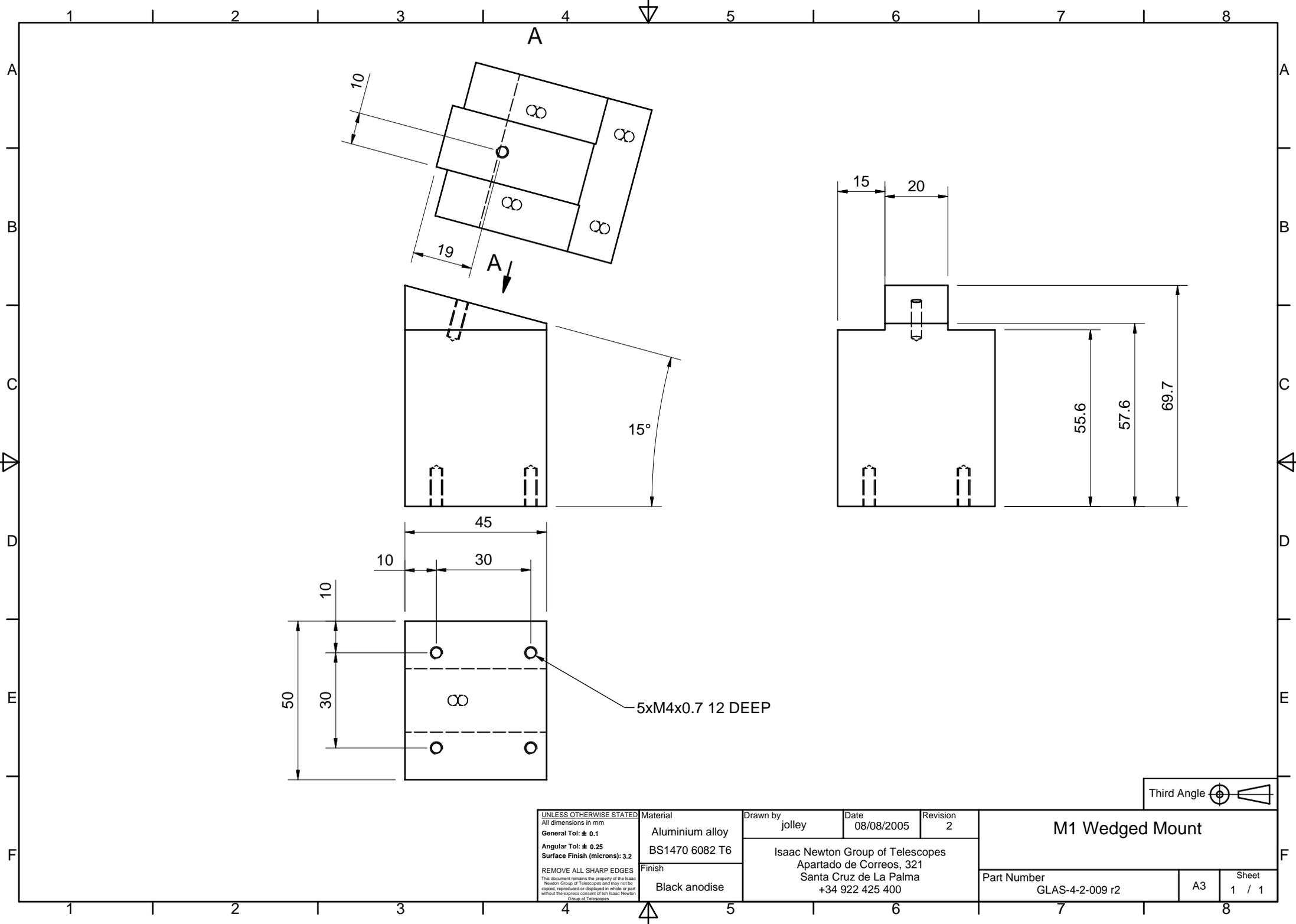
Date
 12/07/2005

Revision
 1

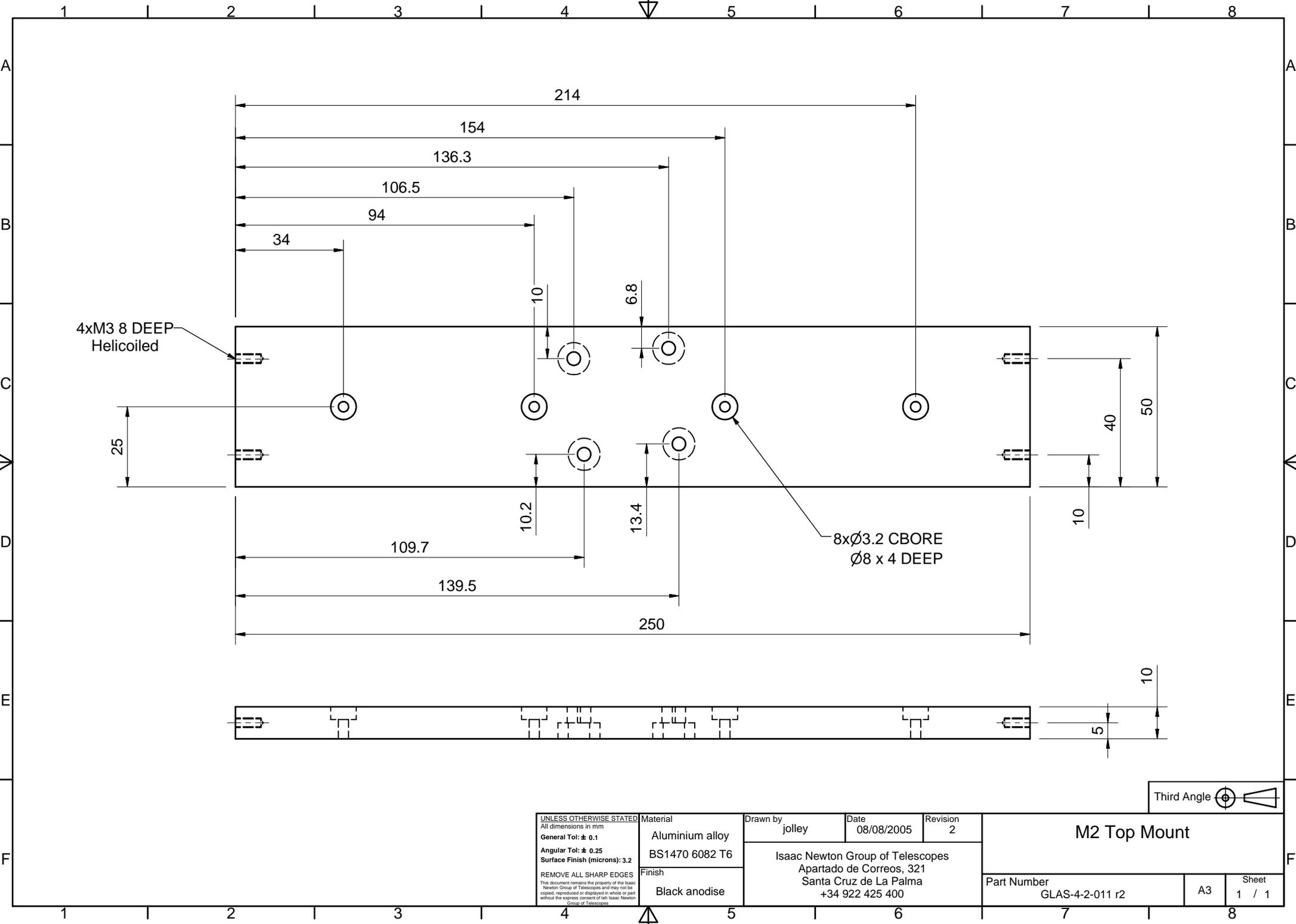
M2 Wedged Mount

Part Number GLAS-4-5-008 r1	A3	Sheet 1 / 1
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UNLESS OTHERWISE STATED All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	M1 Wedged Mount		
	Aluminium alloy	jolley	08/08/2005	2			
	BS1470 6082 T6	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
Finish				GLAS-4-2-009 r2	A3	1 / 1	
Black anodise							

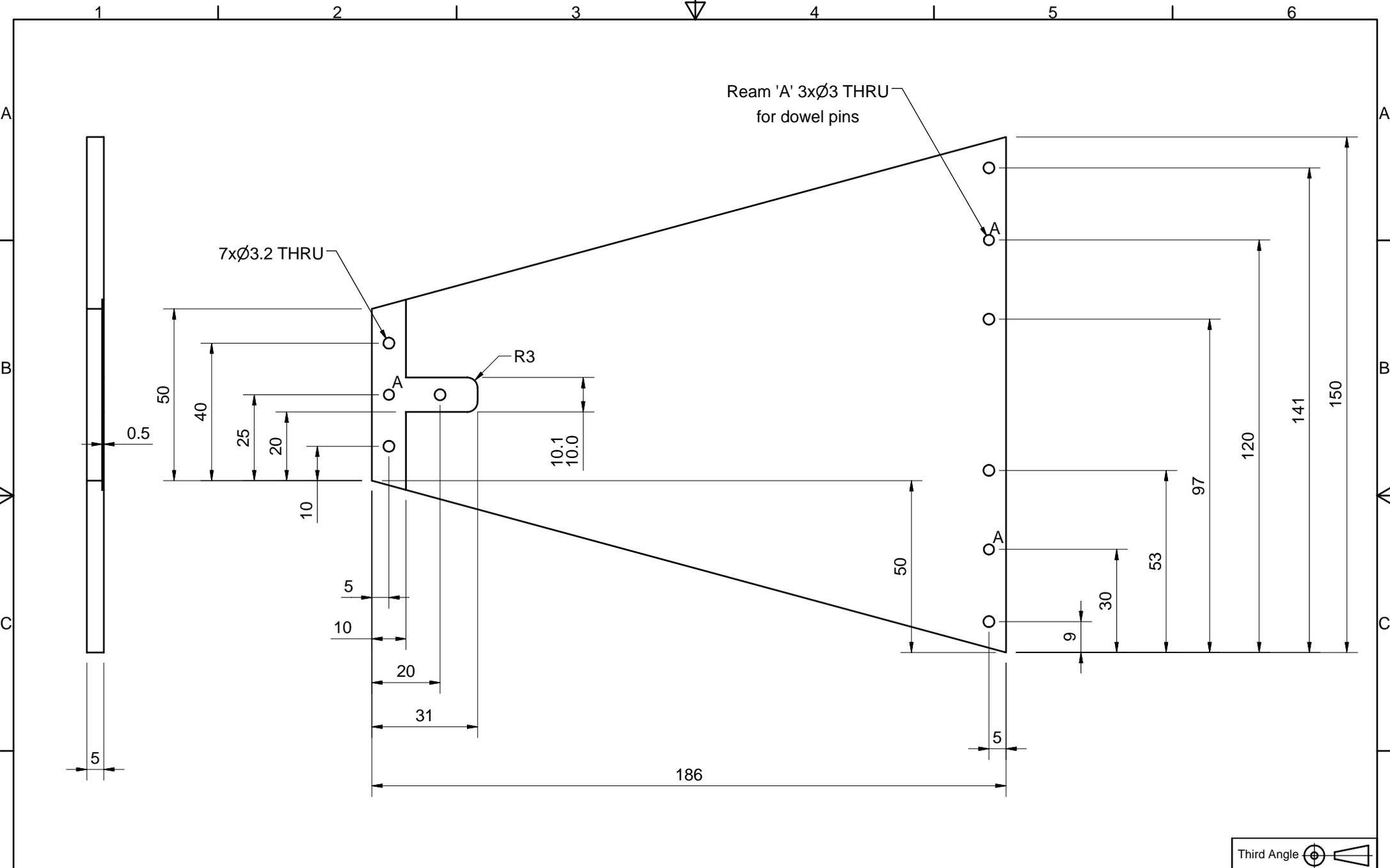


4xM3 8 DEEP
Helicoiled

8xØ3.2 CBORE
Ø8 x 4 DEEP

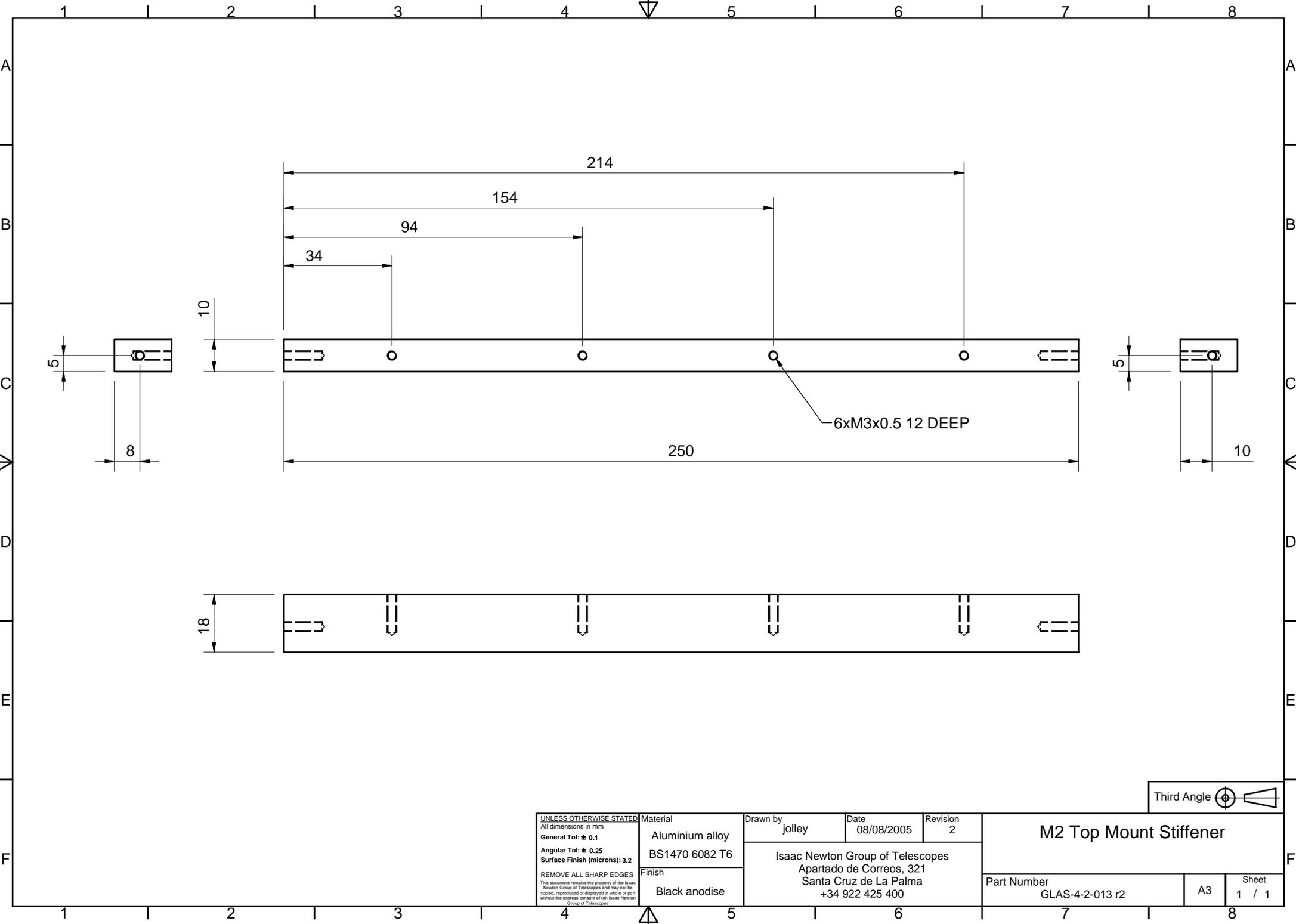


<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	<h2 style="text-align: center;">M2 Top Mount</h2>		
	Aluminium alloy BS1470 6082 T6	jolley	08/08/2005	2			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
	Black anodise				GLAS-4-2-011 r2	A3	1 / 1



Third Angle

<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	M2 Mount Uprights		
	Aluminium alloy	jolley	08/08/2005	2			
	BS1470 6082 T6	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	GLAS-4-2-012 r2	A3
Finish	Black anodise						



UNLESS OTHERWISE STATED
 All dimensions in mm
 General Tol: ± 0.1
 Angular Tol: ± 0.25
 Surface Finish (microns): 3.2
 REMOVE ALL SHARP EDGES
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Material
 Aluminium alloy
 BS1470 6082 T6
 Finish
 Black anodise

Drawn by
 jolley

Date
 08/08/2005

Revision
 2

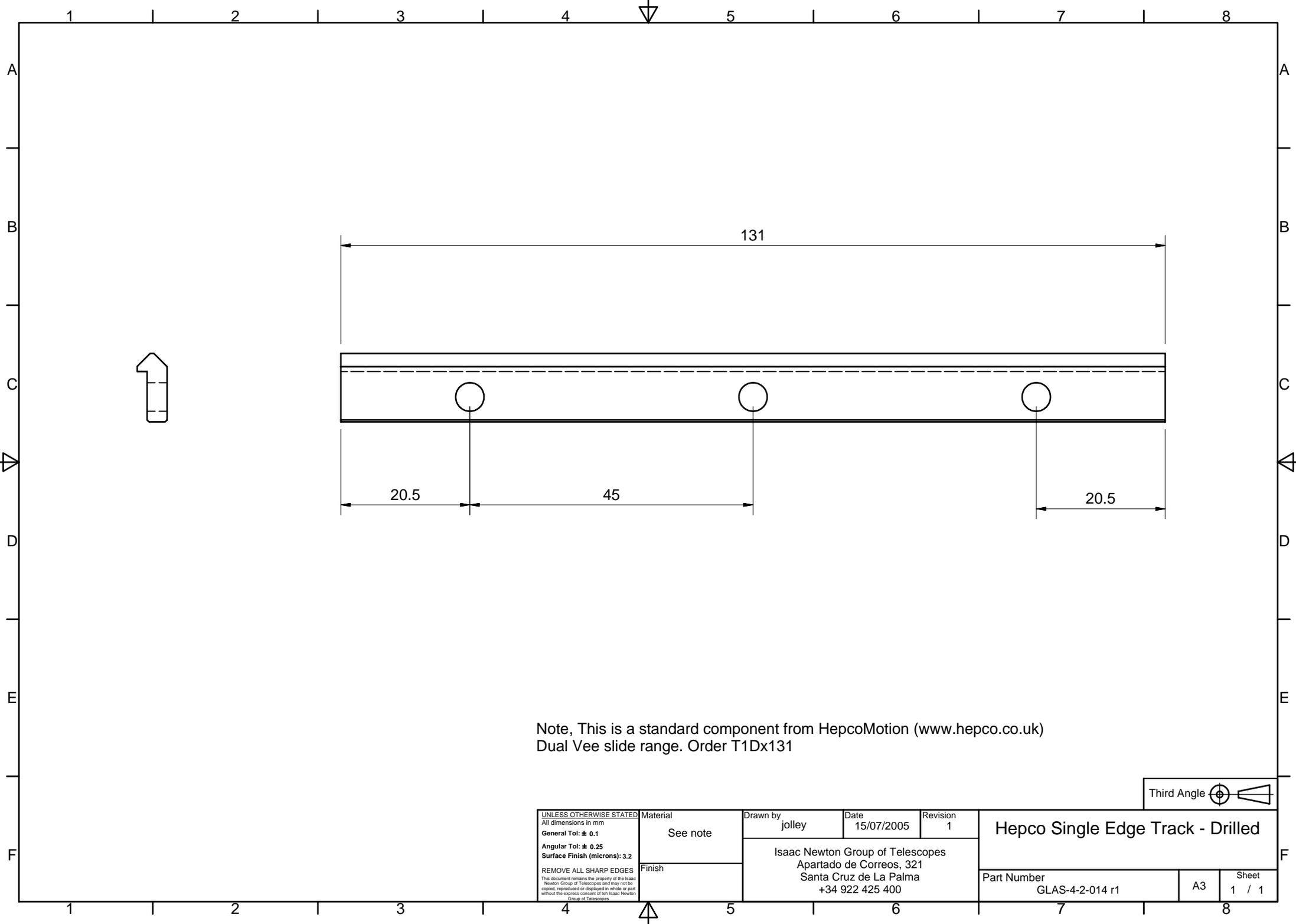
M2 Top Mount Stiffener

Part Number
 GLAS-4-2-013 r2

A3

Sheet
 1 / 1

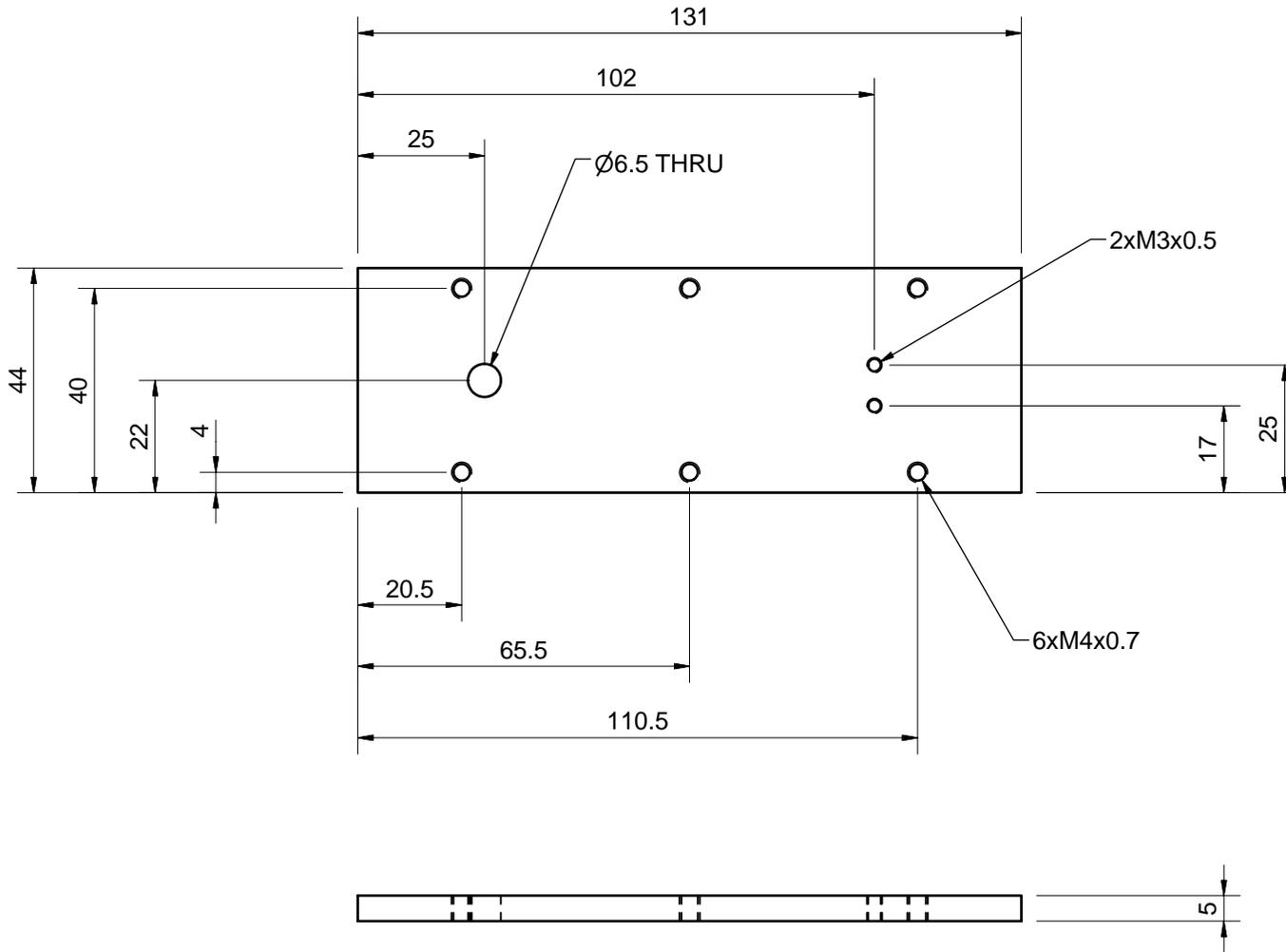




Note, This is a standard component from HepcoMotion (www.hepco.co.uk)
 Dual Vee slide range. Order T1Dx131

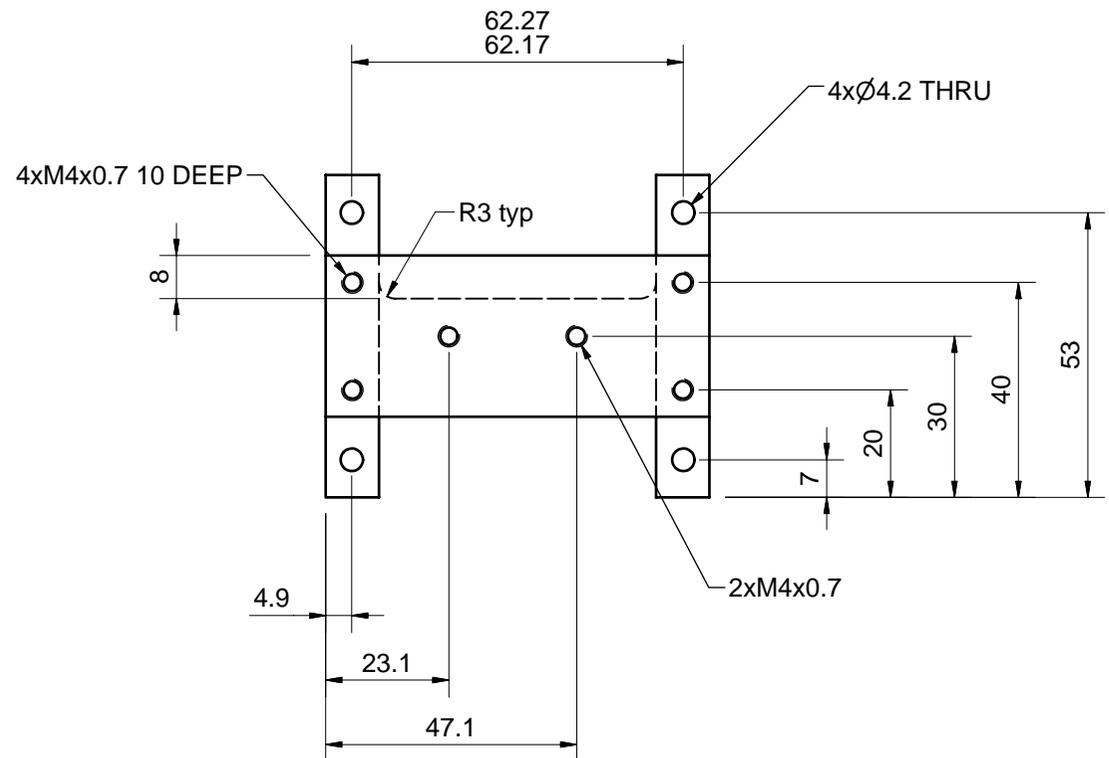
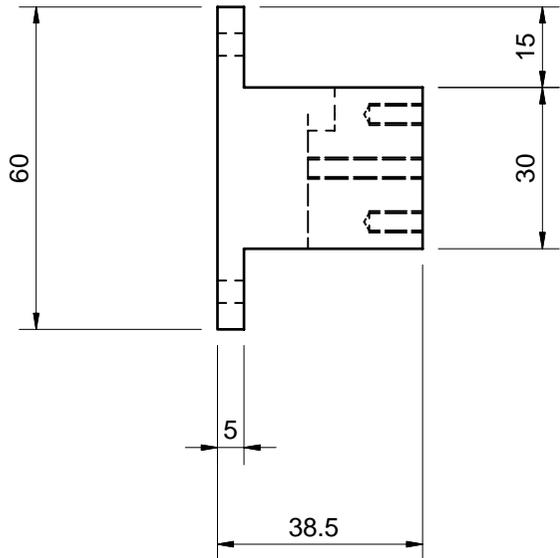
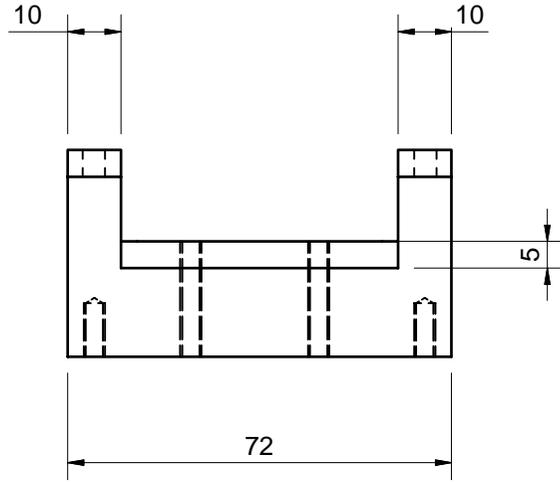
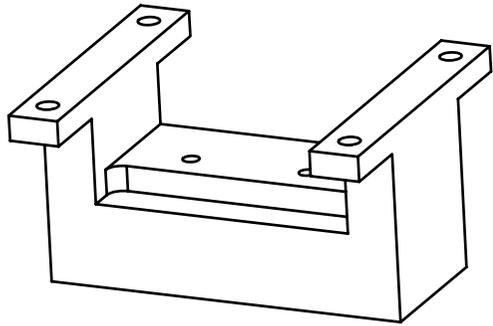


<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Hepco Single Edge Track - Drilled		
	See note	jolley	15/07/2005	1			
Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number		Sheet	
					GLAS-4-2-014 r1	A3	1 / 1

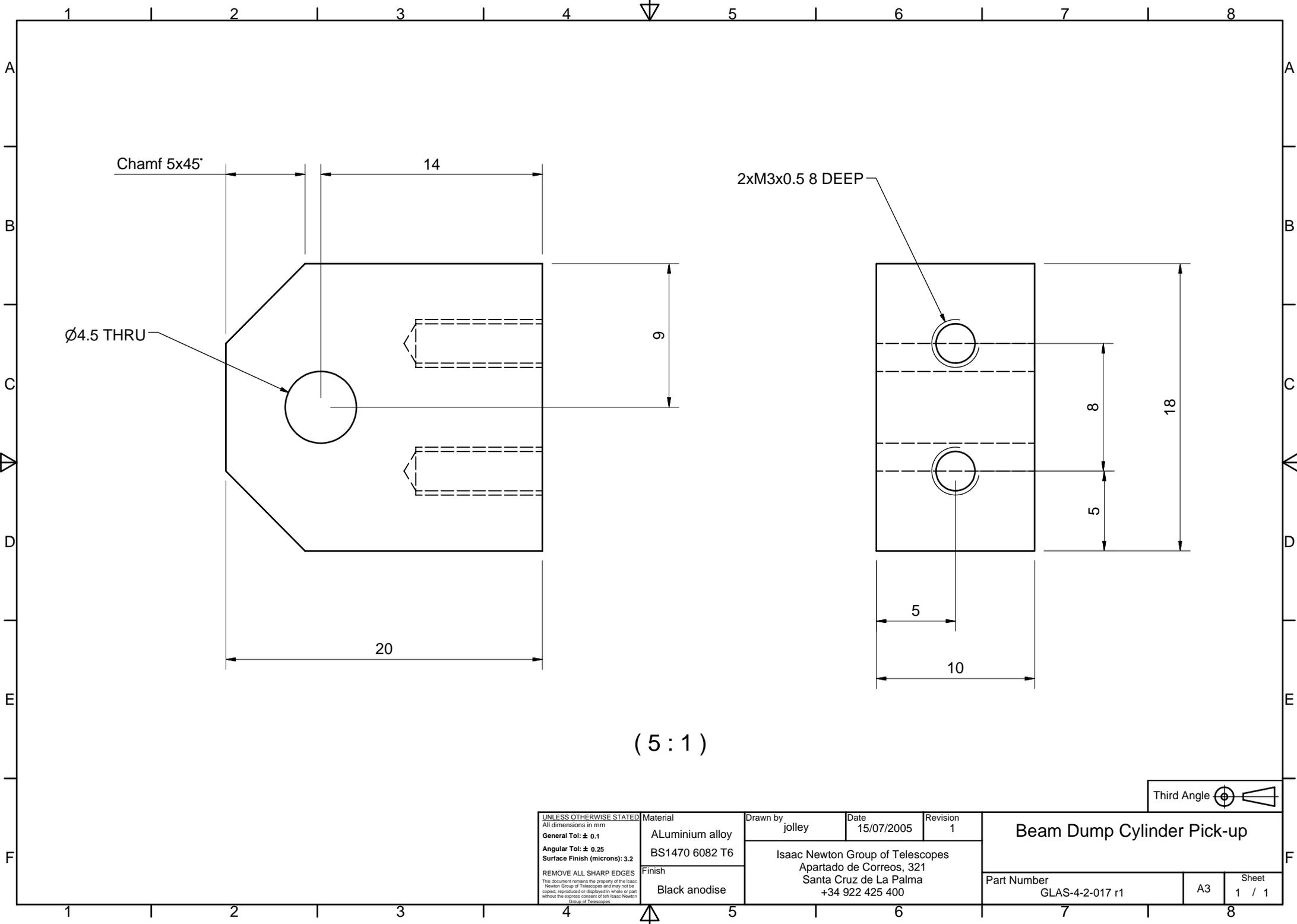


Third Angle

<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Beam Dump Base Plate		
	Aluminium alloy BS1470 6082 T6	jolley	08/08/2005	2			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
Black anodise				GLAS-4-2-015 r2	A3	1 / 1	



<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Beam Dump Support Bracket		
	Aluminium alloy BS1470 6082 T6	jolley	08/08/2005	2			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	A3	Sheet 1 / 1



Chamf 5x45°

14

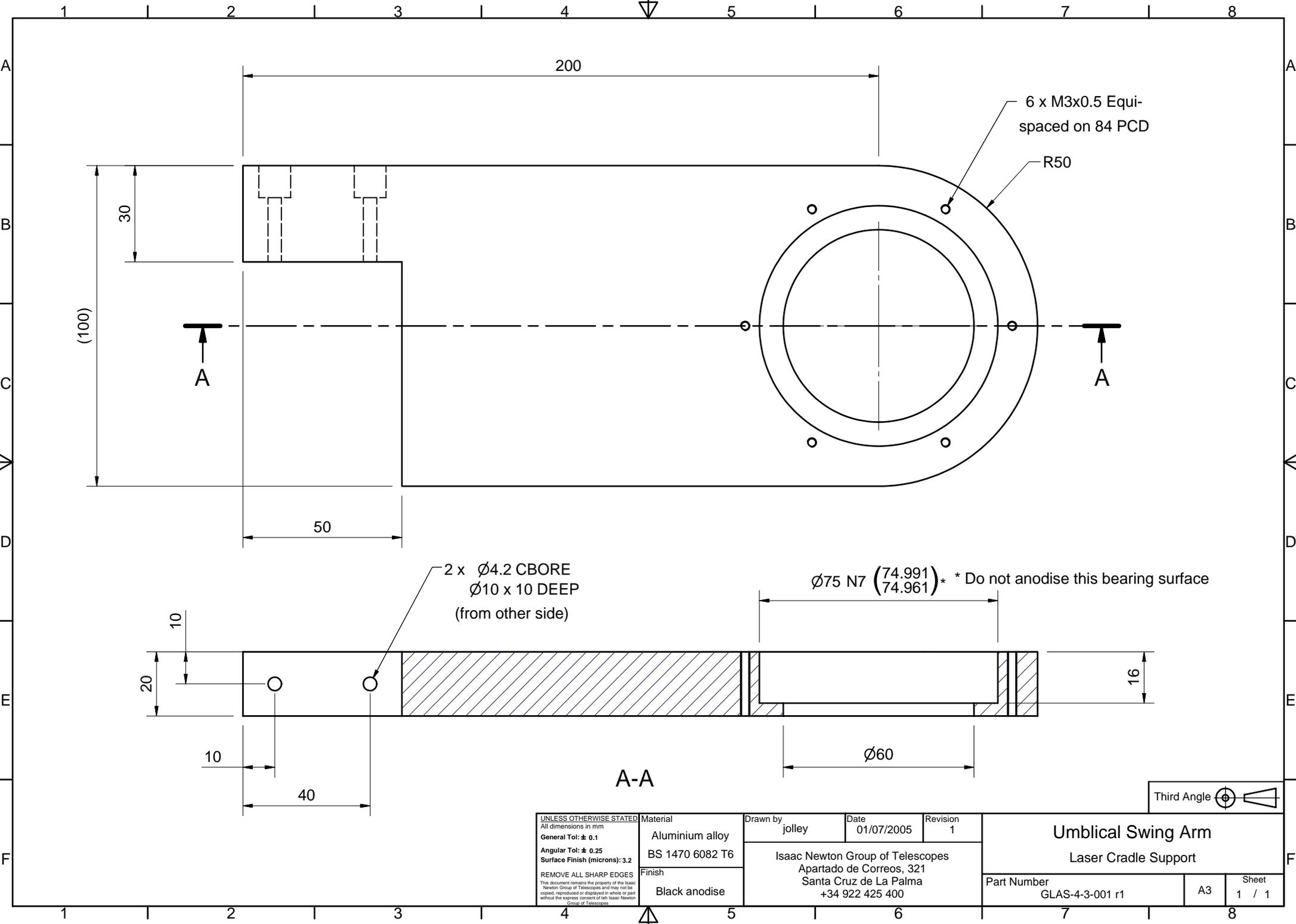
Ø4.5 THRU

2xM3x0.5 8 DEEP

(5 : 1)



<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Beam Dump Cylinder Pick-up		
	ALuminium alloy BS1470 6082 T6	jolley	15/07/2005	1			
Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number		Sheet	
Black anodise				GLAS-4-2-017 r1		A3 1 / 1	



(100)

200

6 x M3x0.5 Equi-spaced on 84 PCD

R50

A

A

50

2 x $\varnothing 4.2$ CBORE
 $\varnothing 10$ x 10 DEEP
(from other side)

$\varnothing 75$ N7 ($\begin{matrix} 74.991 \\ 74.961 \end{matrix}$) * Do not anodise this bearing surface

10
20

16

10

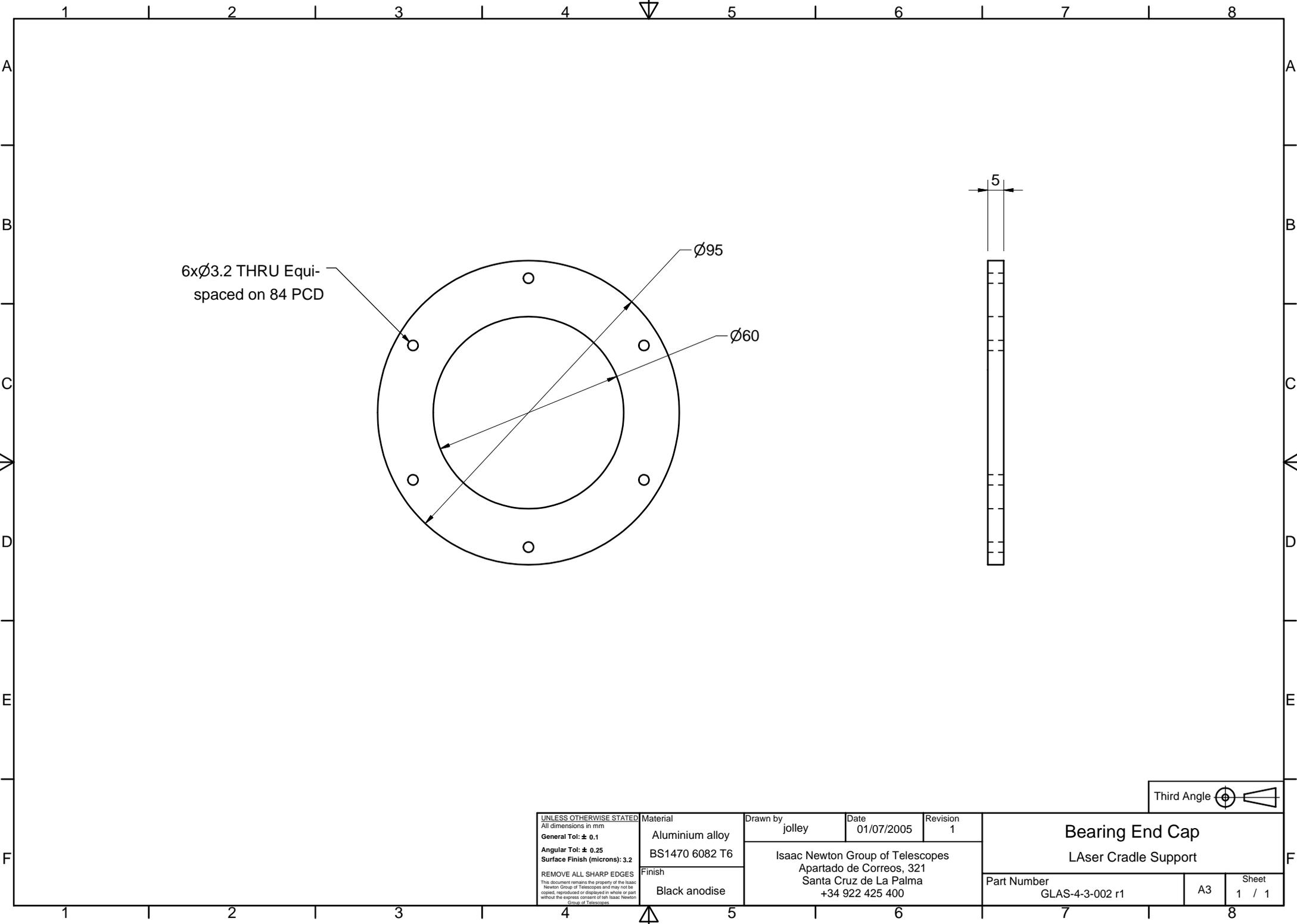
40

$\varnothing 60$

A-A

Third Angle

<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Umbilical Swing Arm Laser Cradle Support		
	Aluminium alloy BS 1470 6082 T6	jolley	01/07/2005	1			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
	Black anodise				GLAS-4-3-001 r1	A3	1 / 1



6xØ3.2 THRU Equi-spaced on 84 PCD

Ø95

Ø60

5

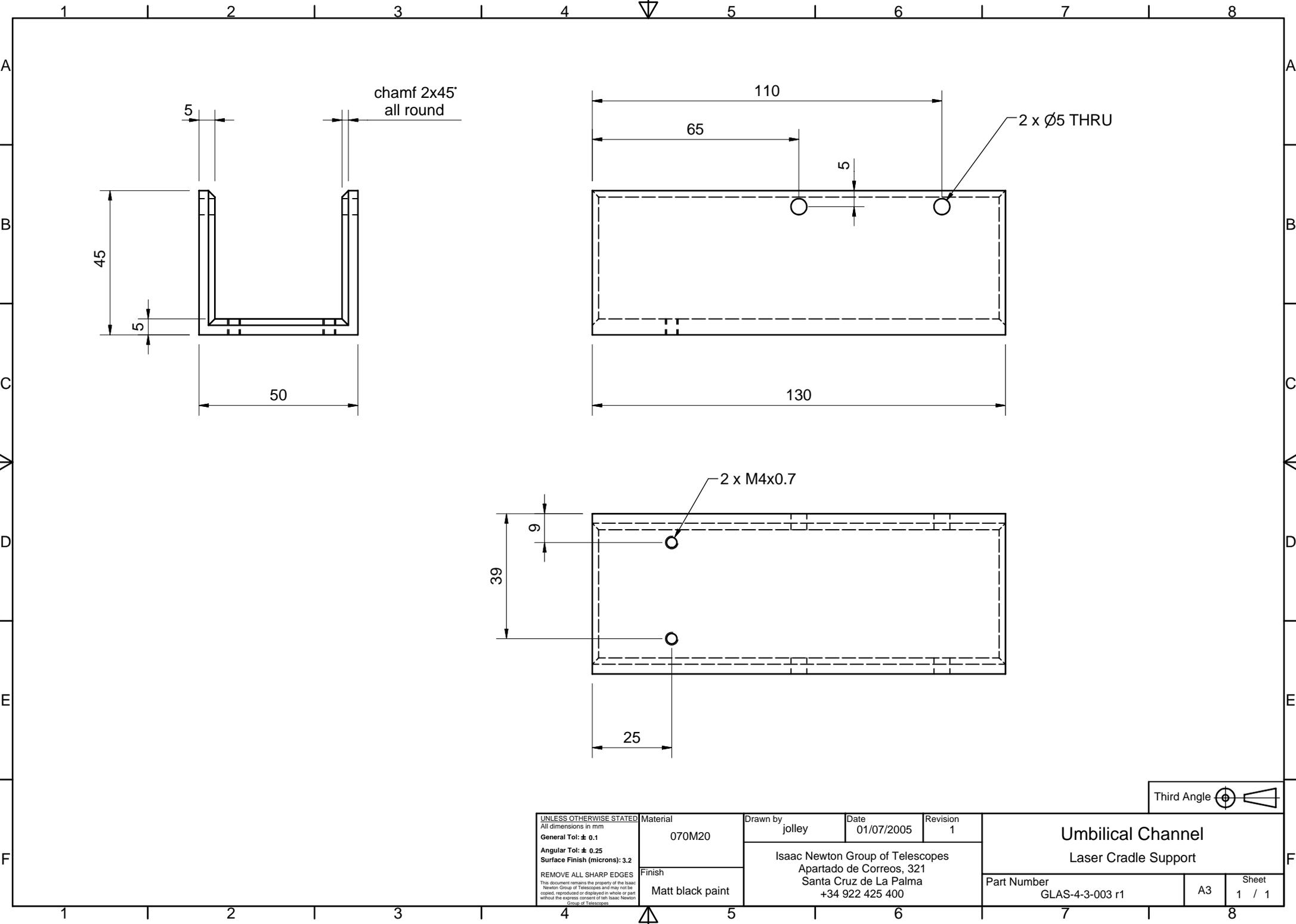
Third Angle

UNLESS OTHERWISE STATED
 All dimensions in mm
General Tol: ± 0.1
Angular Tol: ± 0.25
Surface Finish (microns): 3.2
REMOVE ALL SHARP EDGES
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Material
 Aluminium alloy
 BS1470 6082 T6
Finish
 Black anodise

Drawn by
 jolley
Date
 01/07/2005
Revision
 1
 Isaac Newton Group of Telescopes
 Apartado de Correos, 321
 Santa Cruz de La Palma
 +34 922 425 400

Bearing End Cap
LAser Cradle Support
Part Number
 GLAS-4-3-002 r1
Sheet
 1 / 1
A3



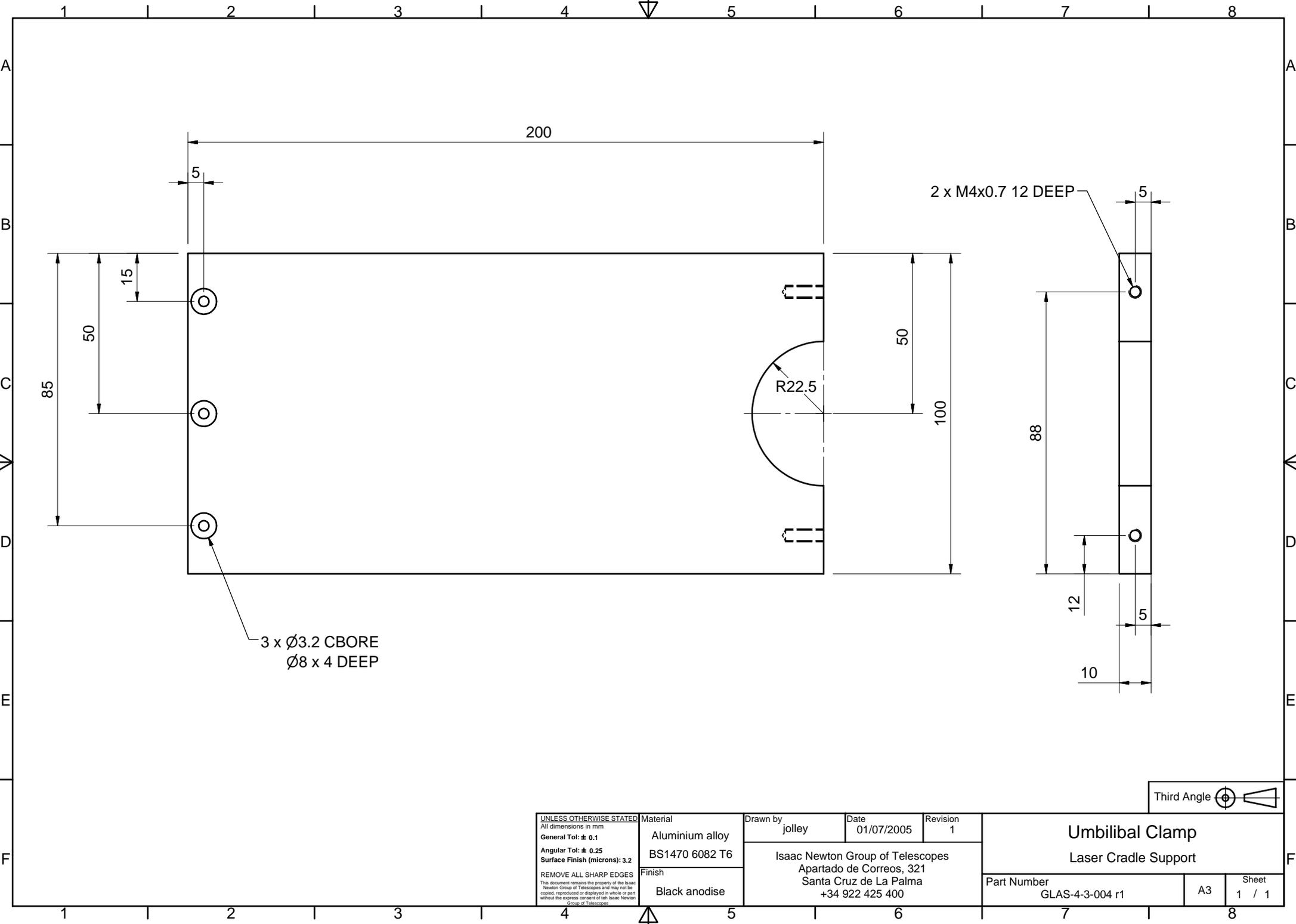
chamf 2x45°
all round

2 x Ø5 THRU

2 x M4x0.7



<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	070M20	Drawn by	jolley	Date	01/07/2005	Revision	1	Umbilical Channel Laser Cradle Support		
	Finish	Matt black paint	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	GLAS-4-3-003 r1	A3			



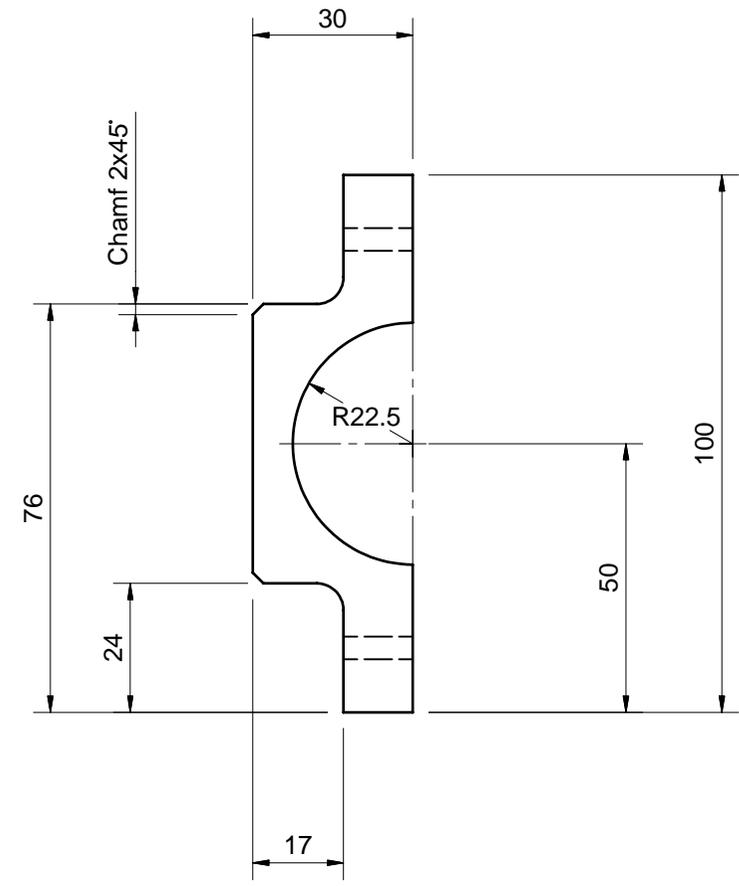
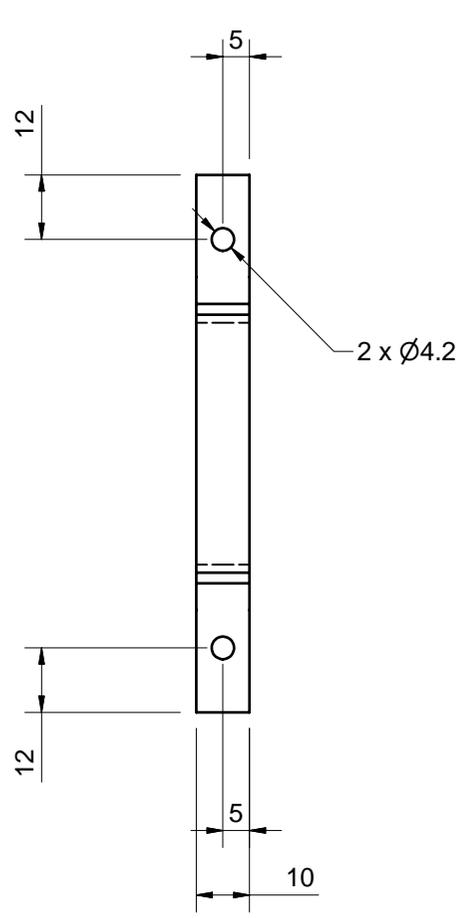
UNLESS OTHERWISE STATED
 All dimensions in mm
 General Tol: ± 0.1
 Angular Tol: ± 0.25
 Surface Finish (microns): 3.2
 REMOVE ALL SHARP EDGES
This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes

Material
 Aluminium alloy
 BS1470 6082 T6
 Finish
 Black anodise

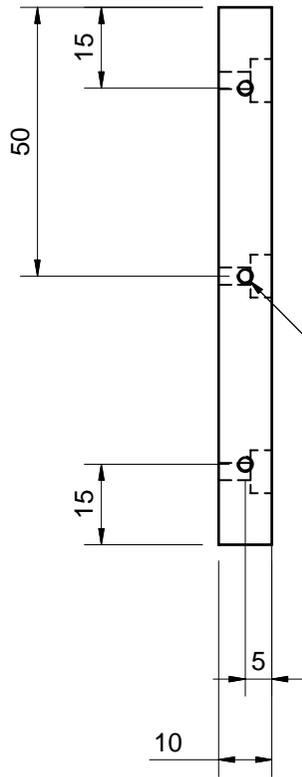
Drawn by
 jolley
 Date
 01/07/2005
 Revision
 1
 Isaac Newton Group of Telescopes
 Apartado de Correos, 321
 Santa Cruz de La Palma
 +34 922 425 400

Umbilical Clamp
 Laser Cradle Support
 Part Number
 GLAS-4-3-004 r1
 A3
 Sheet
 1 / 1

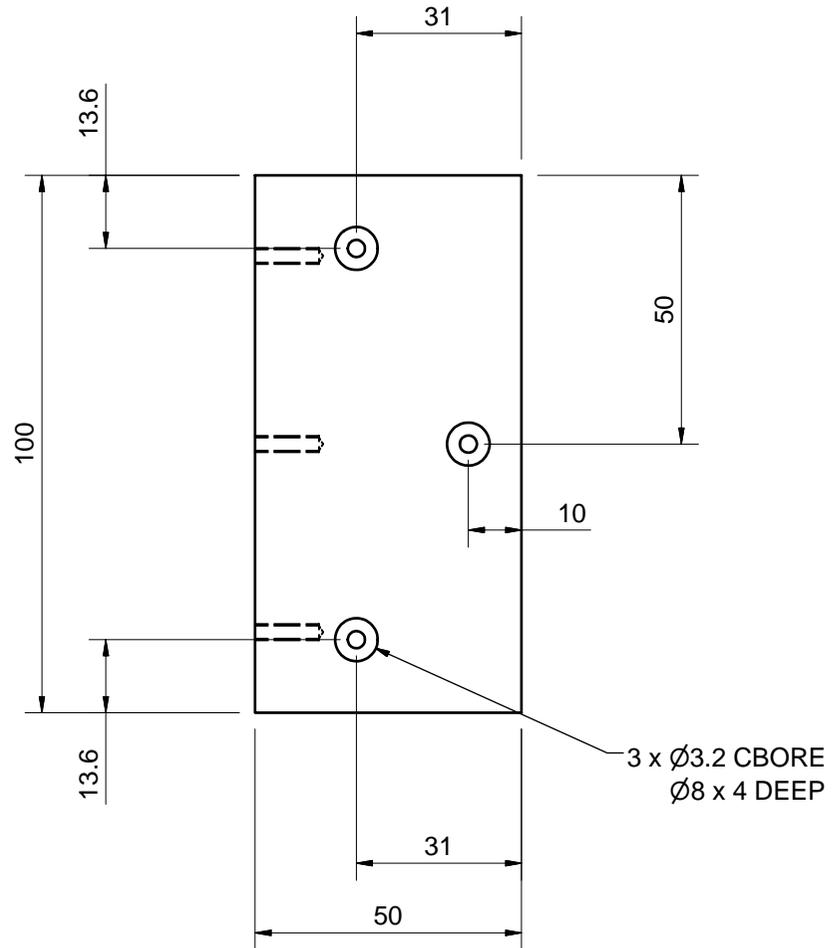




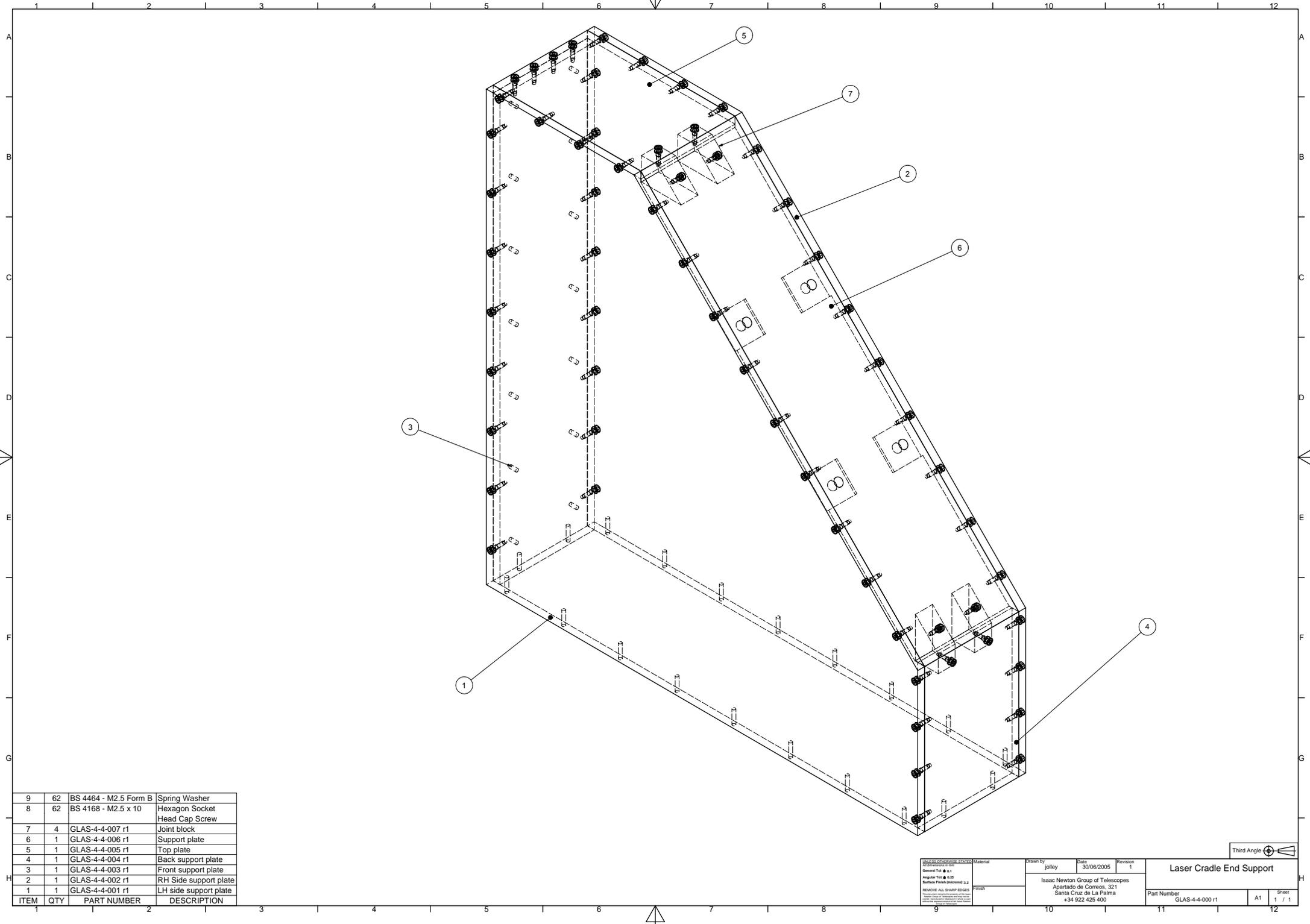
<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Umbilical Clamp Plate Laser Cradle Support		
	Aluminium alloy BS1470 6082 T6	jolley	01/07/2005	1			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
	Black anodise				GLAS-4-3-005 r1	A3	1 / 1



3 x M3x0.5 12 DEEP

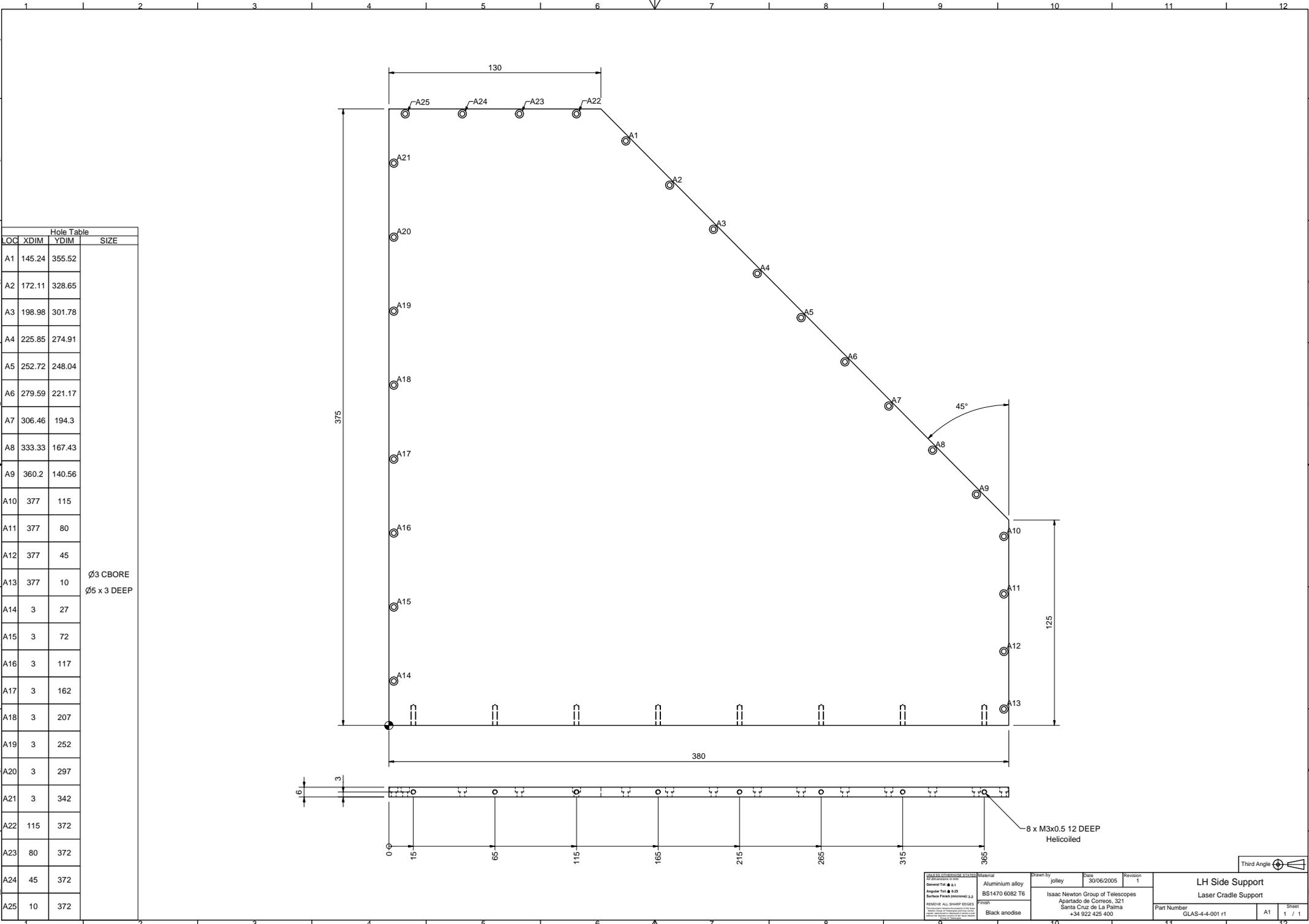


<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Umbilical Clamp Bracket Laser Cradle Support		
	Aluminium alloy BS1470 6082 T6	jolley	01/07/2005	1			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
	Black anodise				GLAS-4-3-006 r1	A3	1 / 1



9	62	BS 4464 - M2.5 Form B	Spring Washer
8	62	BS 4168 - M2.5 x 10	Hexagon Socket Head Cap Screw
7	4	GLAS-4-4-007 r1	Joint block
6	1	GLAS-4-4-006 r1	Support plate
5	1	GLAS-4-4-005 r1	Top plate
4	1	GLAS-4-4-004 r1	Back support plate
3	1	GLAS-4-4-003 r1	Front support plate
2	1	GLAS-4-4-002 r1	RH Side support plate
1	1	GLAS-4-4-001 r1	LH side support plate
ITEM	QTY	PART NUMBER	DESCRIPTION

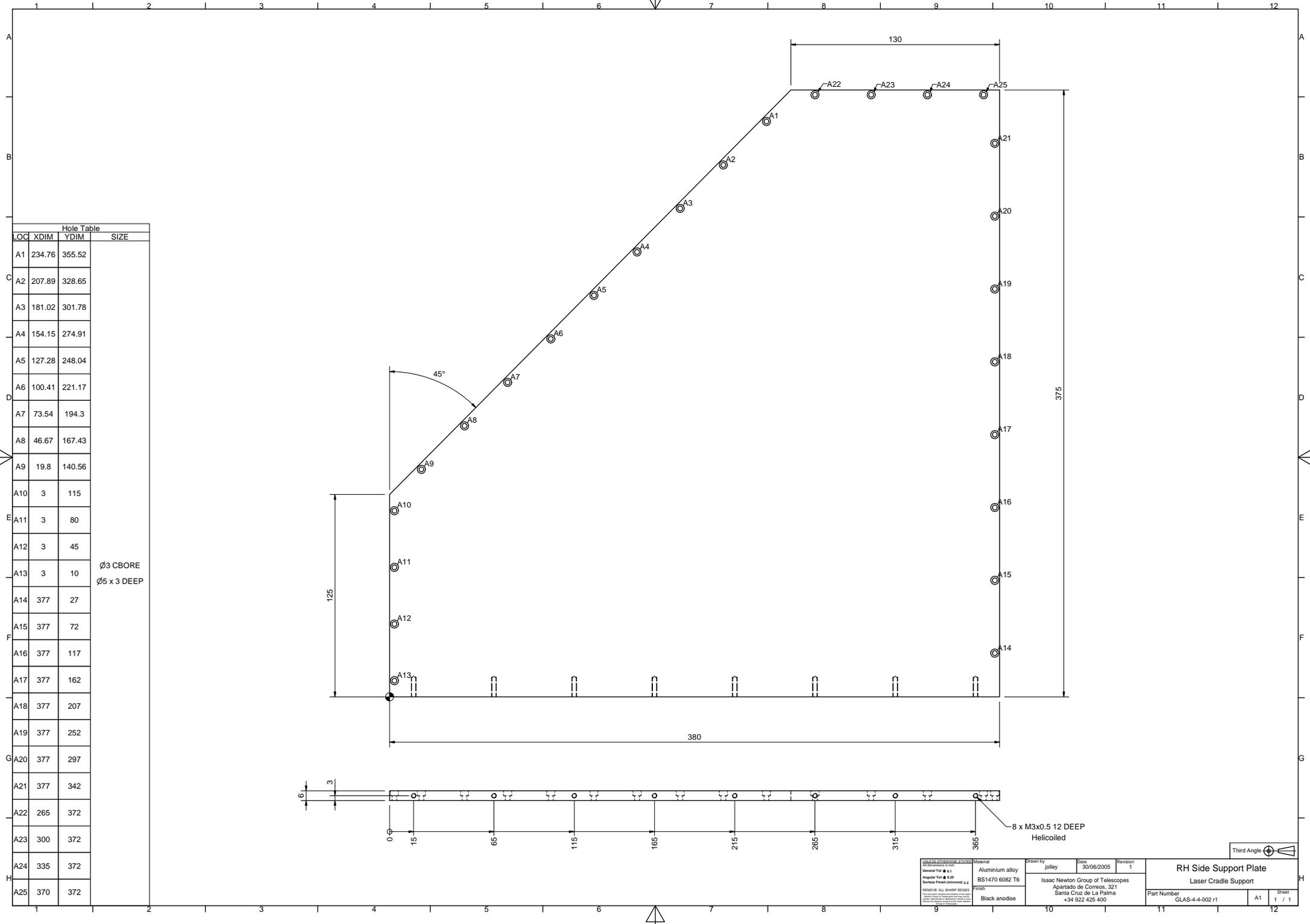
Material All dimensions in mm General TOL ± 0.1 Angular TOL ± 0.05 Surface Finish (micro Ra) 3.2 UNLESS OTHERWISE SPECIFIED	Material Finish	Drawn by jolley	Date 30/06/2005	Revision 1	Laser Cradle End Support
Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number GLAS-4-4-000 r1		
					Sheet 1 / 1



Hole Table			
LOC	XDIM	YDIM	SIZE
A1	145.24	355.52	
A2	172.11	328.65	
A3	198.98	301.78	
A4	225.85	274.91	
A5	252.72	248.04	
A6	279.59	221.17	
A7	306.46	194.3	
A8	333.33	167.43	
A9	360.2	140.56	
A10	377	115	
A11	377	80	
A12	377	45	
A13	377	10	∅3 CBORE
A14	3	27	∅5 x 3 DEEP
A15	3	72	
A16	3	117	
A17	3	162	
A18	3	207	
A19	3	252	
A20	3	297	
A21	3	342	
A22	115	372	
A23	80	372	
A24	45	372	
A25	10	372	

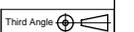
Material Aluminum alloy BS1470 6082 T6 Surface Finish (per ISO 1305) R0.25 Finish Black anodise	Drawn by jolley Date 30/06/2005 Revision 1	Material BS1470 6082 T6 Surface Finish (per ISO 1305) R0.25 Finish Black anodise	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400	LH Side Support Laser Cradle Support Part Number GLAS-4-4-001 r1	Sheet 1 / 1
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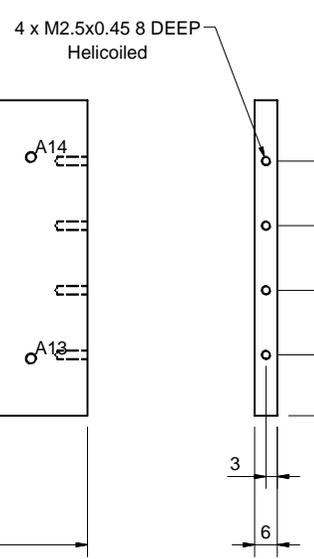
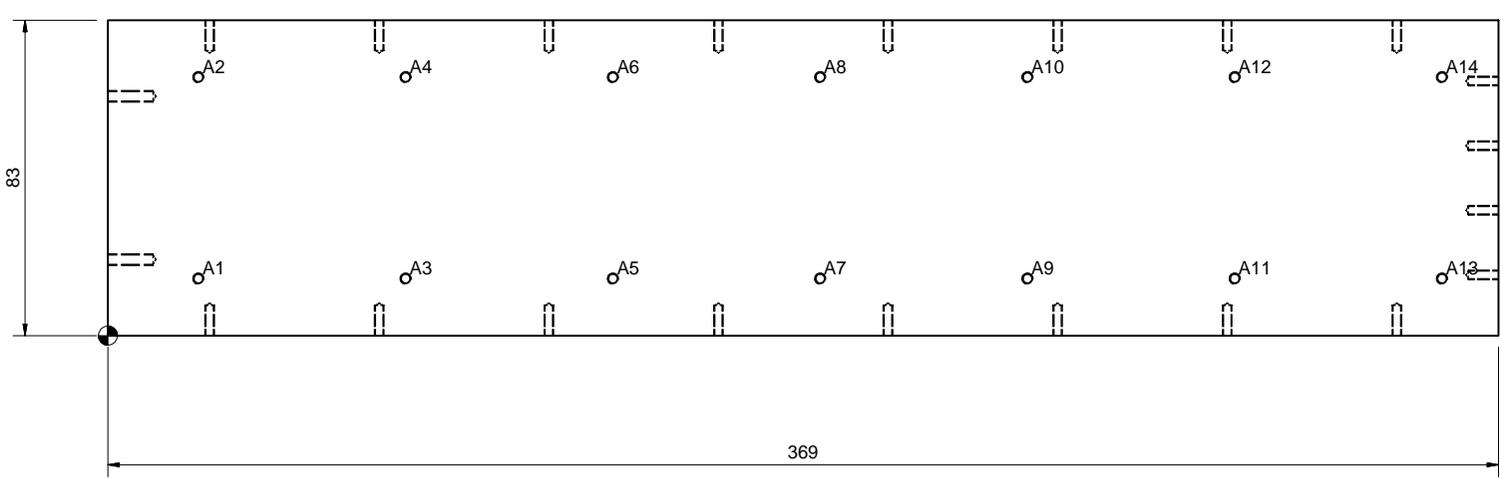
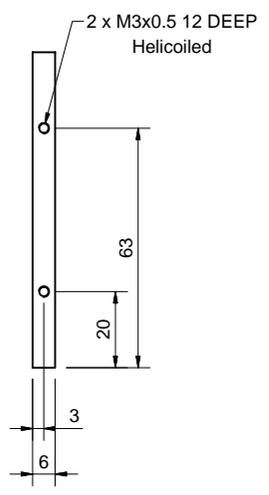
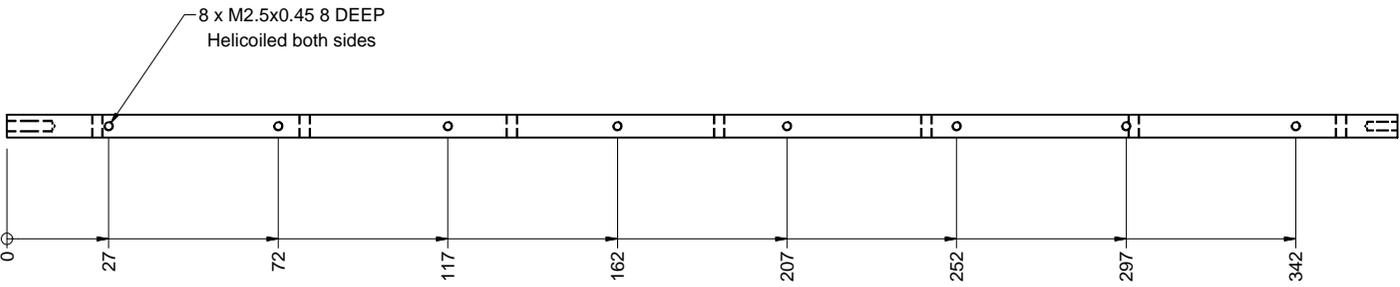
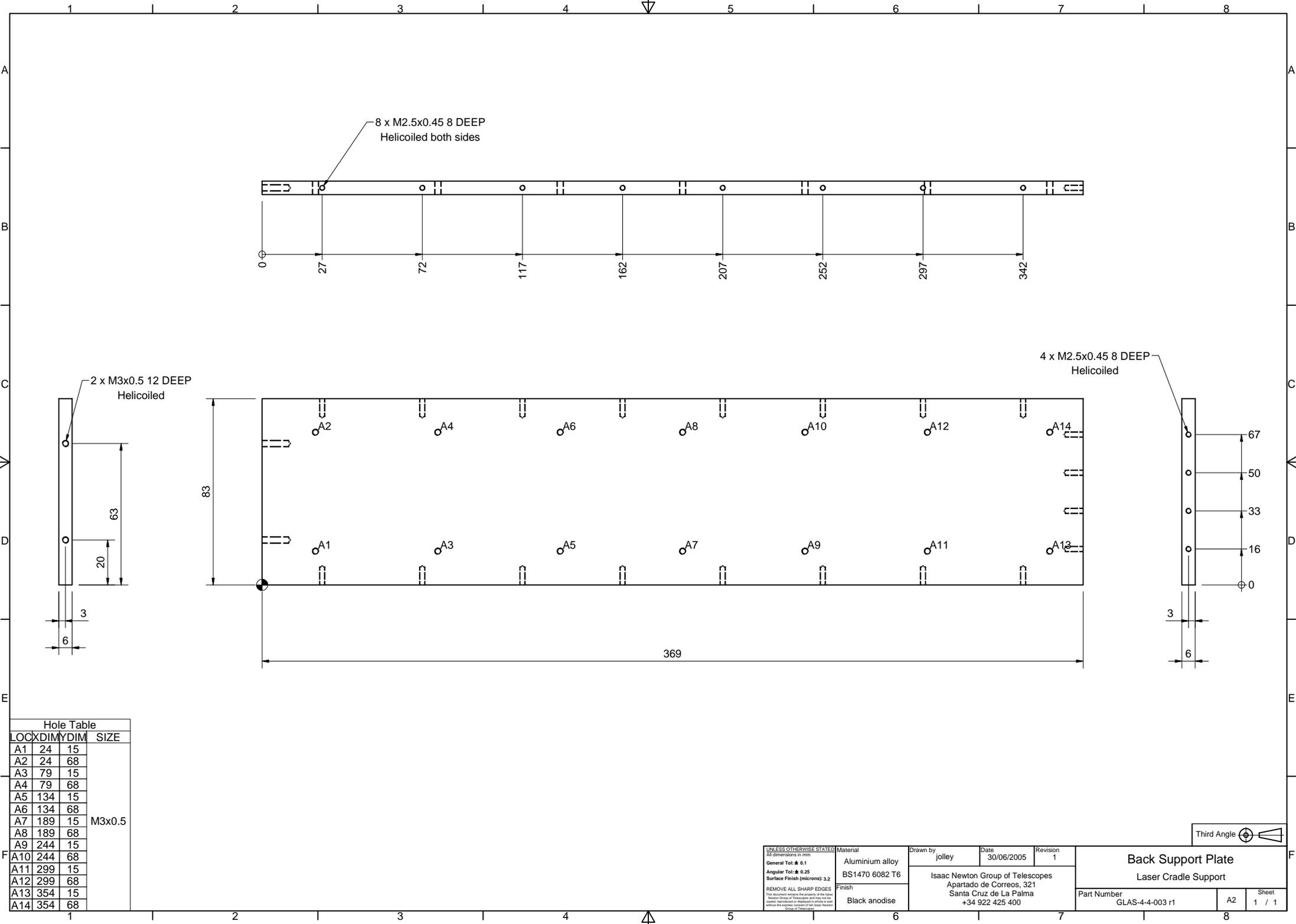




Hole Table			
LOC	XDIM	YDIM	SIZE
A1	234.76	355.52	Ø3 CBORE Ø5 x 3 DEEP
A2	207.89	328.65	
A3	181.02	301.78	
A4	154.15	274.91	
A5	127.28	248.04	
A6	100.41	221.17	
A7	73.54	194.3	
A8	46.67	167.43	
A9	19.8	140.56	
A10	3	115	
A11	3	80	
A12	3	45	
A13	3	10	
A14	377	27	
A15	377	72	
A16	377	117	
A17	377	162	
A18	377	207	
A19	377	252	
A20	377	297	
A21	377	342	
A22	265	372	
A23	300	372	
A24	335	372	
A25	370	372	

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED GENERAL TOL: ±0.1 ANGULAR TOL: ±0.5 SURFACE FINISH: (see spec) 3.2 FINISH: EXCEPT: ALL SHOWN EXCEPT THE SURFACE FINISH SPECIFIED IN THE TOL SPECIFICATION. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE TO BE TAKEN TO THE CENTER OF THE HOLE UNLESS OTHERWISE SPECIFIED.	Material Aluminum alloy BS1470 6082 T6 Finish: Black anodize	Drawn by jolley	Date 30/06/2005	Revision 1	RH Side Support Plate Laser Cradle Support
Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400					
Part Number GLAS-4-4-002 r1					
				Sheet 1 / 1	

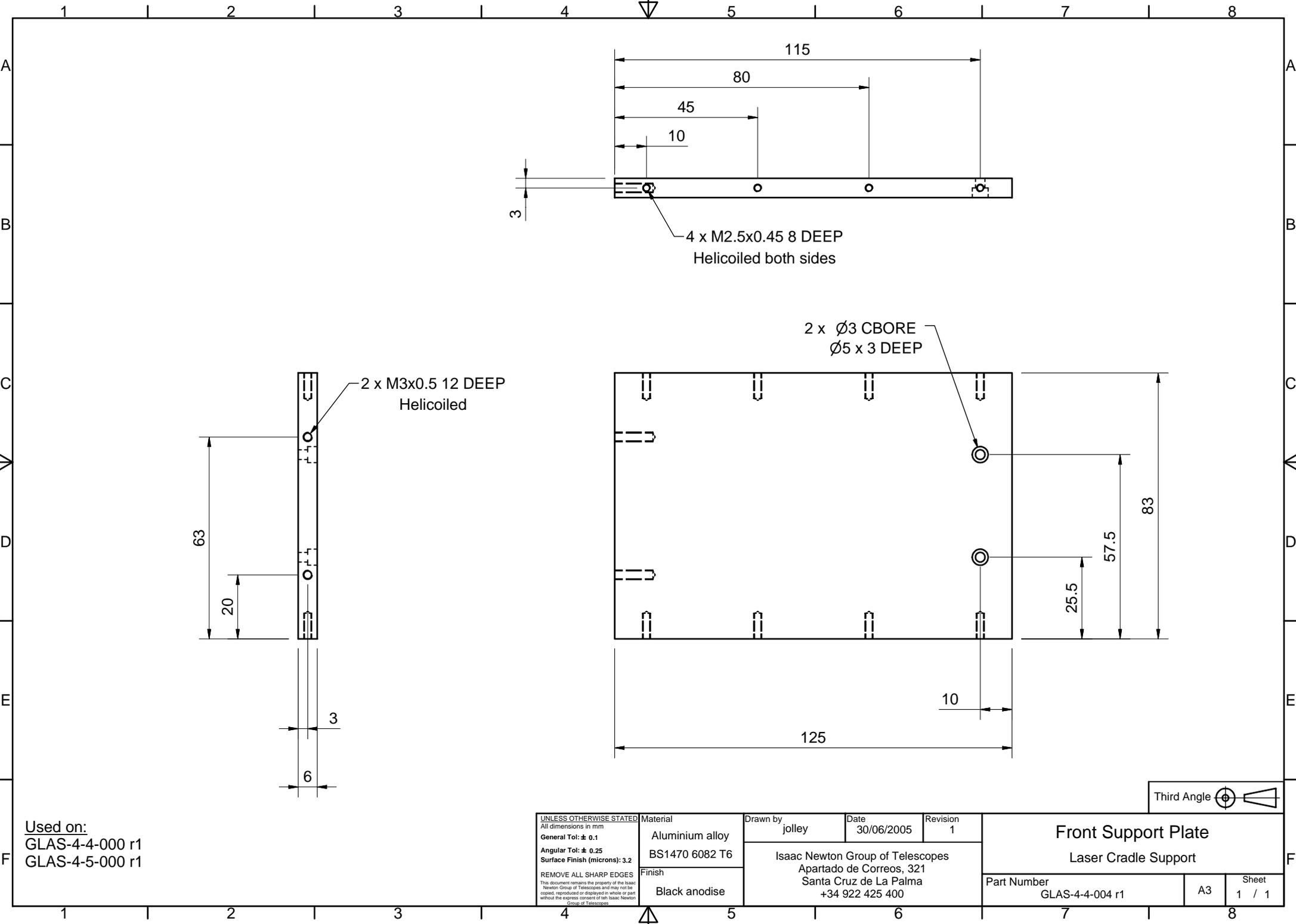




Hole Table			
LOC	DIM	YDIM	SIZE
A1	24	15	M3x0.5
A2	24	68	
A3	79	15	
A4	79	68	
A5	134	15	
A6	134	68	
A7	189	15	
A8	189	68	
A9	244	15	
A10	244	68	
A11	299	15	
A12	299	68	
A13	354	15	
A14	354	68	

<small>UNLESS OTHERWISE STATED: All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or distributed in whole or in part without the written consent of the Isaac Newton Group of Telescopes.</small></small>	Material	Drawn by	Date	Revision	Back Support Plate Laser Cradle Support
	Aluminium alloy BS1470 6082 T6	jolley	30/06/2005	1	
	Finish Black anodise	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			
Part Number				Sheet	
GLAS-4-4-003 r1				A2	1 / 1

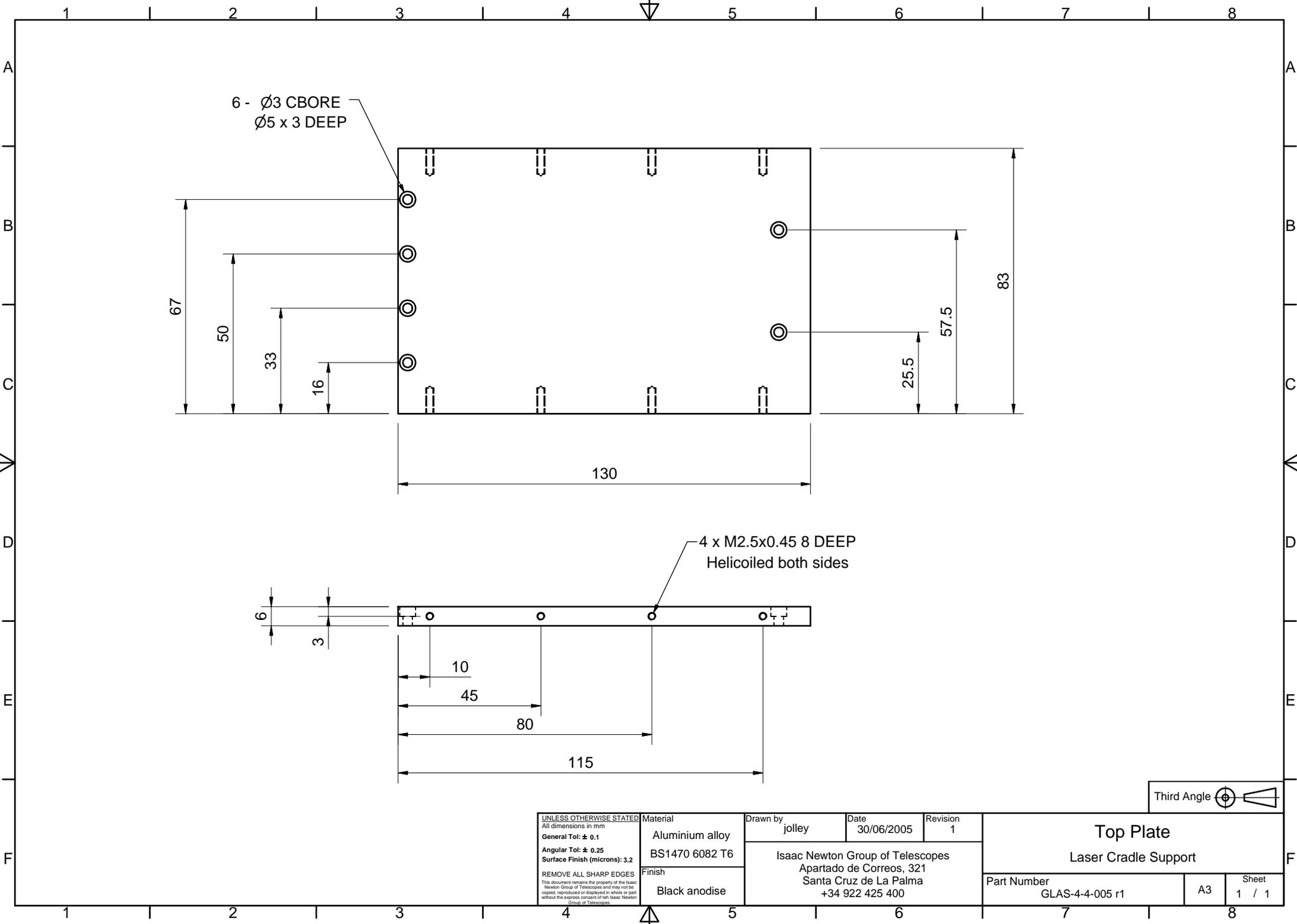




Used on:
 GLAS-4-4-000 r1
 GLAS-4-5-000 r1

<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Front Support Plate Laser Cradle Support		
	Aluminium alloy BS1470 6082 T6	jolley	30/06/2005	1			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
Black anodise				GLAS-4-4-004 r1	A3	1 / 1	



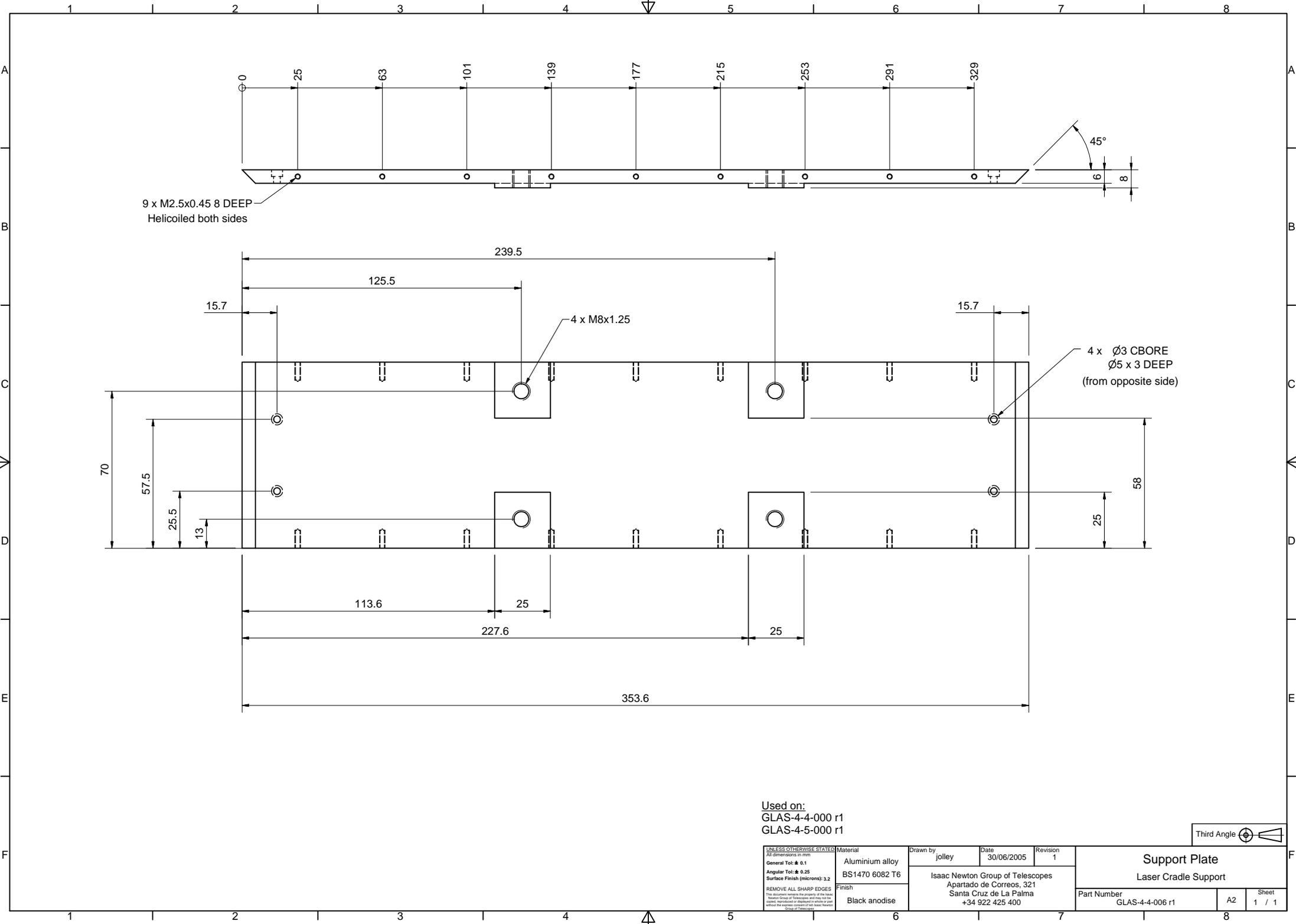


6 - Ø3 CBORE
Ø5 x 3 DEEP

4 x M2.5x0.45 8 DEEP
Helicoiled both sides



<small>UNLESS OTHERWISE STATED</small> All dimensions in mm General Tol: ± 0.1 Angular Tol: ± 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or displayed in whole or part without the express consent of the Isaac Newton Group of Telescopes</small>	Material	Drawn by	Date	Revision	Top Plate Laser Cradle Support		
	Aluminium alloy BS1470 6082 T6	jolley	30/06/2005	1			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
	Black anodise				GLAS-4-4-005 r1	A3	1 / 1

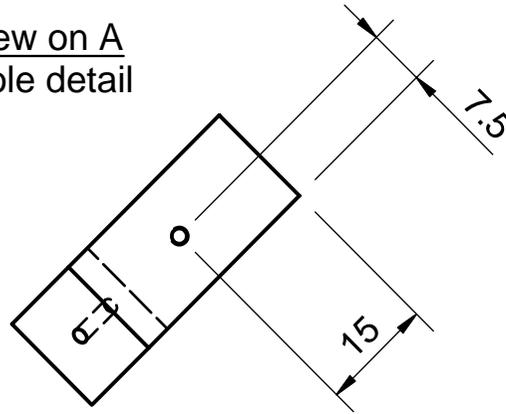


Used on:
GLAS-4-4-000 r1
GLAS-4-5-000 r1

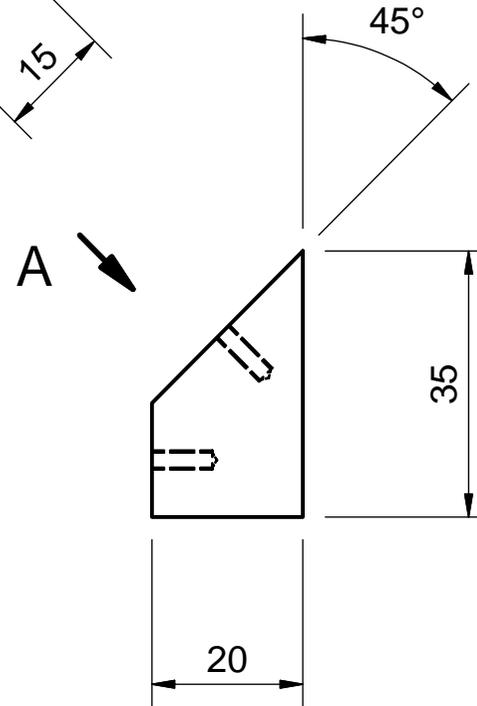
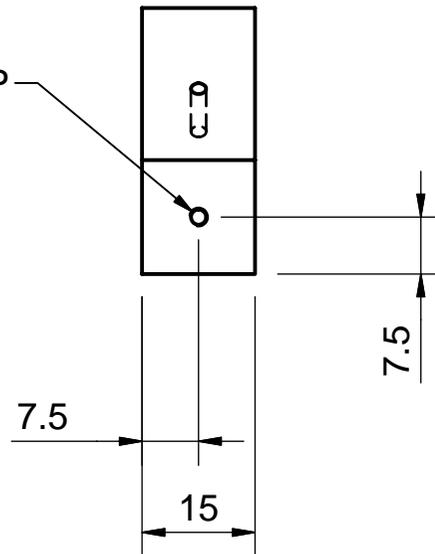


<small>UNLESS OTHERWISE STATED: All dimensions in mm General Tol: \pm 0.1 Angular Tol: \pm 0.25 Surface Finish (microns): 3.2 REMOVE ALL SHARP EDGES <small>This document remains the property of the Isaac Newton Group of Telescopes and may not be copied, reproduced or distributed in whole or in part without the written consent of the Isaac Newton Group of Telescopes.</small> </small>	Material	Aluminium alloy BS1470 6082 T6	Drawn by	jolley	Date	30/06/2005	Revision	1	Support Plate Laser Cradle Support	
	Finish	Black anodise	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	GLAS-4-4-006 r1	Sheet		
							A2			

Auxiliary view on A
Showing hole detail



2 x M2.5x0.45 8 DEEP
Helicoiled



Third Angle

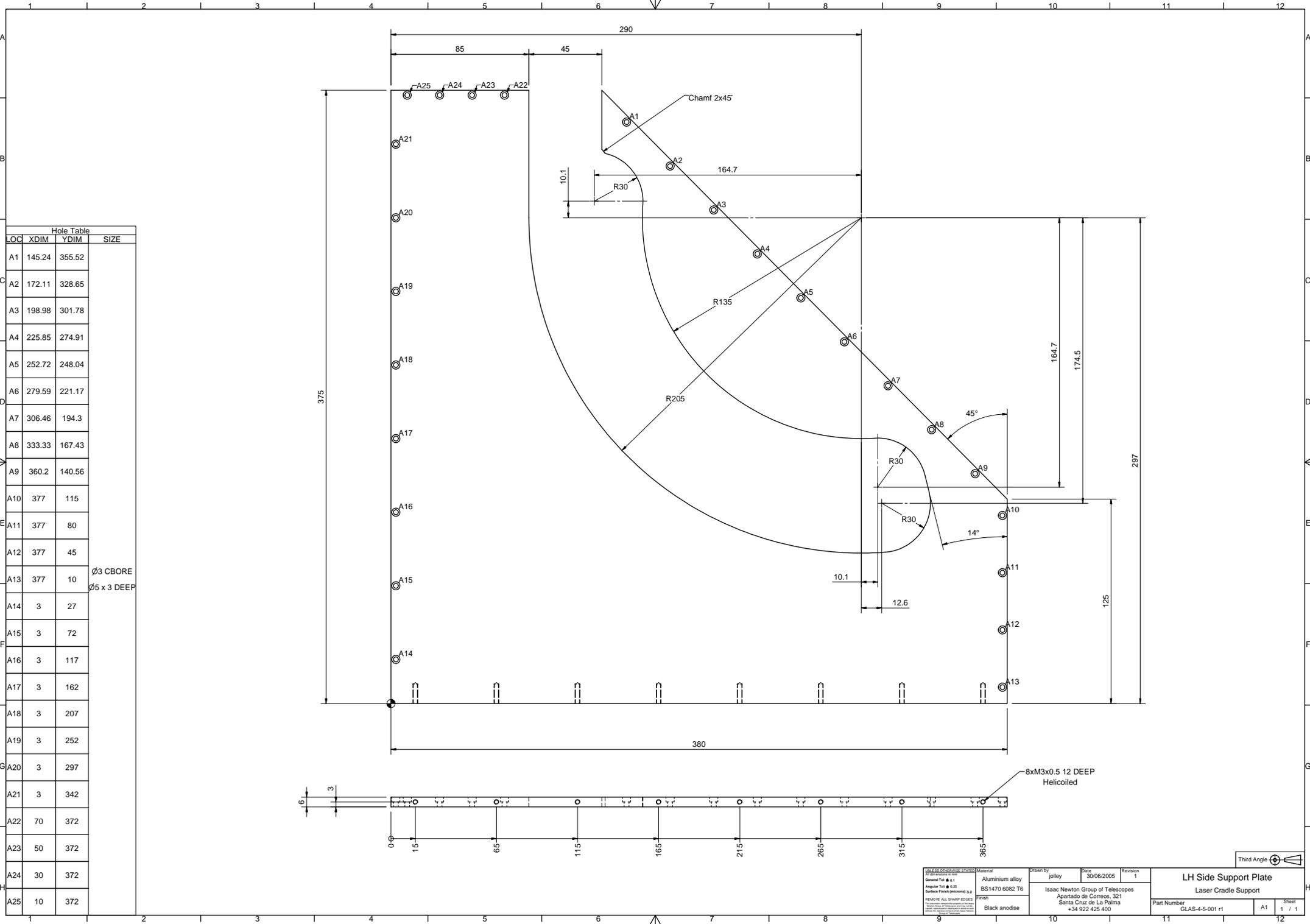
Used on:
GLAS-4-4-000 r1
GLAS-4-5-000 r1

UNLESS OTHERWISE STATED
All dimensions in mm
General Tol: ± 0.1
Angular Tol: ± 0.25
Surface Finish (microns): 3.2
REMOVE ALL SHARP EDGES
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Material
Aluminium alloy
BS1470 6082 T6
Finish
Black anodise

Drawn by
jolley
Date
30/06/2005
Revision
1
Isaac Newton Group of Telescopes
Apartado de Correos, 321
Santa Cruz de La Palma
+34 922 425 400

Joint Block
Laser Cradle Support
Part Number
GLAS-4-4-007 r1
Sheet
A4
1 / 1

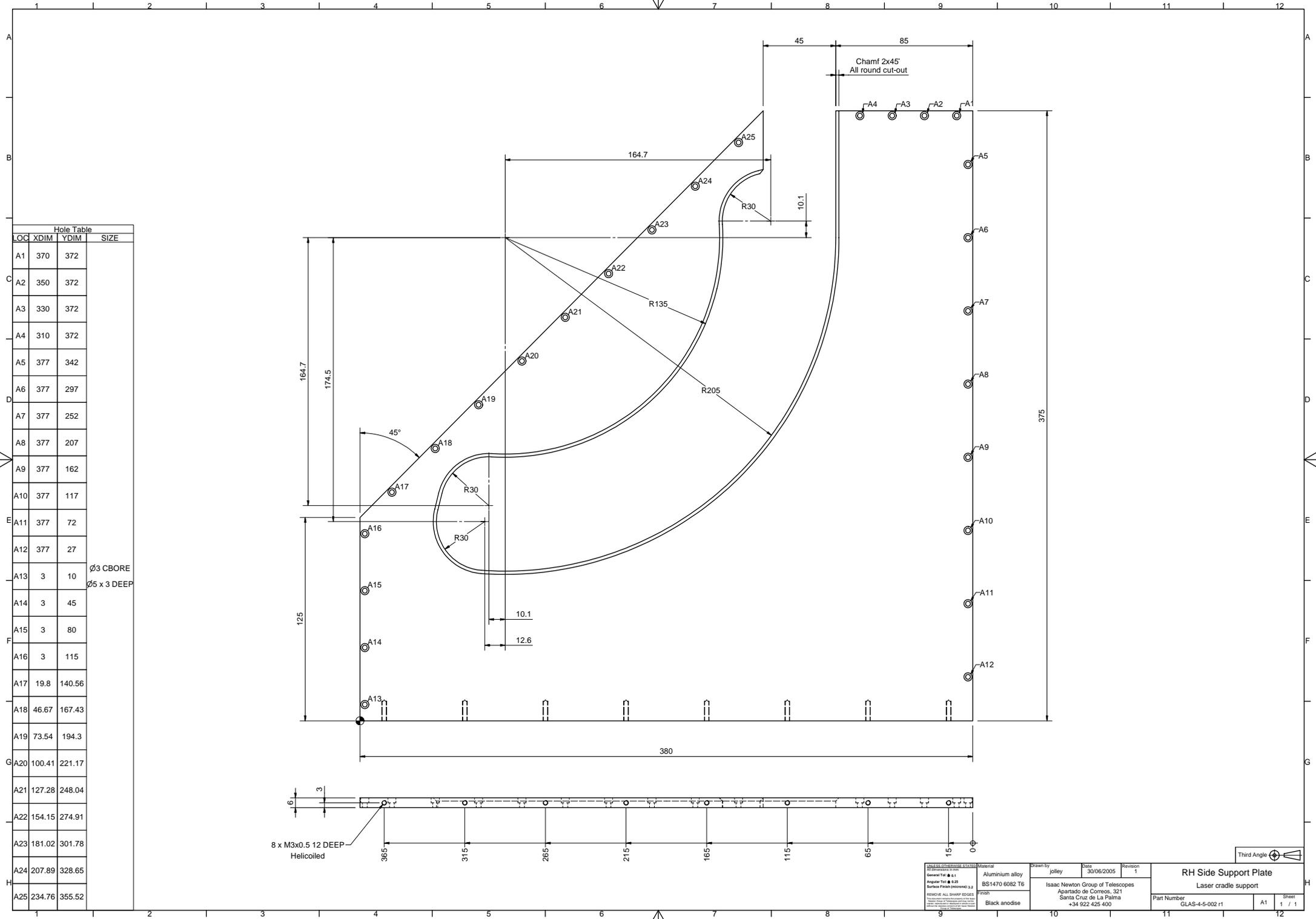


Hole Table			
LOC	XDIM	YDIM	SIZE
A1	145.24	355.52	
A2	172.11	328.65	
A3	198.98	301.78	
A4	225.85	274.91	
A5	252.72	248.04	
A6	279.59	221.17	
A7	306.46	194.3	
A8	333.33	167.43	
A9	360.2	140.56	
A10	377	115	
A11	377	80	
A12	377	45	
A13	377	10	
A14	3	27	
A15	3	72	
A16	3	117	
A17	3	162	
A18	3	207	
A19	3	252	
A20	3	297	
A21	3	342	
A22	70	372	
A23	50	372	
A24	30	372	
A25	10	372	

Ø3 CBORE
Ø5 x 3 DEEP

ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED GENERAL TOL: ±0.1 ANGULAR TOL: ±0.5 SURFACE FINISH: (see spec) 3.2 FINISH: BLACK ANODISE	Material: Aluminium alloy BS1470 6082 T6	Drawn by: jolley	Date: 30/06/2005	Revision: 1	LH Side Support Plate Laser Cradle Support
ISAC: Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400					
Part Number: GLAS-4-5-001 r1					Sheet: 1 / 1

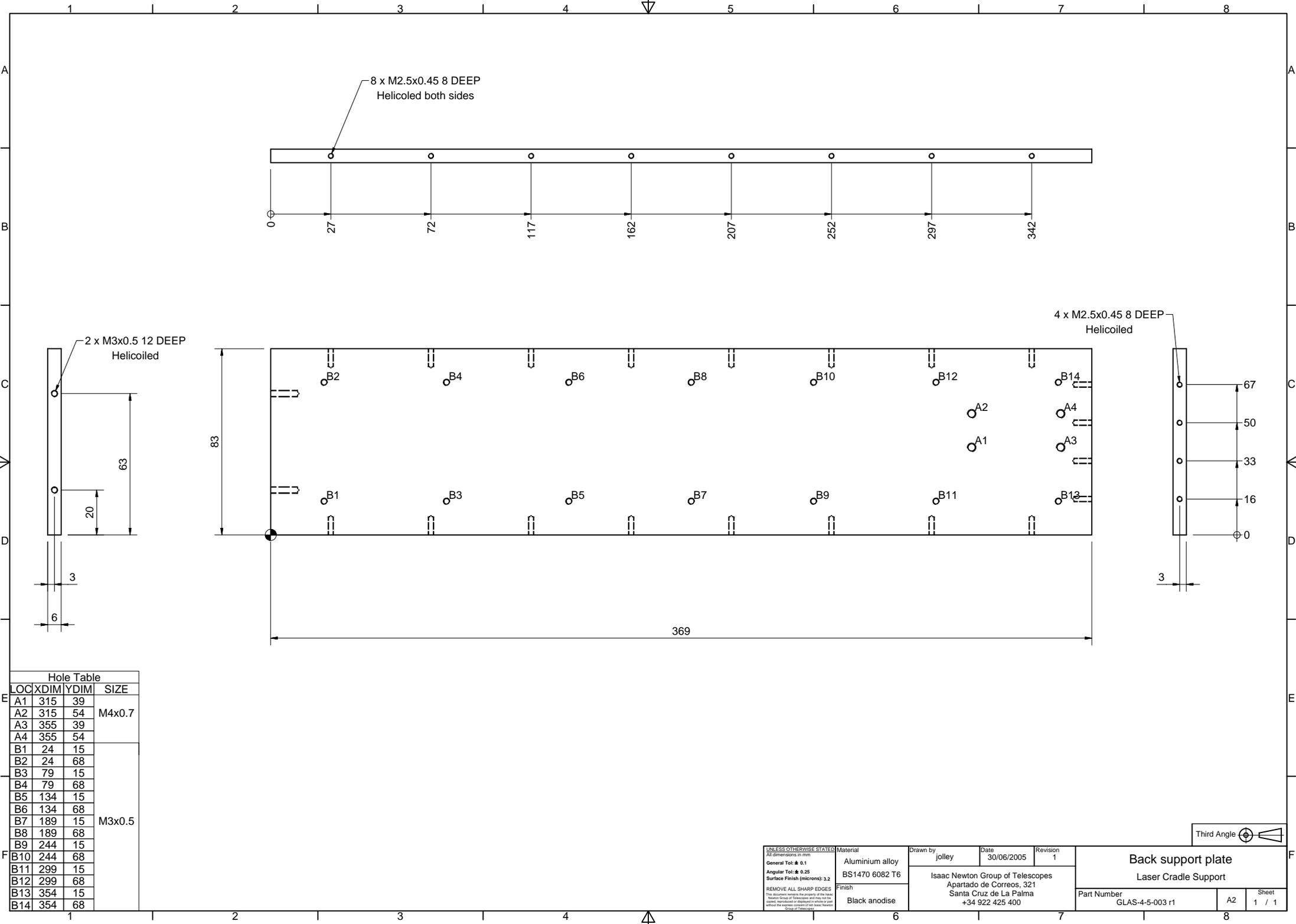




Hole Table			
LOC	XDIM	YDIM	SIZE
A1	370	372	
A2	350	372	
A3	330	372	
A4	310	372	
A5	377	342	
A6	377	297	
A7	377	252	
A8	377	207	
A9	377	162	
A10	377	117	
A11	377	72	
A12	377	27	
A13	3	10	Ø3 CBORE
A14	3	45	Ø5 x 3 DEEP
A15	3	80	
A16	3	115	
A17	19.8	140.56	
A18	46.67	167.43	
A19	73.54	194.3	
A20	100.41	221.17	
A21	127.28	248.04	
A22	154.15	274.91	
A23	181.02	301.78	
A24	207.89	328.65	
A25	234.76	355.52	

Material Aluminum alloy BS1470 6082 T6 Surface Finish (per ISO 1305) R12.5 Finish Black anodise	Drawn by jolley	Date 30/06/2005	Revision 1	RH Side Support Plate Laser cradle support
Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400				Part Number GLAS-4-5-002 r1
			Sheet 1 / 1	A1





8 x M2.5x0.45 8 DEEP
Helicoiled both sides

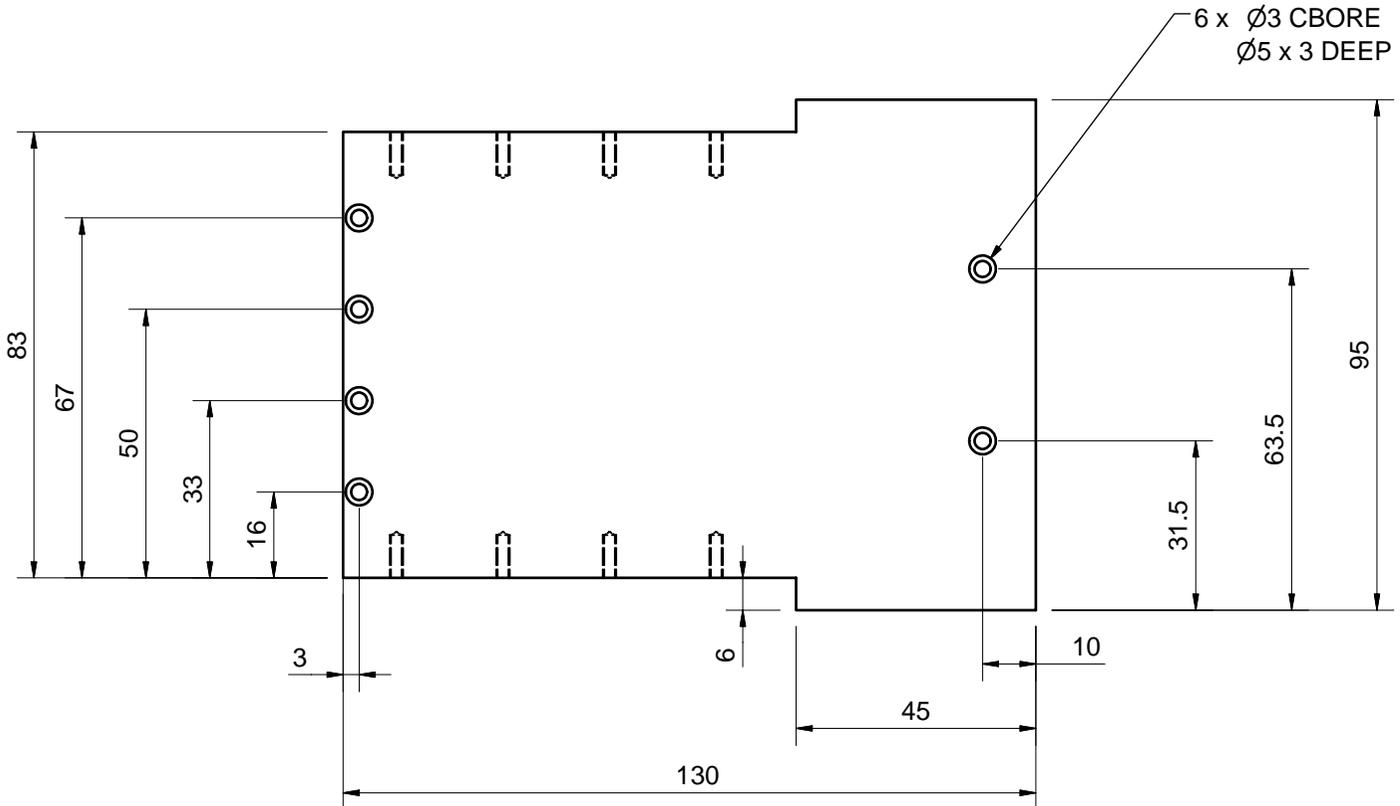
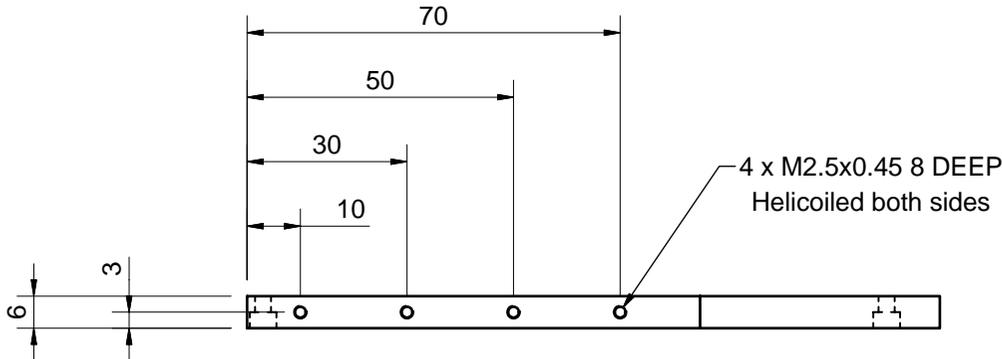
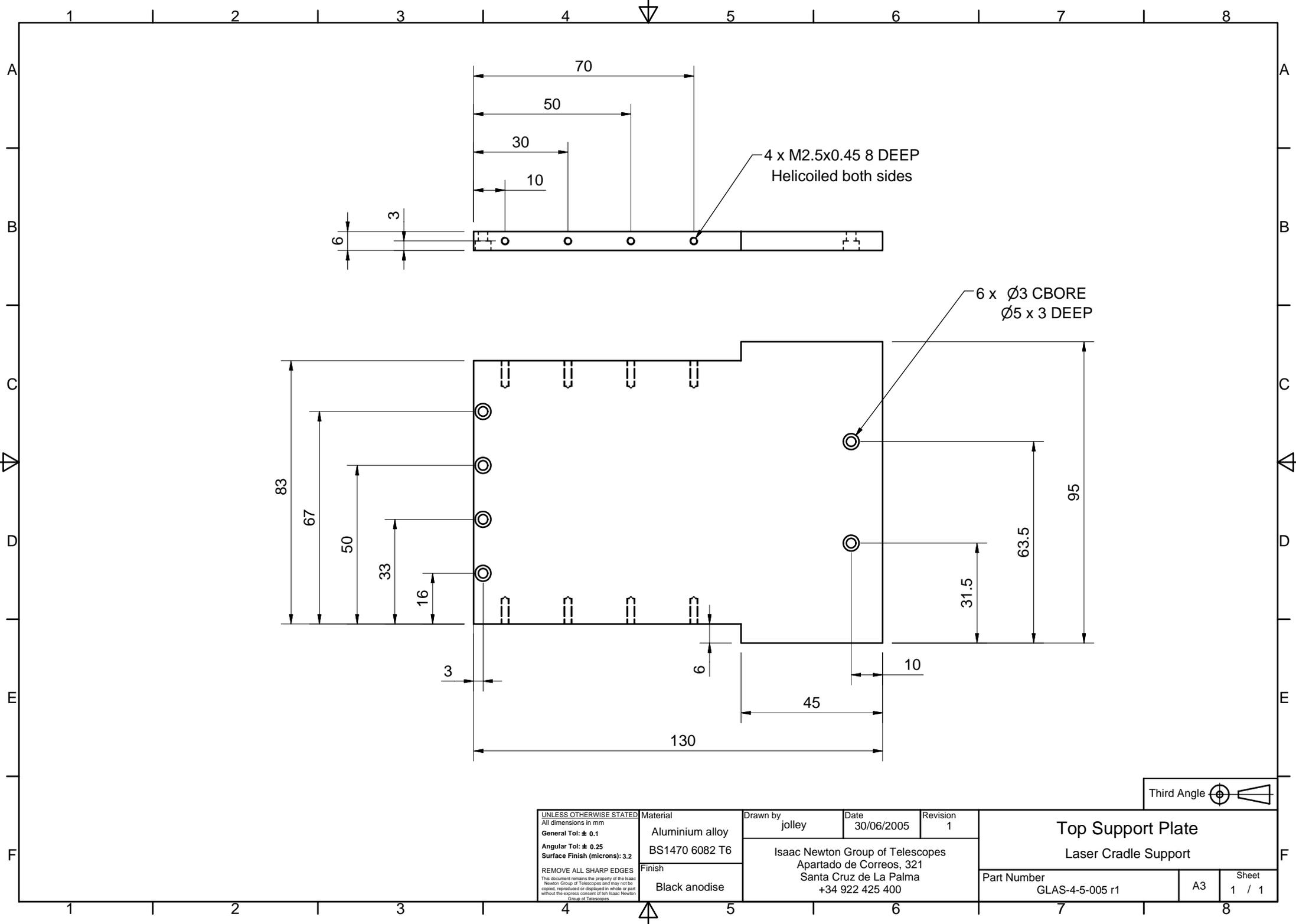
2 x M3x0.5 12 DEEP
Helicoiled

4 x M2.5x0.45 8 DEEP
Helicoiled

Hole Table			
LOC	XDIM	YDIM	SIZE
A1	315	39	M4x0.7
A2	315	54	
A3	355	39	
A4	355	54	
B1	24	15	M3x0.5
B2	24	68	
B3	79	15	
B4	79	68	
B5	134	15	
B6	134	68	
B7	189	15	
B8	189	68	
B9	244	15	
B10	244	68	
B11	299	15	
B12	299	68	
B13	354	15	
B14	354	68	

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	Finish	Black anodise	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400					Part Number			GLAS-4-5-003 r1
									A2		





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	Aluminium alloy BS1470 6082 T6	jolley	30/06/2005	1			
	Finish	Isaac Newton Group of Telescopes Apartado de Correos, 321 Santa Cruz de La Palma +34 922 425 400			Part Number	Sheet	
Black anodise				GLAS-4-5-005 r1	A3	1 / 1	