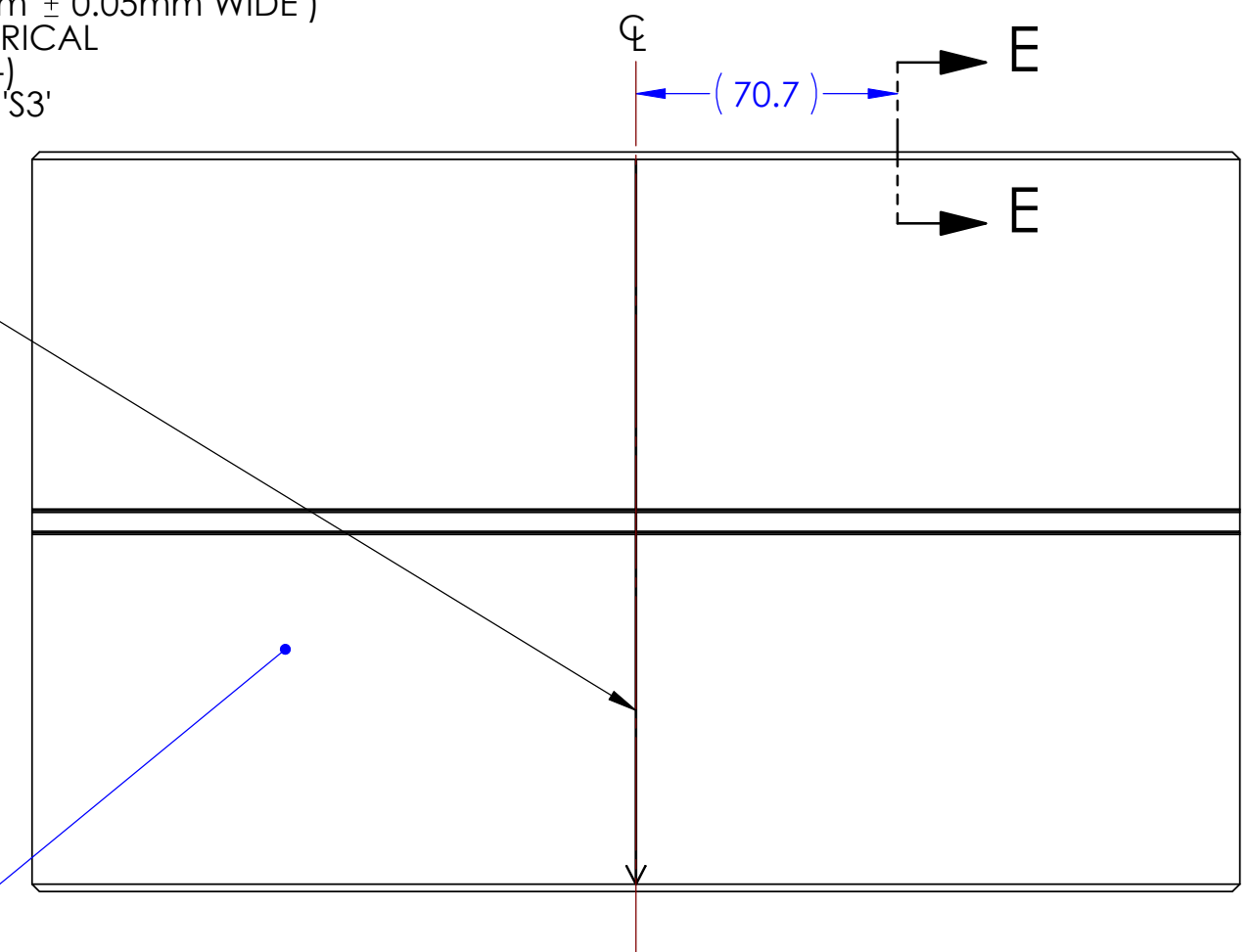


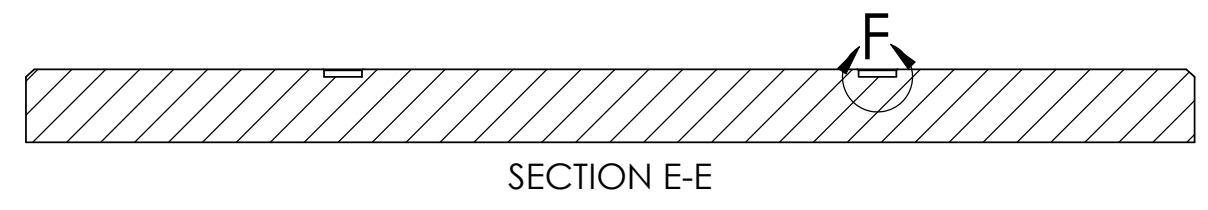
REV	DATE	DCN #	DRAWING TREE #
A	04/2008	E080172-00-D	

LIGO/PHYSICS REFERENCE ONLY: (REVISION HISTORY)	
00	03/2008 INITIAL RELEASE: A REPLICA OF ETM EQUIVALENT (R.JONES)
01	04/2008 ALTERATIONS TO SPECIFICATION (MATERIAL SELECTION LIST) BY K. STRAIN FOLLOWING DISCUSSION WITH G. BILLINGSLEY

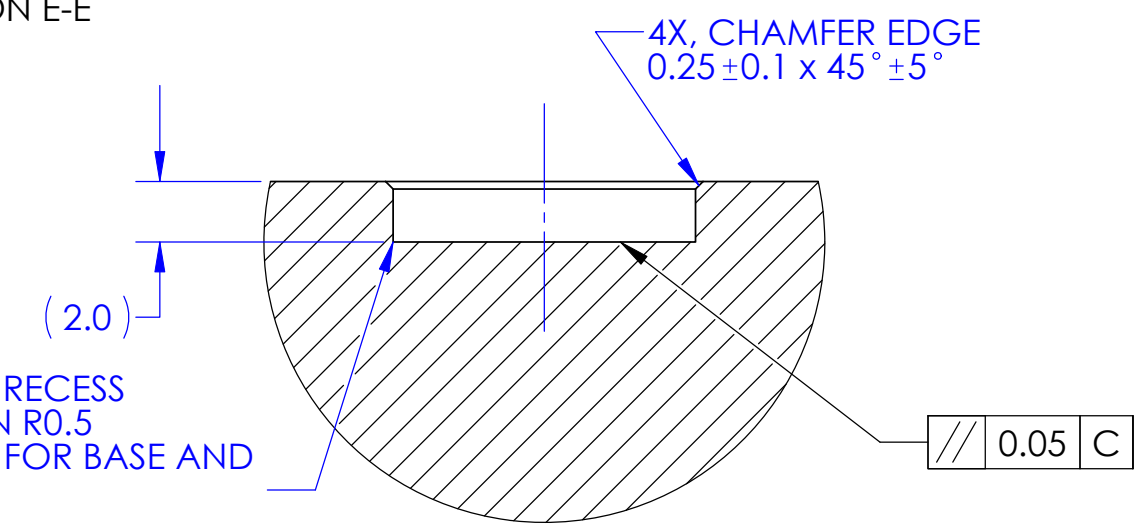
ETCH, GRIND OR SANDBLAST LEGIBLE REFERENCE GROOVE (0.25mm ± 0.05mm WIDE) ALONG ϕ , PARALLEL TO THE CYLINDRICAL AXIS (DEFINED BY DATUM FEATURE -A-) WITH ARROW POINTING TO SURFACE 'S3' WITHIN ±0.1mm



INSPECTION POLISH (SEE NOTE 3)

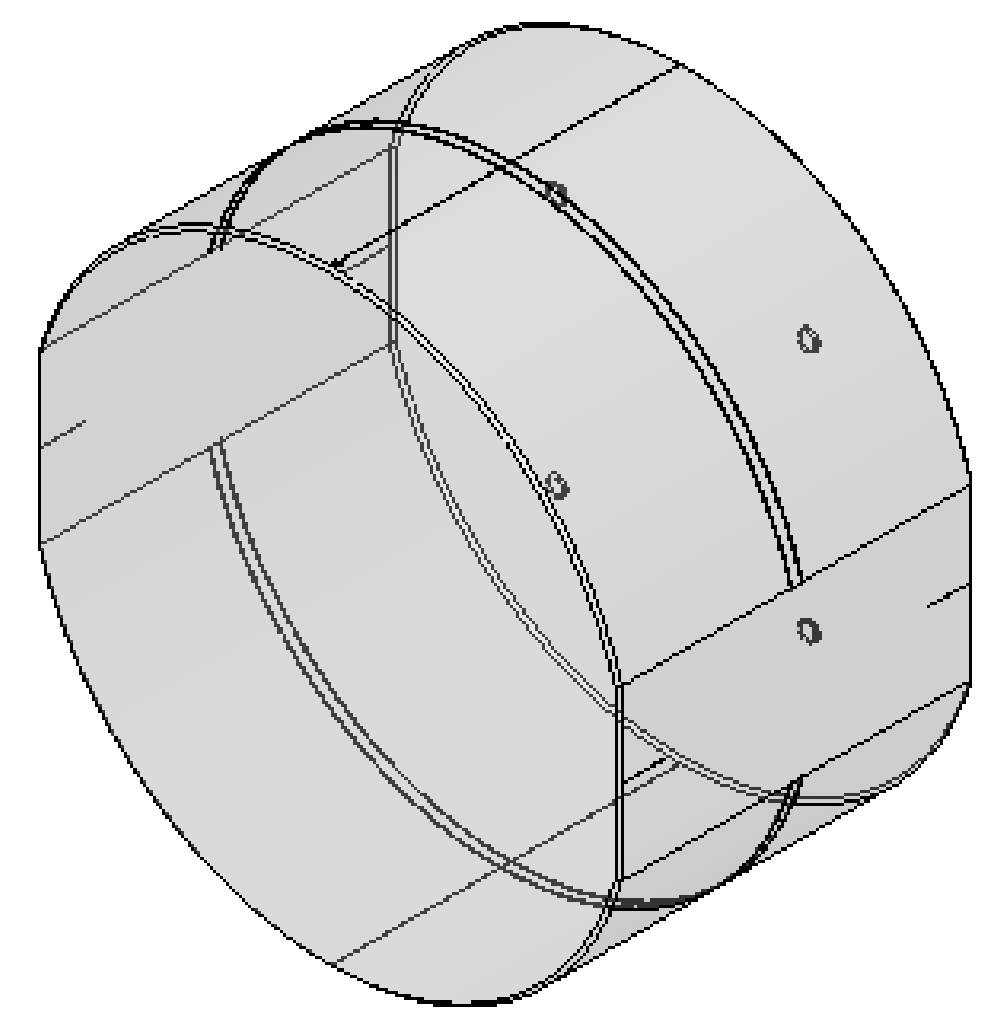


SECTION E-E

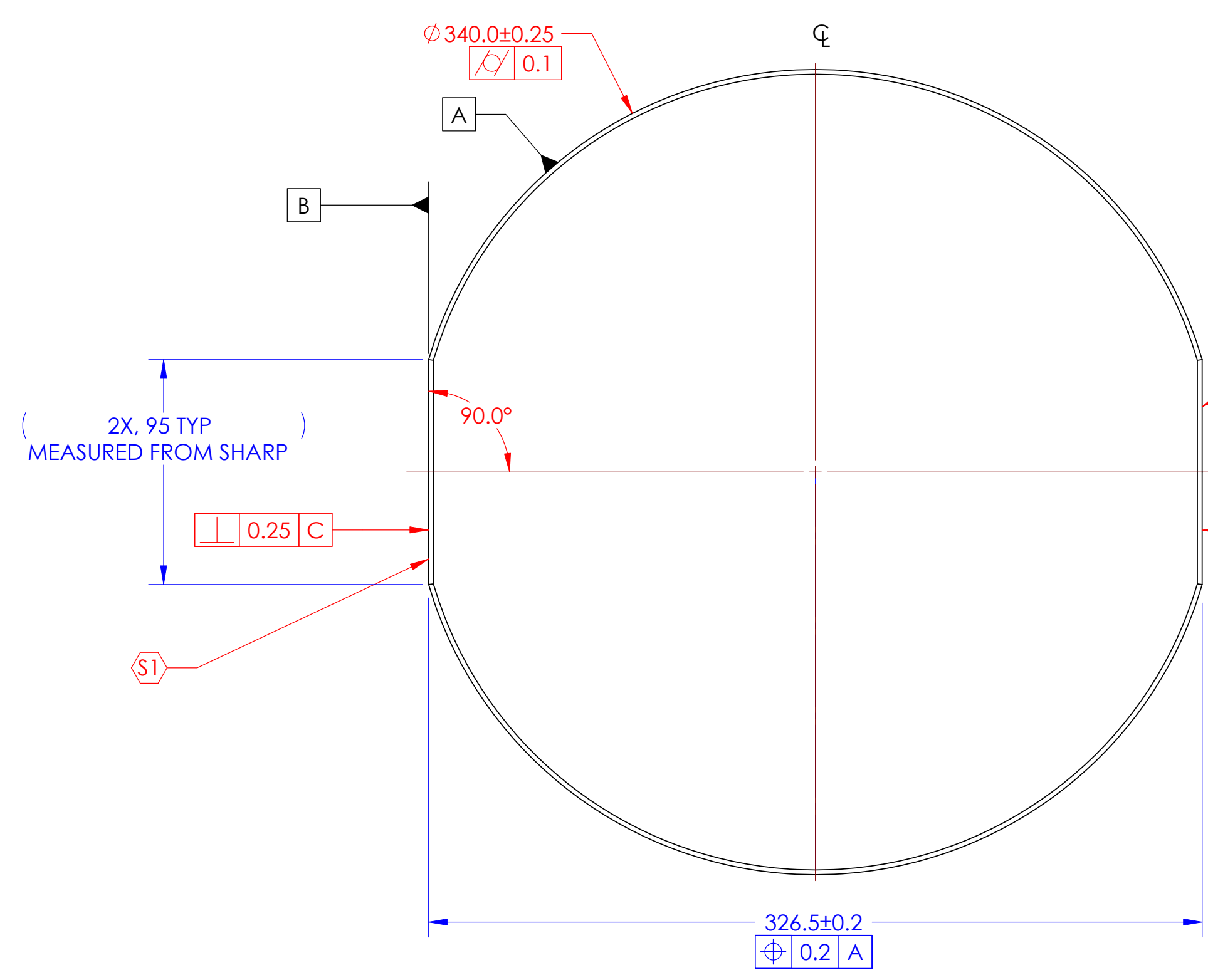


DETAIL F SCALE 4 : 1

RADIUS AROUND BOTTOM OF RECESS SHOULD BE NO GREATER THAN R0.5 GROUND FINISH ACCEPTABLE FOR BASE AND SIDES OF RECESS.

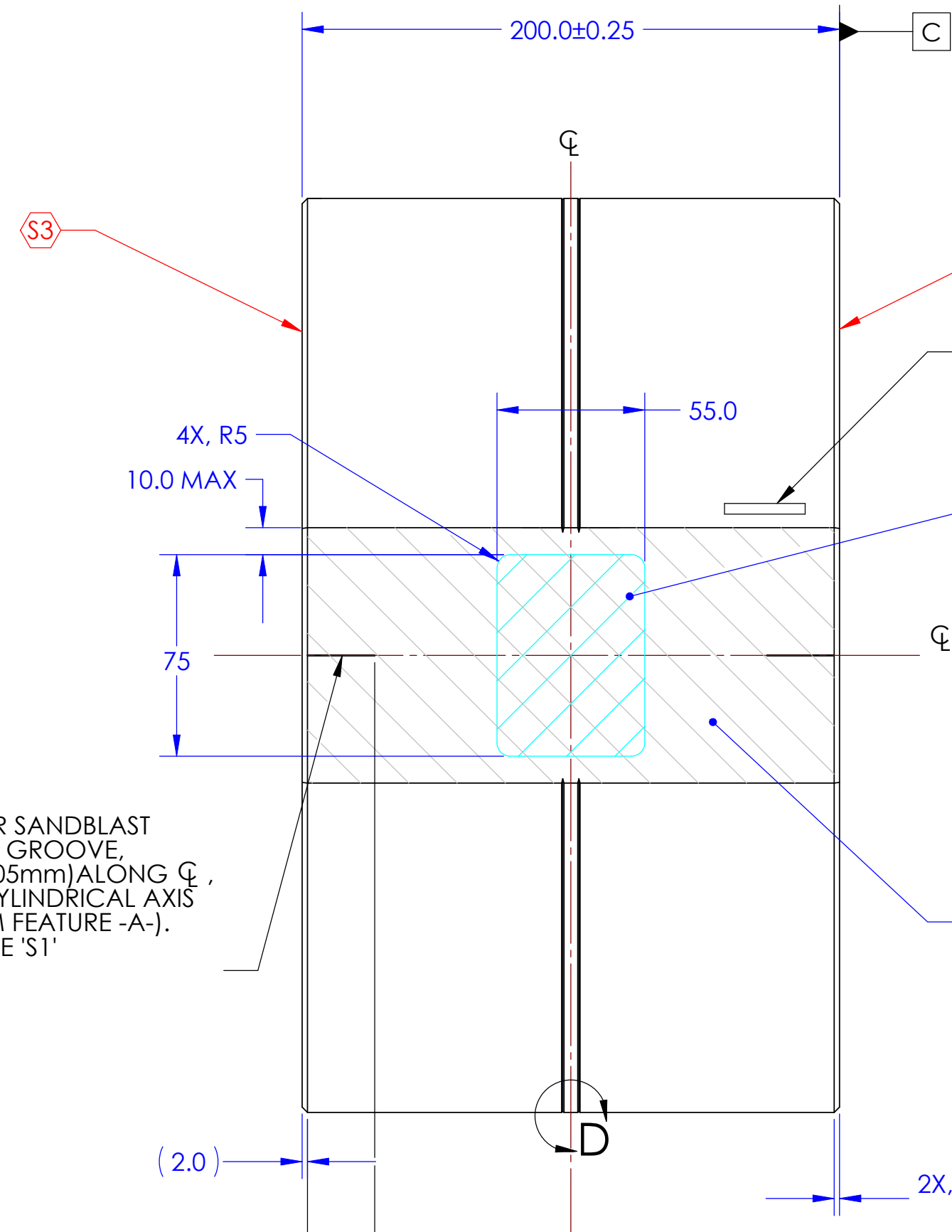


4X, ϕ 10.0 ± 2.0 EQUALLY SPACED ON A ϕ 200 ± 0.5 BOLT CIRCLE. EDGE CHIPPING TO BE MINIMISED. (SEE ALSO DETAIL 'F' ABOVE)



2X, 95 TYP MEASURED FROM SHARP

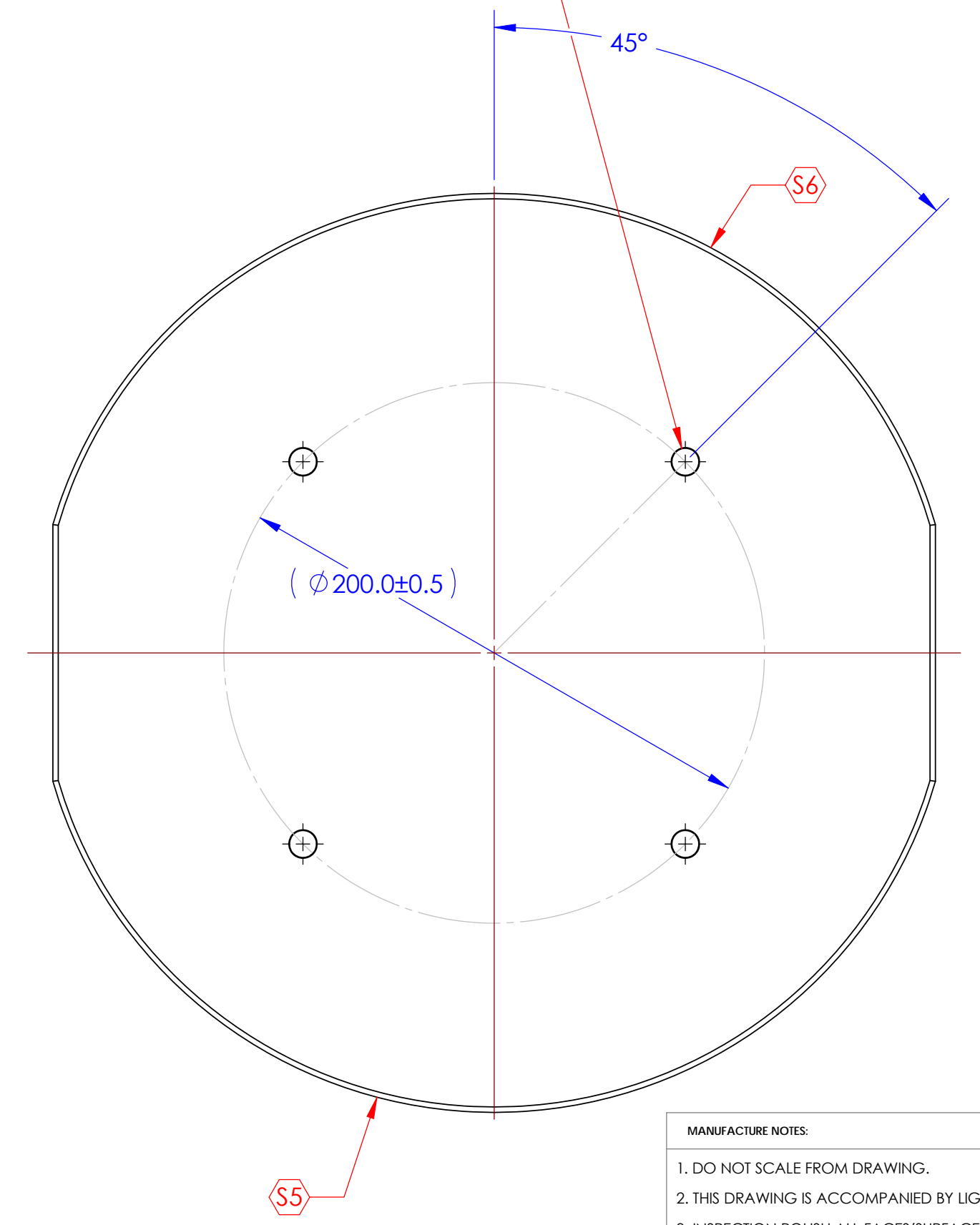
2X, ETCH, GRIND OR SANDBLAST LEGIBLE REFERENCE GROOVE (WIDTH 0.25mm ± 0.05mm) ALONG ϕ , PARALLEL TO THE CYLINDRICAL AXIS (DEFINED BY DATUM FEATURE -A-). REPEAT ON SURFACE 'S1' WITHIN ±0.1mm



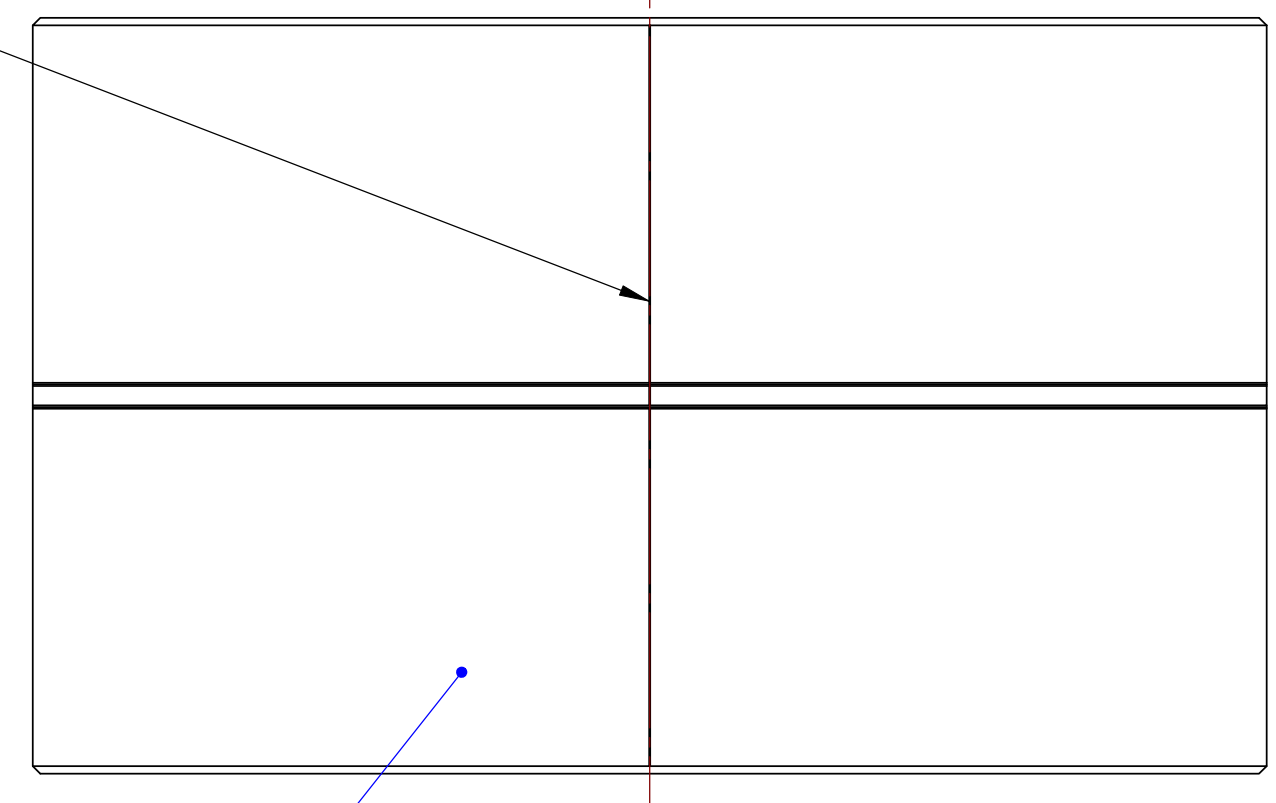
ETCH, GRIND OR SANDBLAST PART AND SERIAL NUMBER, APPROX. WHERE SHOWN, LETTERING APPROX. 4mm HIGH (SEE NOTE 8)

SEE NOTE 4 ZONE 1 (CROSS HATCHED) (REPEAT ON SURFACE 'S1')

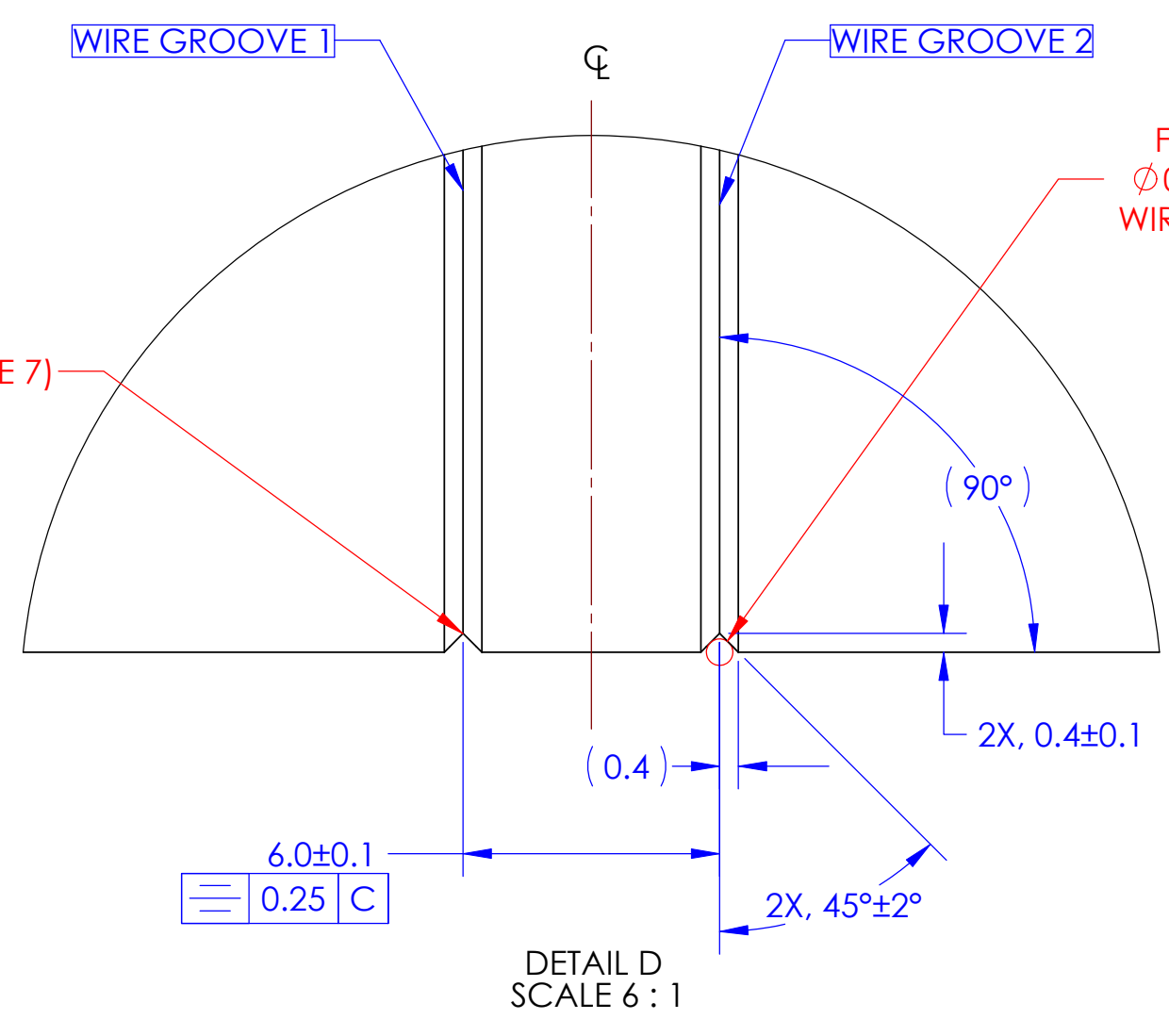
POLISHING EXTENDS TO ALL EDGES OF SURFACE 'S2' (REPEAT ON SURFACE 'S1')



ETCH, GRIND OR SANDBLAST LEGIBLE REFERENCE GROOVE (0.25mm ± 0.05mm WIDE) ALONG ϕ , PARALLEL TO THE CYLINDRICAL AXIS (DEFINED BY DATUM FEATURE -A-) WITHIN ±0.1mm



INSPECTION POLISH (SEE NOTE 3)



DETAIL D SCALE 6 : 1

2X, R0.25 MAX (REFER TO NOTE 7)

FOR PHYSICS REFERENCE ONLY: ϕ 0.62 (DIAMETER OF PENULTIMATE WIRES - AS TAKEN FROM T010103-05)

MANUFACTURE NOTES:

- DO NOT SCALE FROM DRAWING.
- THIS DRAWING IS ACCOMPANIED BY LIGO SPECIFICATION 'E080112'
- INSPECTION POLISH ALL FACES (SURFACES S3, S4, S5, AND S6). EDGES AND CHAMFERS. SURFACES SHALL APPEAR TRANSPARENT WITH NO GREY, SCUFFS OR SCRATCHES VISIBLE TO THE NAKED EYE WHEN VIEWED WITH A NORMAL ROOM LIGHT AGAINST A BLACK BACKGROUND.
- SURFACE S2: POLISH FLAT TO $\lambda/10$ PEAK TO VALLEY OVER APERTURE ZONE 1 (55mm x 75mm BOND AREA CENTERED ON FLAT).
- $\lambda = 633\text{nm}$ FOR SURFACE MEASUREMENTS
- SURFACE S1: ADD FEATURES AND POLISH AS PER INSTRUCTIONS FOR SURFACE S2.
- WIRES GROOVES 1 and 2, SHOWN IN DETAIL 'D' ARE REQUIRED TO LOCATE TWO STEEL WIRE LOOPS (ϕ 0.62mm). GROOVES MUST EXTEND AROUND THE FULL CIRCUMFERENCE OF THE MASS IN THE POSITIONS SHOWN. THE SEPARATION OF THE GROOVES FROM THE CENTRE OF MASS (ϕ), AND EACH OTHER IS CRITICAL. GROOVES SHOULD BE APPROXIMATELY 'V'-SHAPED WITH A MAX. RADIUS OF 0.25mm AT THE BASE OF EACH GROOVE.
- ETCH, GRIND OR SANDBLAST PART AND SERIAL NUMBER, APPROX. WHERE SHOWN, USE LETTERING APPROX. 4mm HIGH. THE SERIAL NUMBER SHOULD BE OF THE FORMAT: D080128-YY-Z WHERE 'YY' IS INCREMENTAL FOR EACH SUBSTRATE, STARTING AT '01', AND 'Z' IS THE CURRENT REVISION LETTER OF THIS SPECIFICATION. EXAMPLES: D080128-01-A, D080128-02-A, ..., D080128-09-A, ... AND SO ON.

PARTS LIST											
NOTES: (UNLESS OTHERWISE SPECIFIED)											
DIMENSIONS ARE IN MILLIMETERS											
TOLERANCES:											
XX ± 0.1											
XX ± 0.05											
ANGULAR ± 0.1°											
MATERIAL:	SUS										
AS PER LIGO-E080112											
FINISH:											
SEE NOTES											
NAME:											
DATE:											
DRAWN:											
CHECKED:											
APPROVED:											
<table border="1"> <tr> <td>NAME</td> <td>DATE</td> <td>SIZE</td> <td>DWG. NO.</td> <td>REV.</td> </tr> <tr> <td>JAKOB</td> <td>JAN08</td> <td>D</td> <td>D080128</td> <td>A</td> </tr> </table>		NAME	DATE	SIZE	DWG. NO.	REV.	JAKOB	JAN08	D	D080128	A
NAME	DATE	SIZE	DWG. NO.	REV.							
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<table border="1"> <tr> <td>PART NAME</td> <td>PART NAME</td> </tr> <tr> <td>ULTIMATE MASS</td> <td>ULTIMATE MASS</td> </tr> </table>		PART NAME	PART NAME	ULTIMATE MASS	ULTIMATE MASS						
PART NAME	PART NAME										
ULTIMATE MASS	ULTIMATE MASS										
SCALE: 1:2	PROJECTION: 1st										
SHEET 1 OF 1											