

Note:-

Update to allow for centre adjustment .

The body I made from Aluminium probably T6. The circuit board is 2mm copper clad fibre glass, the arbour is mild steel, the hub from Engineering Nylon 6/6, the pins are 3mm silver steel, the balls are 5mm, the probe tip I made from a carbide burr, the spring is fairly light weight 0.65mm wire. Screws are 2mm self tappers, and 2.5mm or 8BA which is probably the size I used, others parts came from the scrap bin.

The only part you have to be careful with is pressing the pins into the hub these must be square and @ 120 degrees or the tip will be off centre.

If you find it nesasary you could machine the 30mm recess in the main body "say" 31mm and elongate the platern mounting holes, then add 4 centre adjustment screws arround the periphery as per a four jaw chuck.

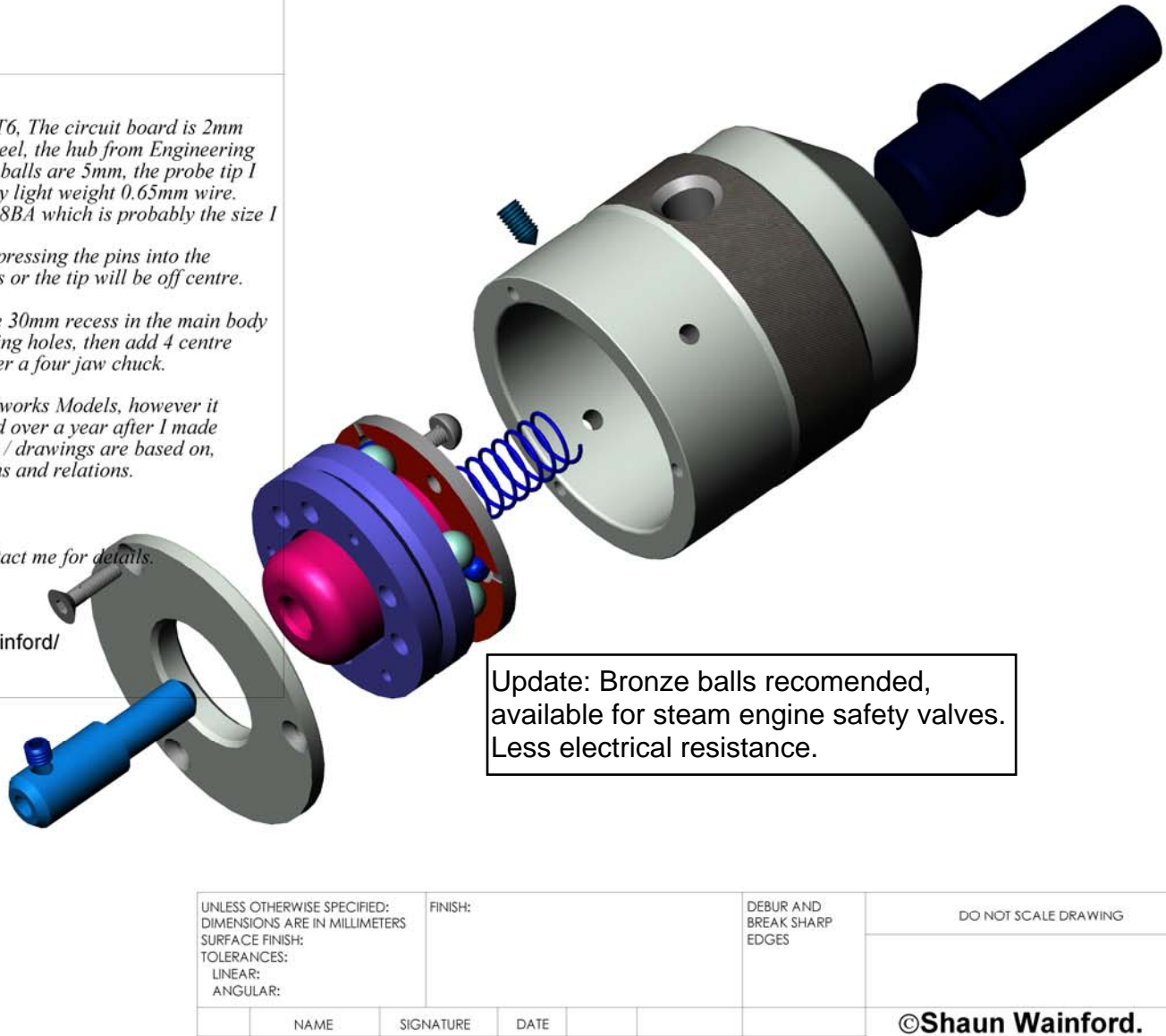
These drawings are produced from the Solidworks Models, however it should be noted that the models were created over a year after I made the actual prototype probe that these models / drawings are based on, consequently you should check all dimensions and relations.

Any question or comments contact me.....

All associated 3D-Models are available contact me for details.

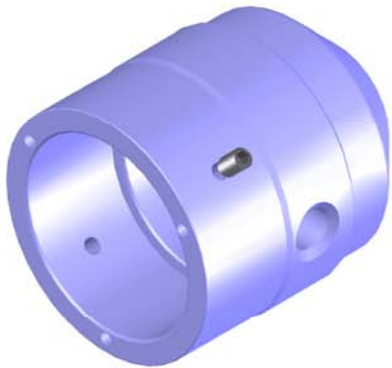
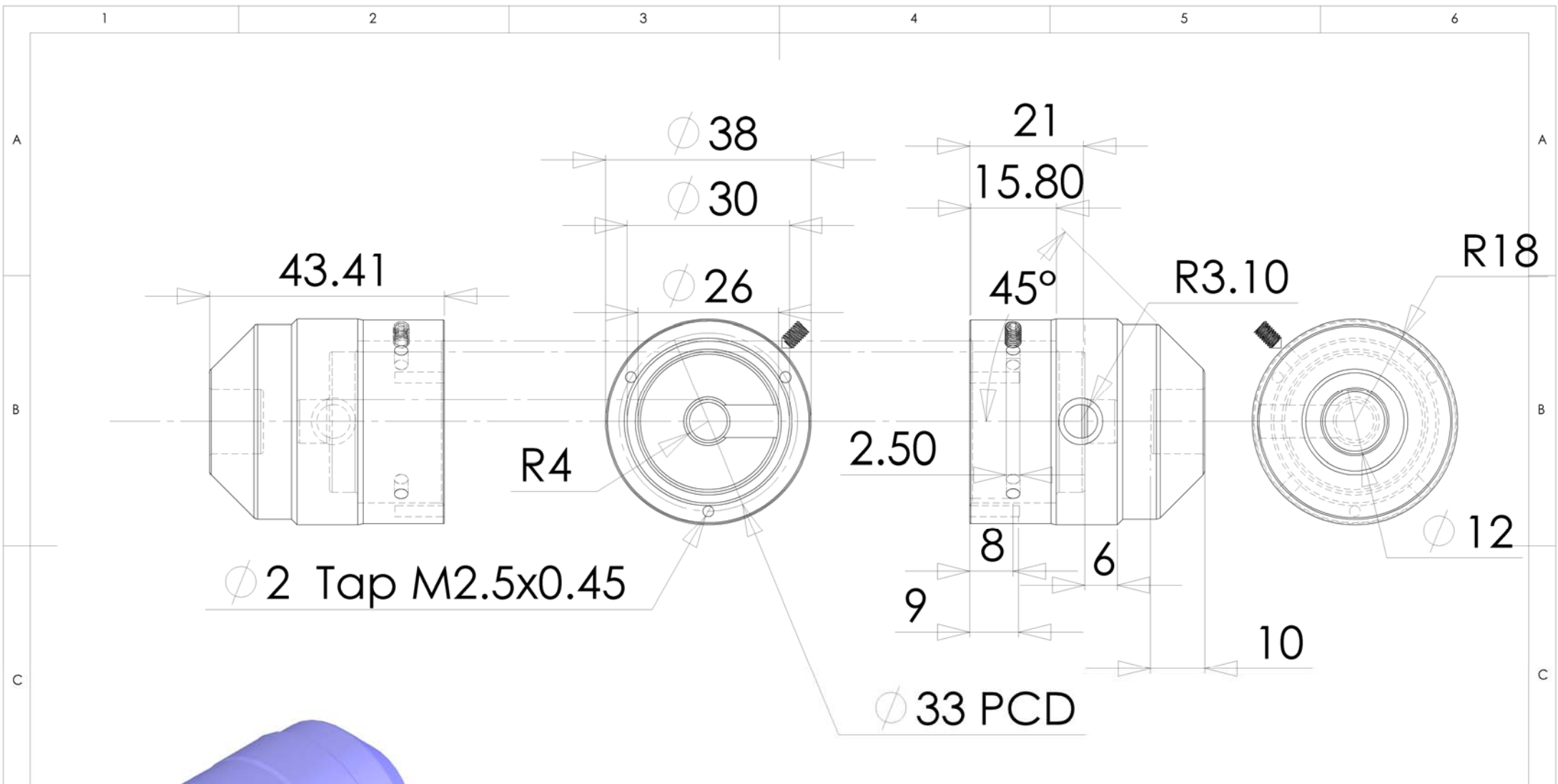
shaun.wainford@ntlworld.com

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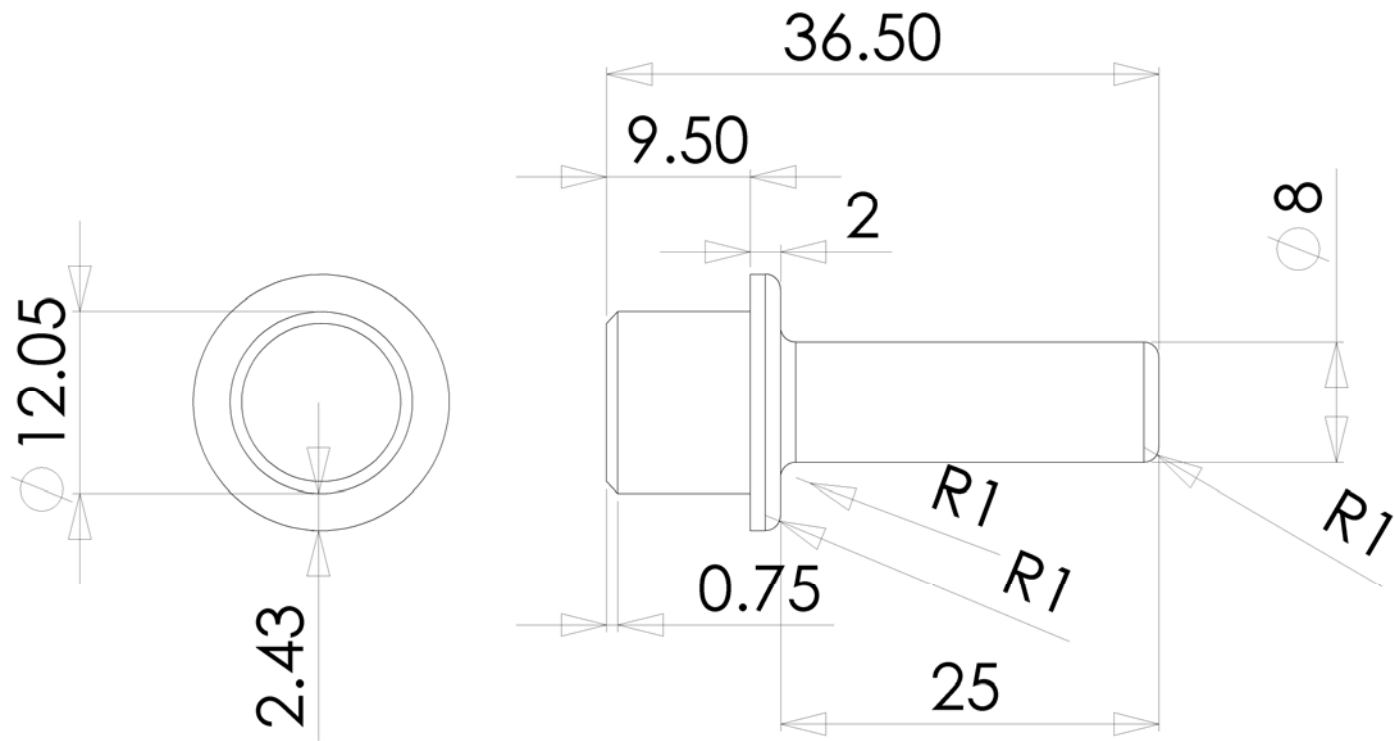


Update: Bronze balls recomended, available for steam engine safety valves. Less electrical resistance.

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<table border="1"> <thead> <tr> <th></th> <th>NAME</th> <th>SIGNATURE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>DRAWN</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CHK'D</td> <td></td> <td></td> <td></td> </tr> <tr> <td>APPV'D</td> <td></td> <td></td> <td></td> </tr> <tr> <td>MFG</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Q.A</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				NAME	SIGNATURE	DATE	DRAWN				CHK'D				APPV'D				MFG				Q.A				MATERIAL: *****	<p>©Shaun Wainford.</p> <p>Drawn for the Mach-X Group Sept 2006 Question or comments to Email shaun.wainford@ntlworld.com</p>	
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APPV'D																													
MFG																													
Q.A																													
WEIGHT:			DWG NO. SW_Assmbly	A4																									
SCALE:1-1.2			SHEET 1 OF 1																										



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CHK'D								Drawn for the Mach-X Group Sept 2006 Question or comments to Email shaun.wainford@ntlworld.com			
APPV'D								DWG NO.		SW_Probe_Body	
MFG								MATERIAL:		A4	
Q.A								Aluminium T6			
								WEIGHT:		SCALE:1:1	
										SHEET 1 OF 1	



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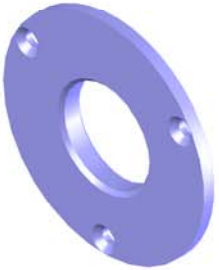
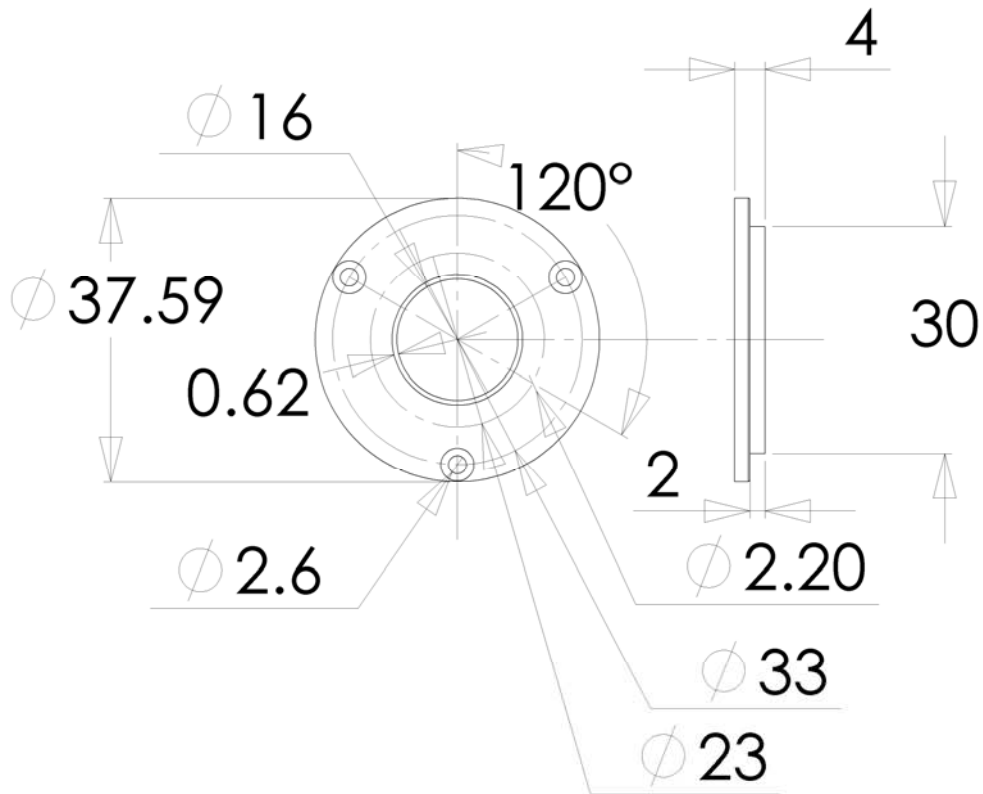
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MATERIAL:
Mild Steel

DWG NO. **SW_Probe_Arbour** A4

WEIGHT:

SCALE: SHEET 1 OF 1



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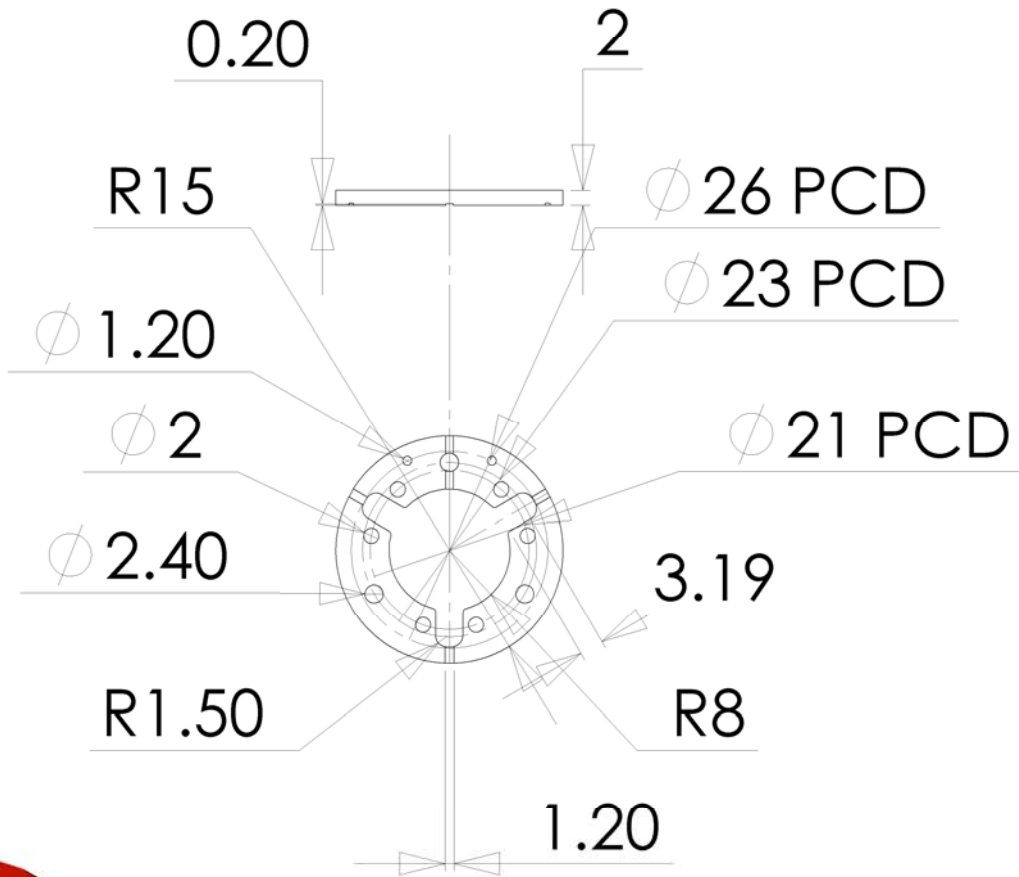
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				MATERIAL:	
				Aluminium T6	
				WEIGHT:	

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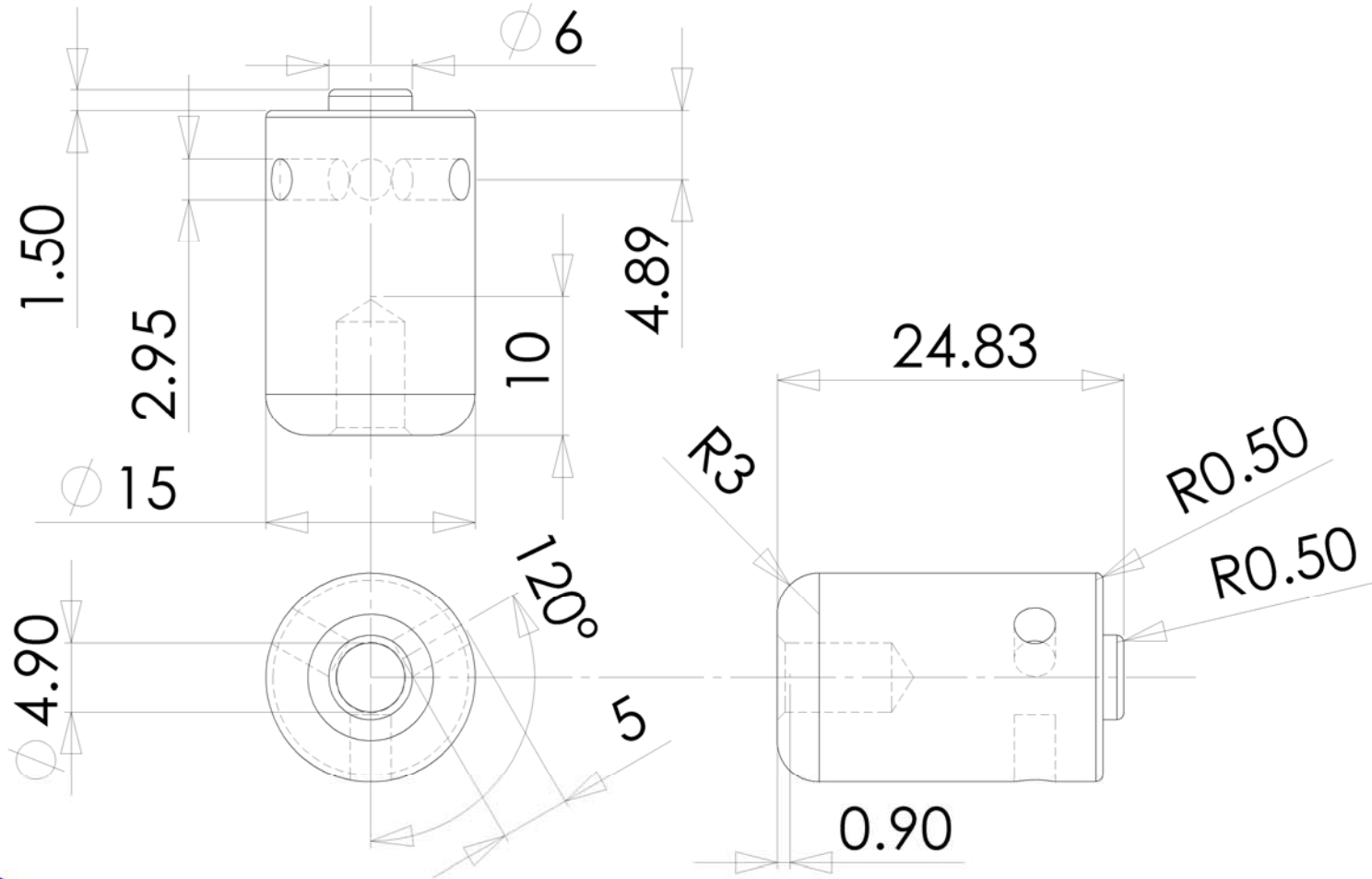
DWG NO. **SW_Probe_Cap** A4

SCALE:1:1 SHEET 1 OF 1



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DRAWN	NAME	SIGNATURE	DATE	
CHK'D				
APPV'D				
MFG				
Q.A				MATERIAL: Copper Clad Fibre Glass Board
				WEIGHT:

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DWG NO. SW_Probe_CircBoard	A4
SCALE:1:1	SHEET 1 OF 1



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				MATERIAL:	
				Nylon 6/6	
				WEIGHT:	

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DWG NO.

Hub

A4

SCALE:2:1

SHEET 1 OF 1

1 2 3 4 5 6

A

A

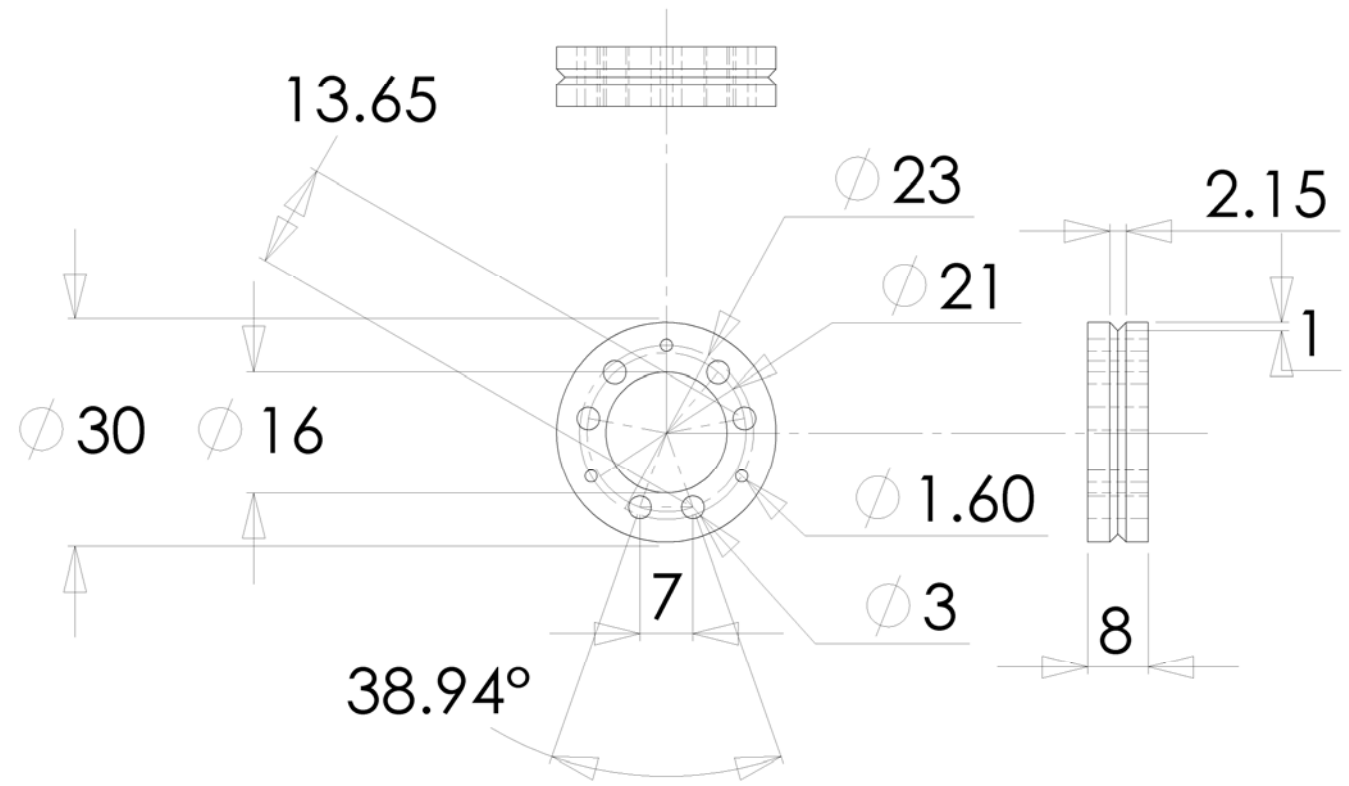
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				MATERIAL:	
				Eng Nylon 6/6	
				WEIGHT:	

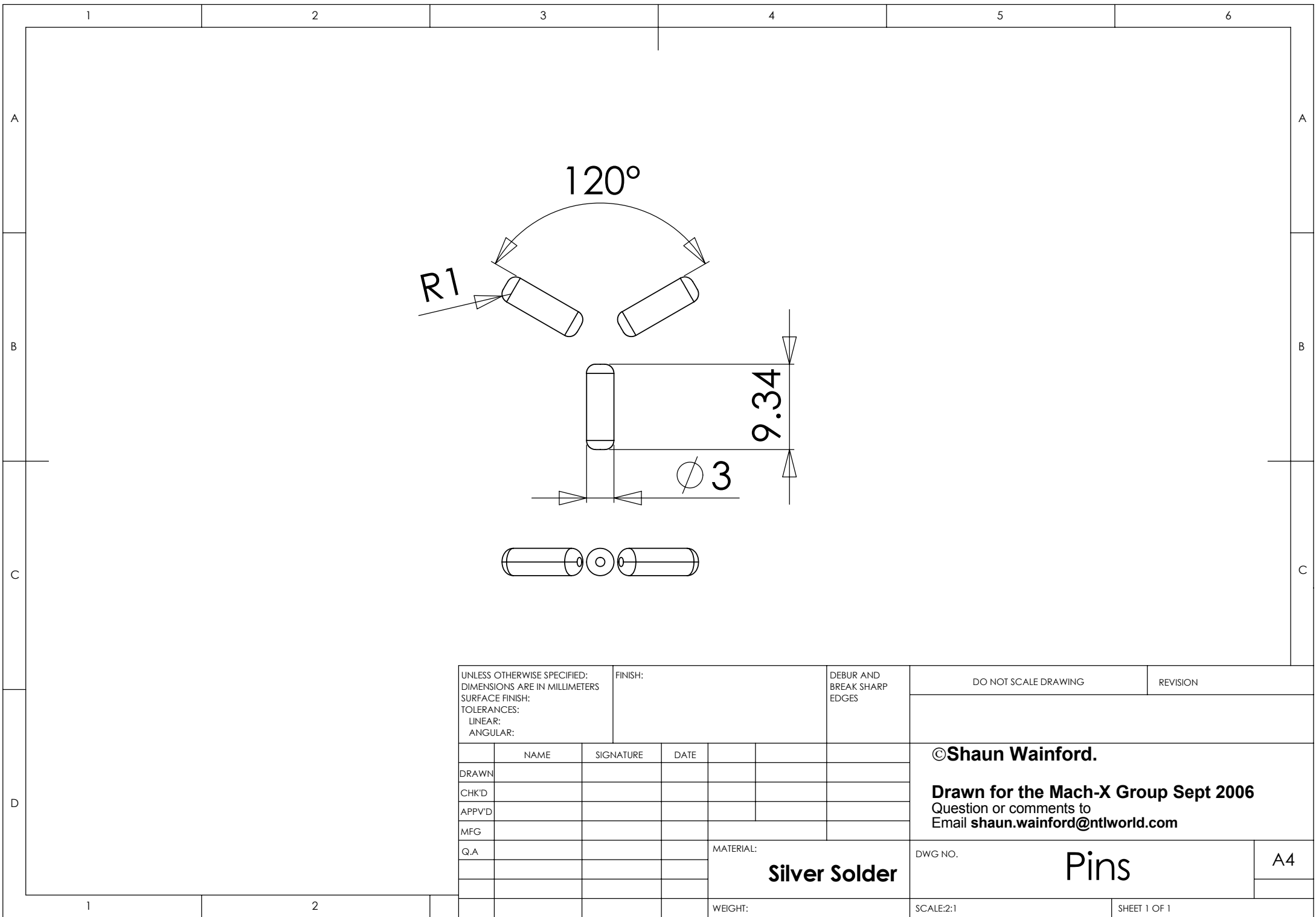
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DWG NO. **SW_Probe_Platern**

SCALE:1:1 SHEET 1 OF 1

A4

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APPV'D					
MFG					
Q.A					

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MATERIAL:
Silver Solder

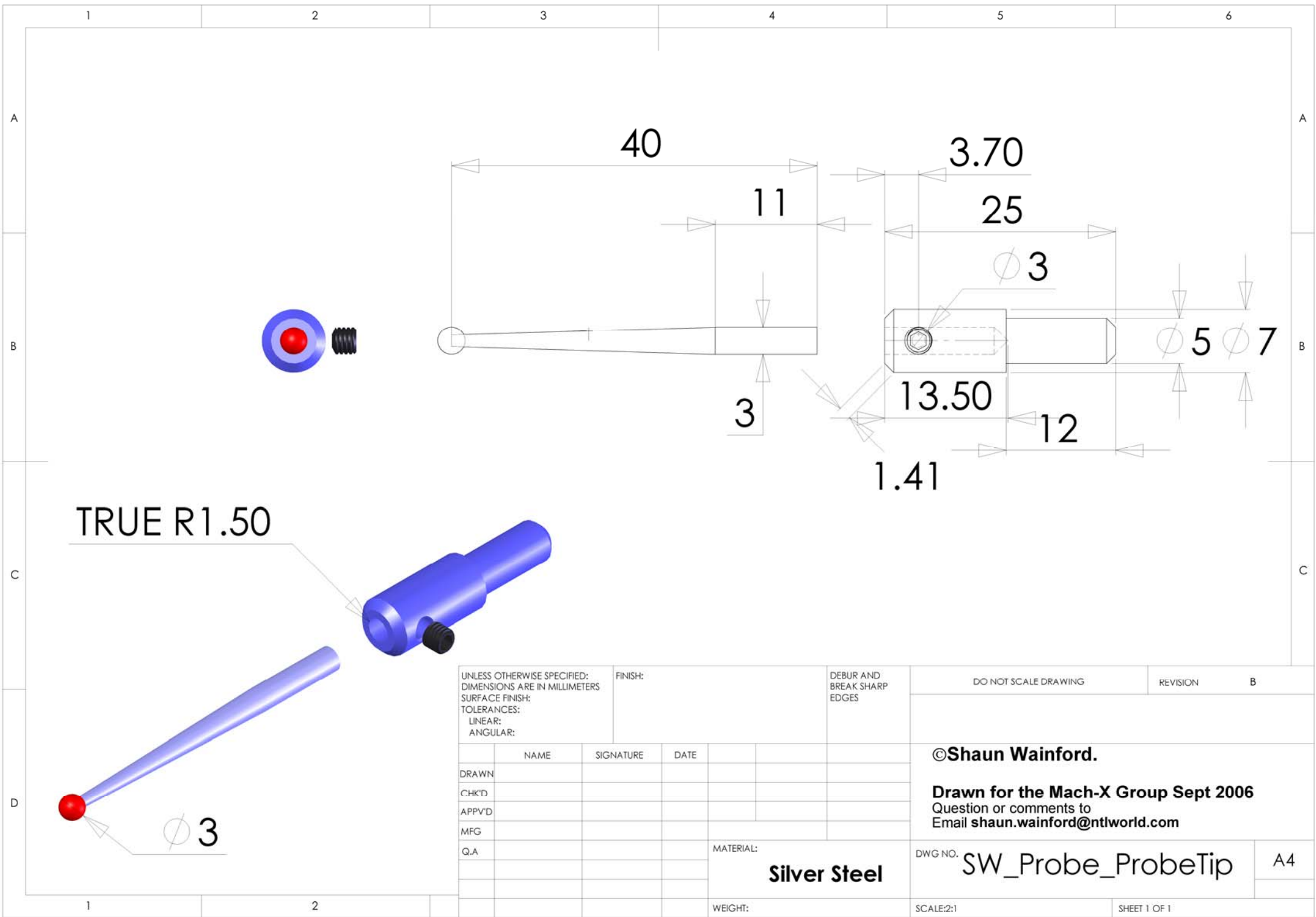
DWG NO. **Pins**

A4

WEIGHT:

SCALE:2:1

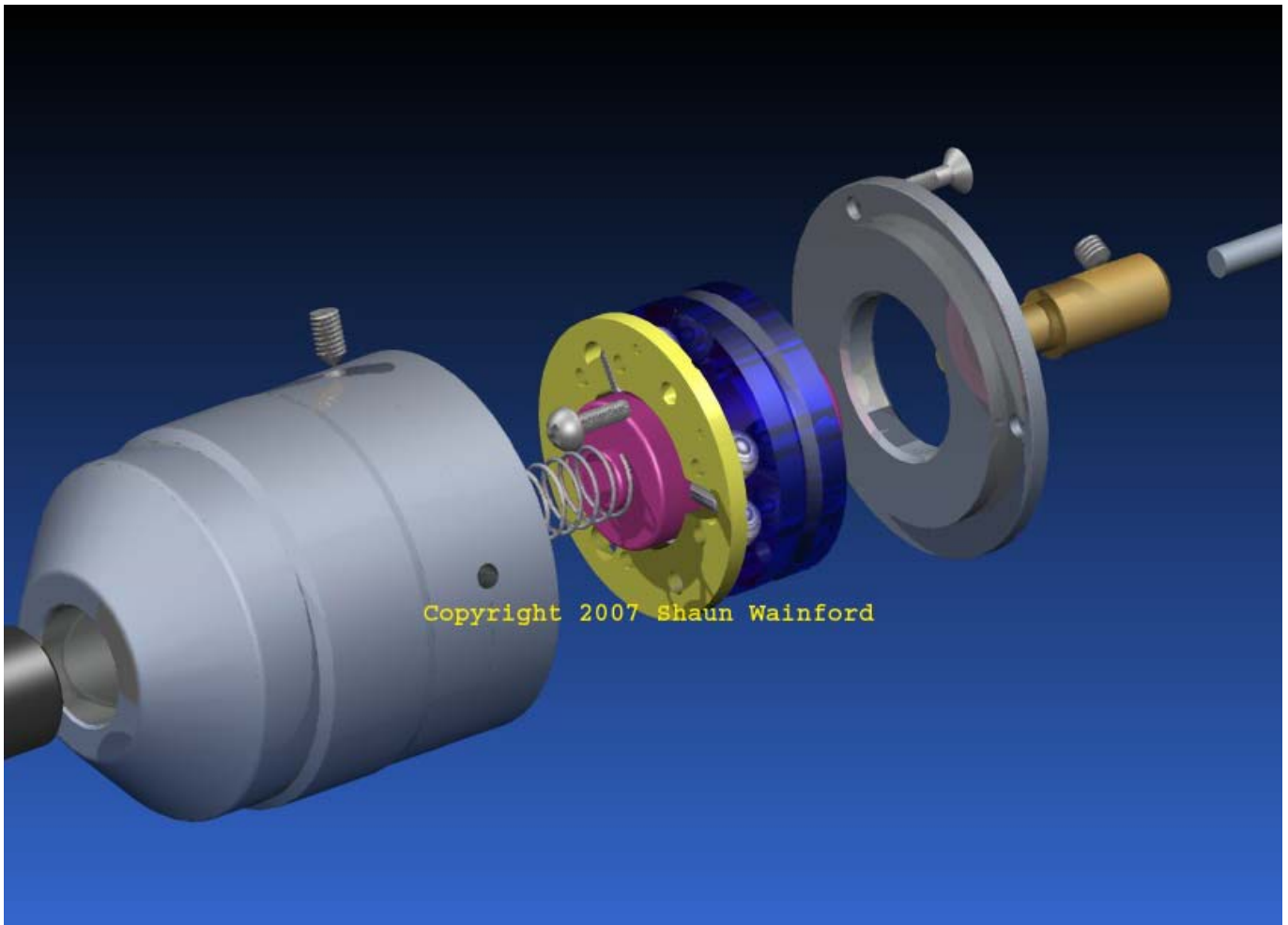
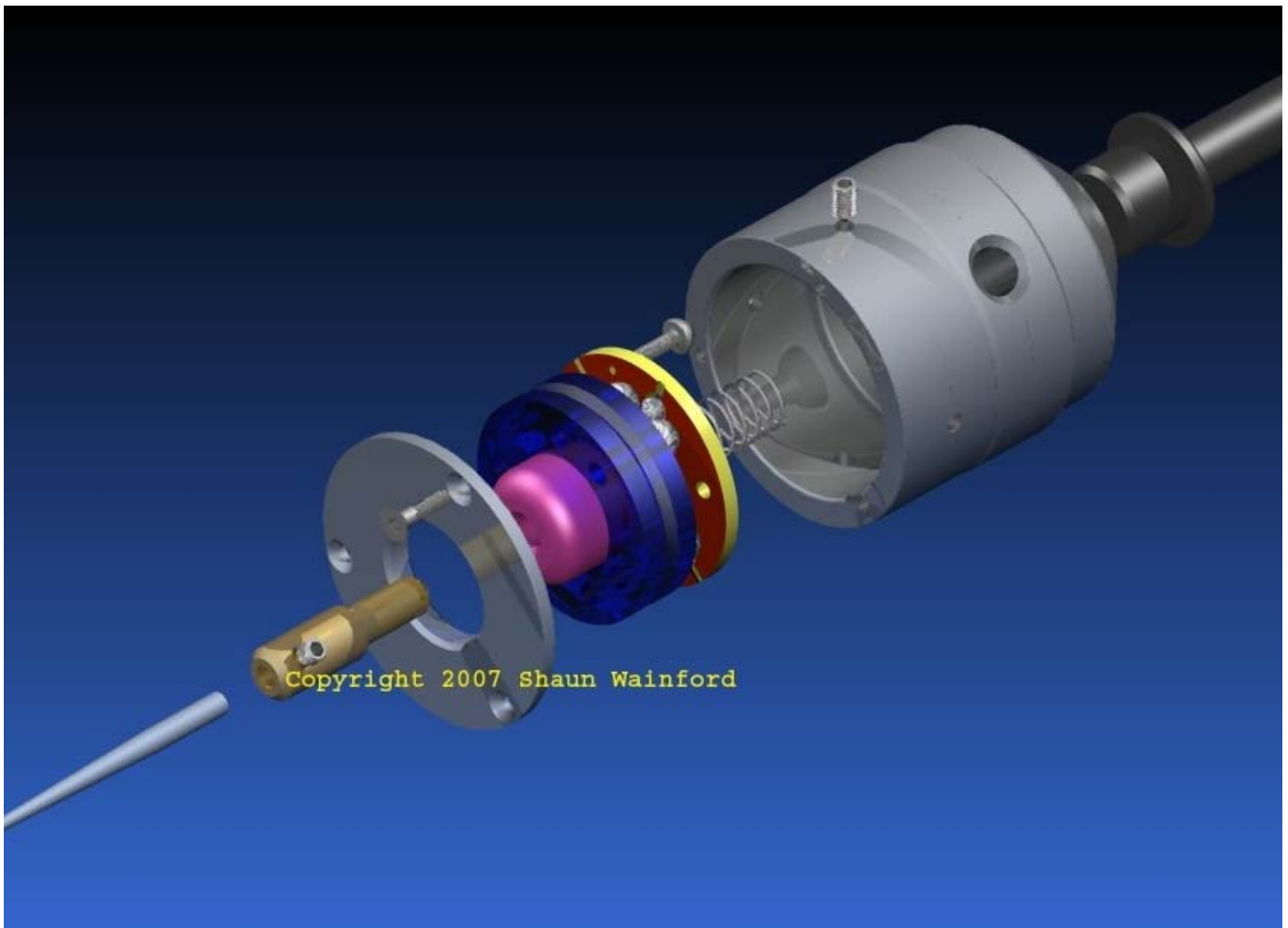
SHEET 1 OF 1



TRUE R1.50

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Q.A					
			MATERIAL: Silver Steel		
			WEIGHT:		

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DWG NO.	SW_Probe_ProbeTip	A4
SCALE:2:1	SHEET 1 OF 1	



Notes on Connection to MachXX

The Circuit is a NC (Normally Closed) Loop, So from Circuit board on probe take one connection to a spare pin on parallel port, other connection to common or Ground, (pin 18-25), Also better to connect one end of shield to ground, in order to stop noise.

In Mach-2/3, Menu, Select Config, Ports & Pins, Inputs, Check probe, Port-#, Pin-#, Check Active Low, Uncheck Emulate, Click Apply, Restart Mach, look on Diags page to see if probe input LED works ok.

All should be OK.....

Hope this helps

Shaun....

All associated 3D-Models are available please contact me for details.

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