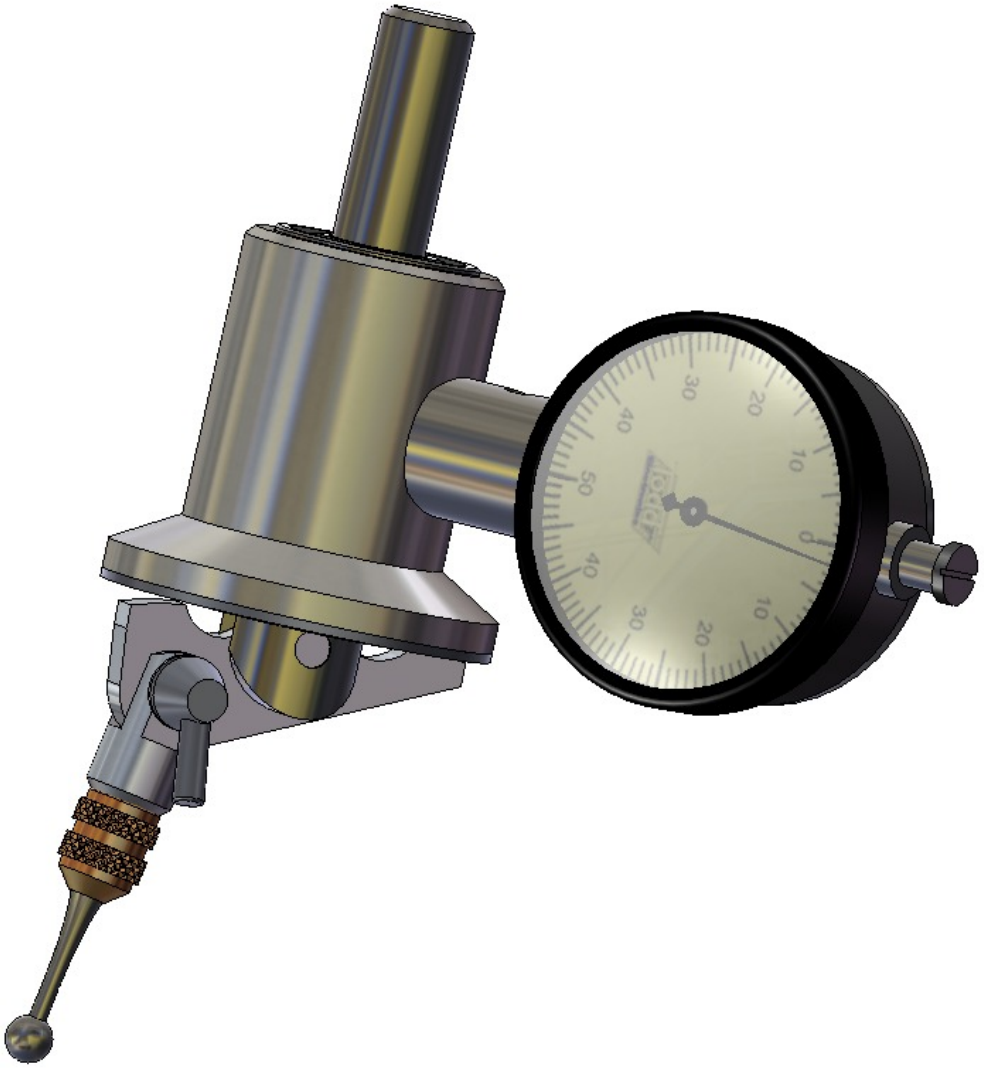
Coax Indicator version 2 © W.K.Todd 2013



Coax Indicator version 2 © W.K.Todd 2013

Construction notes:

Shaft:

It is critical that all the diameters and taper on the shaft are concentric, so turn all in one operation (either between centres or supported from a chuck).

The diameter is not critical (I made it 15 because I have 16mm stock) . Similarly the mounting shaft at the top can be made to suit your mill/collets.

The bearing is a 3900zz (22x10x6) but any similar sized bearing would do. It is designed to be a press-fit onto the top of the shaft, but it could be glued or even locked on with a cir-clip.

The rocker slot is designed as 4mm but could be larger to fit the Rocker, but should be a good sliding fit with the rocker.

Body:

The only critical part is that the thrust-washer face and bore are perpendicular , so bore and face in one operation.

The bore should be a nice sliding fit with the shaft . You may need to lap the two together for the best fit.

The pocket in the top can be a clearance fit around the bearing. The bearing only provides a low friction thrust bearing for the small force of the return spring

The thrust washer locating 'step' should have corner relief, if the corner radius cannot be made smaller than that on the washer. The washer must sit on the reference face of the body. The washer can be held in place with either a film of Loctite or by peaning over the 'step' - it should not be able to rotate.

Rocker:

The rocker is designed in stainless steel but could be of brass (may be better in brass). Make the heels that rest on the washer a little longer than necessary then shape them to give the maximum smooth motion.

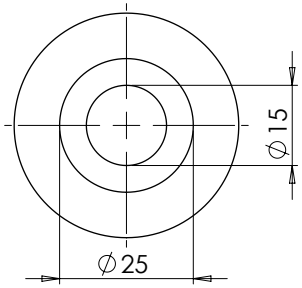
Indicator mount:

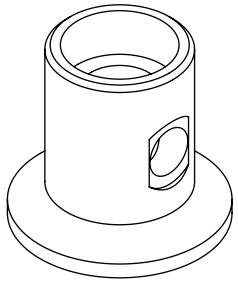
The mounting bush should fit close up to the shaft. It can be a press-fit or threaded into the body. The length and diameter of the indicator mount hole should obviously suit the indicator. A typical 30mm DTI has either an 8mm or 5/16" mount.

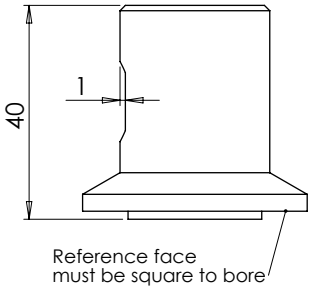
Thrust washer:

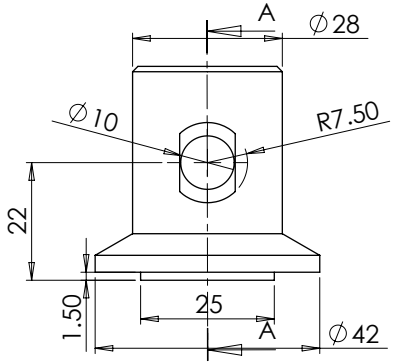
The hardened steel thrust washer is a standard part 42 x 25 x 1 available from many suppliers

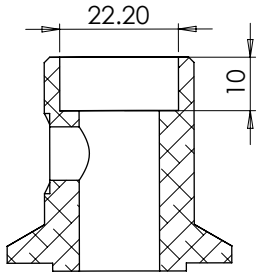
E.g.
http://simplybearings.co.uk/shop/p8860/AS2542+Pack+of+2+Thrust+Washer+Series+AS+25x42x1mm/product_info.html



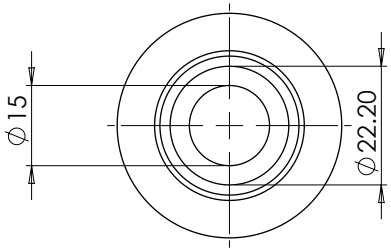




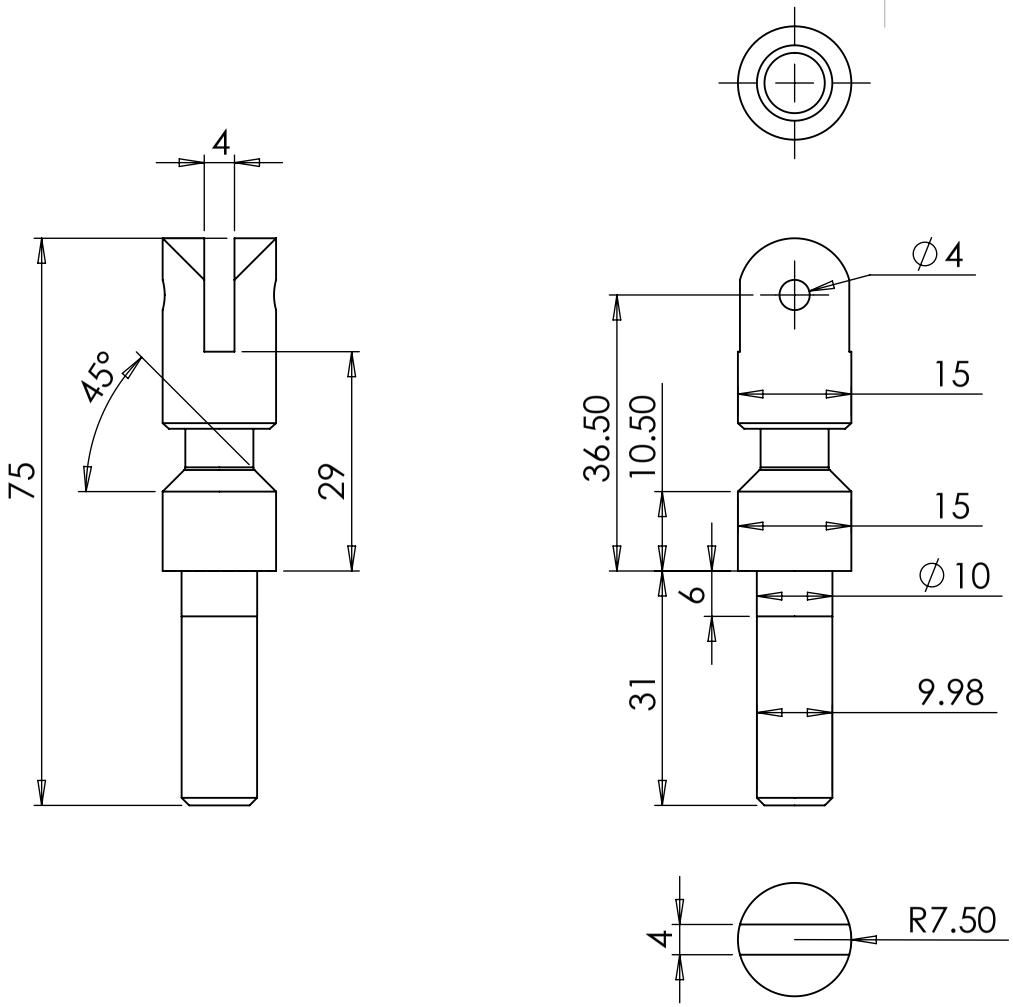




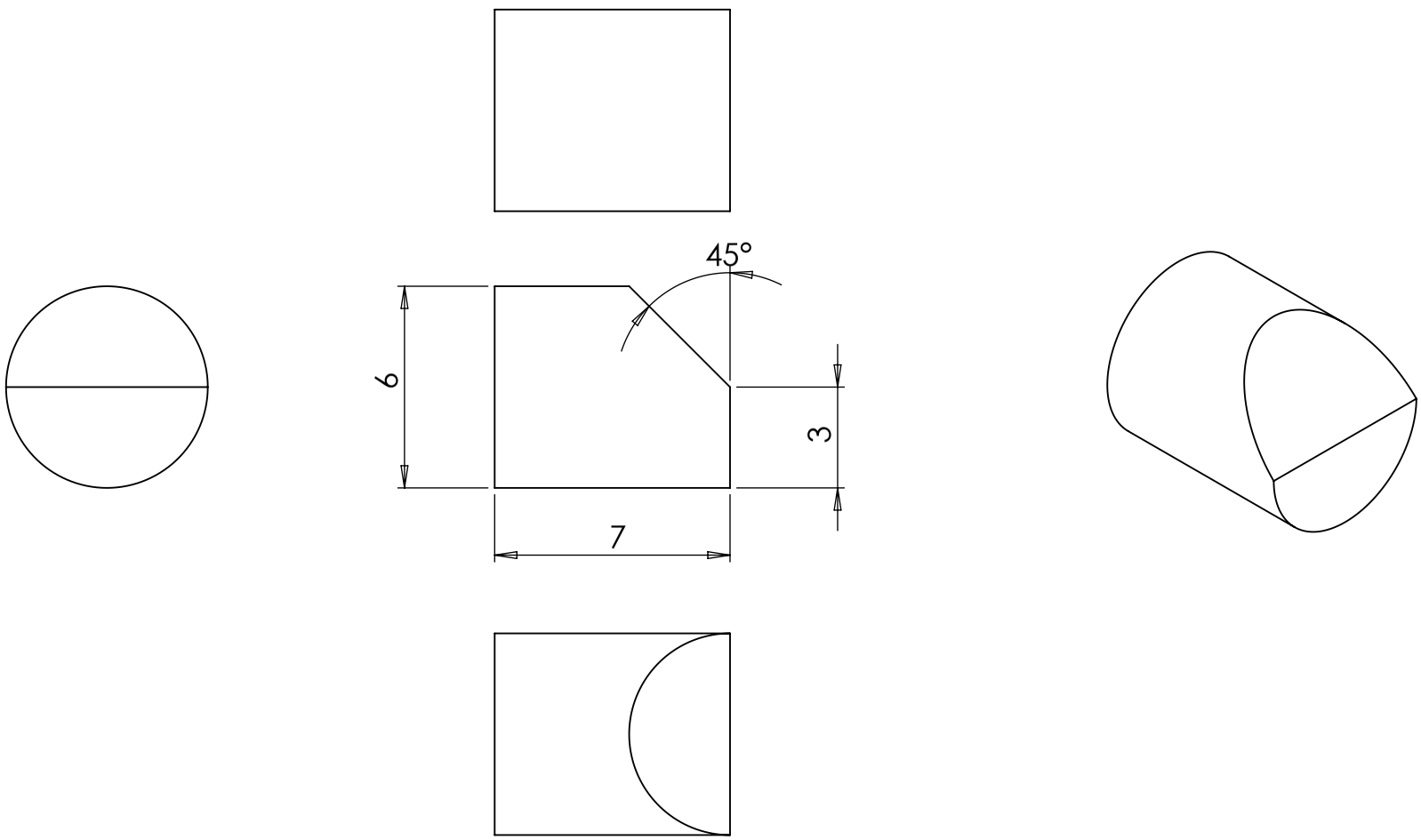
SECTION AA



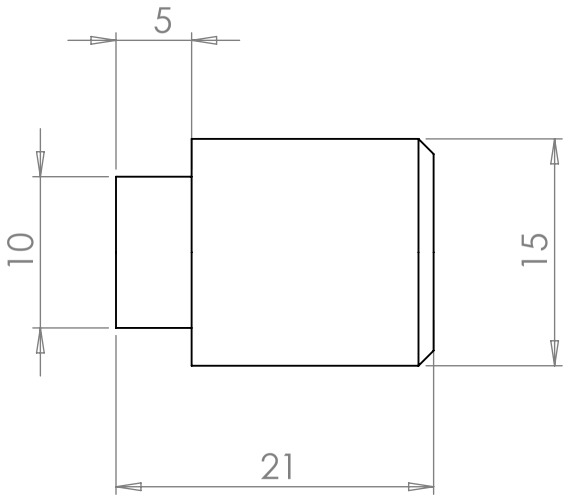
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DRAWN	W.K.Todd		21/01/2013				
CHK'D							
APPV'D							
MFG							
Q.A				MATERIAL: Aluminium		DWG NO. Body 2	A3
				WEIGHT:		SCALE:1:1	SHEET 1 OF 1

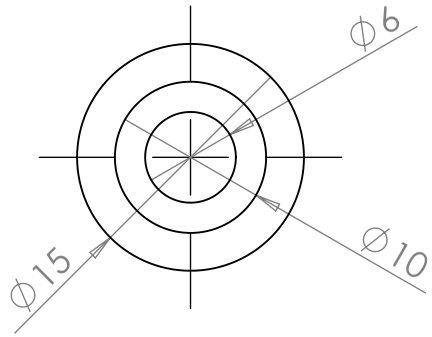


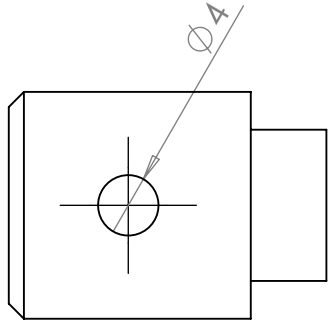
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	NAME	SIGNATURE	DATE	TITLE:	
DRAWN	W.K.Todd		21/01/2013	Coax Indicator Version 2	
CHK'D					
APPV'D					
MFG					
Q.A				MATERIAL: Stainless steel	DWG NO. shaft 2
					A4
				WEIGHT:	SCALE:1:1
					SHEET 1 OF 1

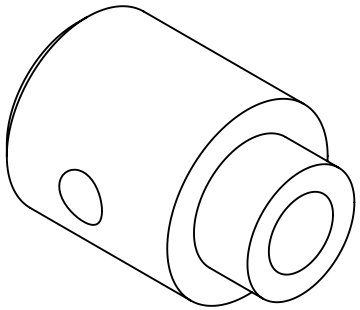


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APPV'D					
MFG					
Q.A				MATERIAL: Brass or Bronze	DWG NO. slider A4
				WEIGHT:	SCALE:5:1 SHEET 1 OF 1

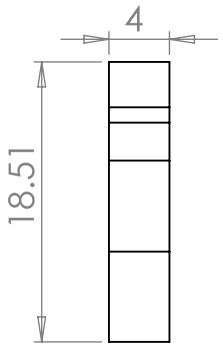


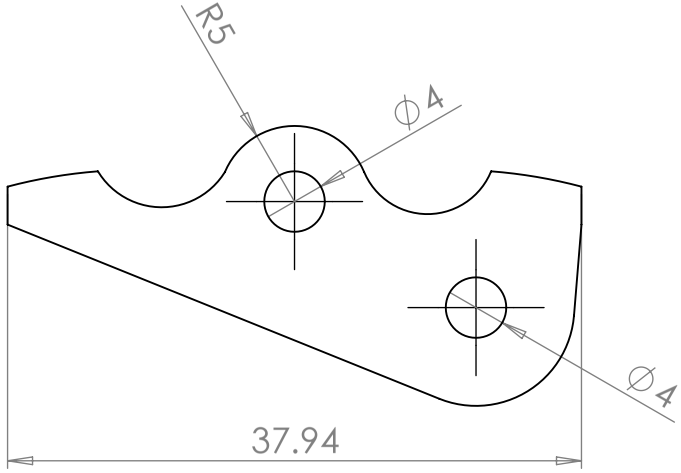


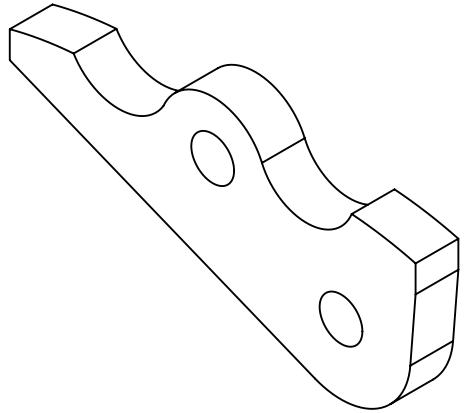




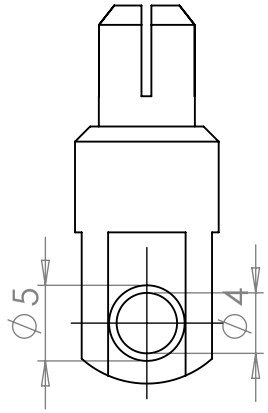
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CHK'D					
APPV'D					
MFG					
Q.A			MATERIAL: Stainless steel	DWG NO. Ind mount mkII	A4
			WEIGHT:	SCALE:2:1	SHEET 1 OF 1

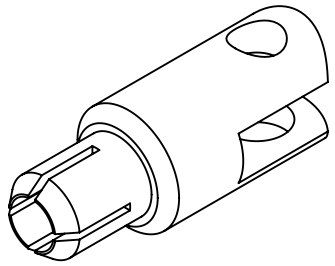




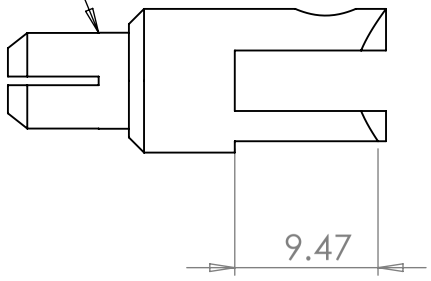


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CHK'D					
APPV'D					
MFG					
Q.A			MATERIAL: Stainless steel	DWG NO. rocker	A4
			WEIGHT:	SCALE:2:1	SHEET 1 OF 1

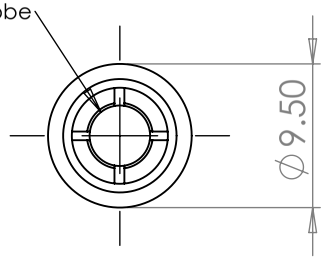




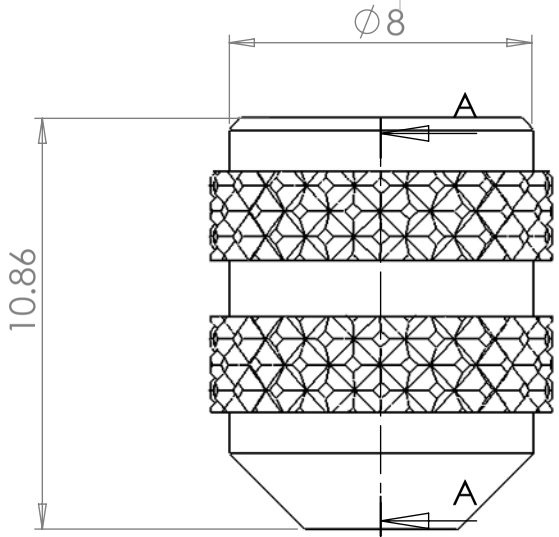
Thread to suit lock nut

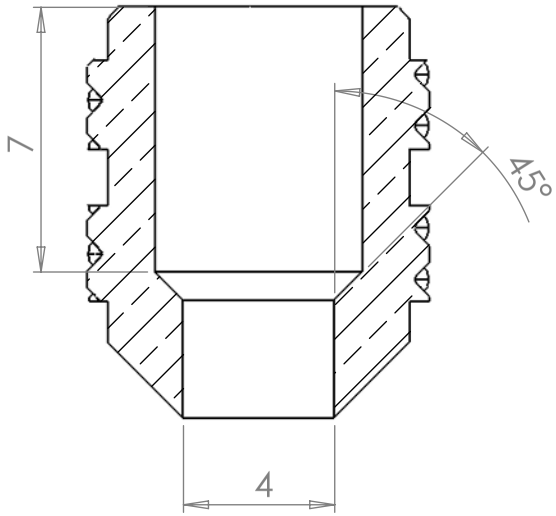


Diameter to suit probe

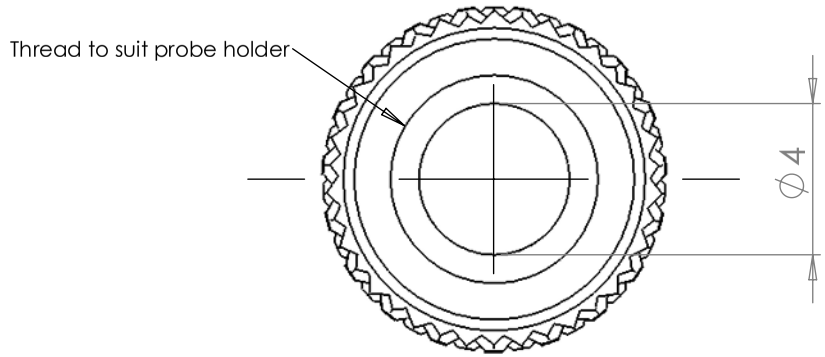


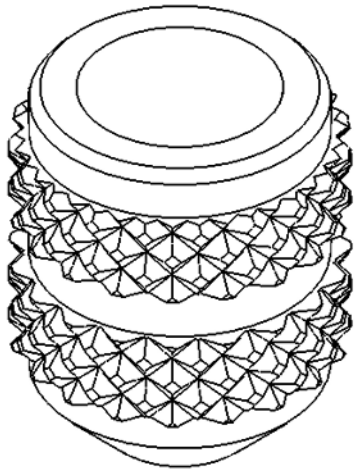
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DRAWN	W.K.Todd		21/01/2013	Coax Indicator Version 2	
CHK'D					
APPV'D					
MFG					
Q.A			MATERIAL: Stainless steel	DWG NO. Probe holder	A4
			WEIGHT:	SCALE:2:1	SHEET 1 OF 1





SECTION AA





UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:	FINISH:		DEBUR AND BREAK SHARP EDGES	DO NOT SCALE DRAWING	REVISION
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CHK'D					
APPV'D					
MFG					
Q.A			MATERIAL: Stainless steel	DWG NO. knob	A4
			WEIGHT:	SCALE:5:1	SHEET 1 OF 1