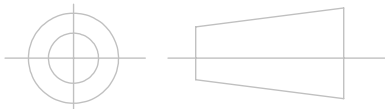
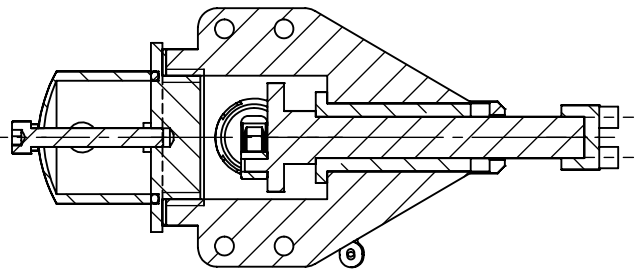
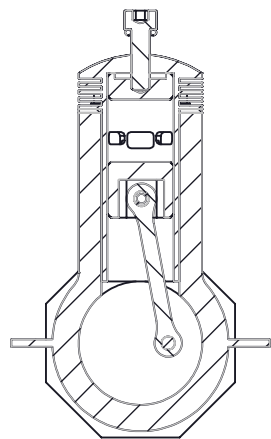


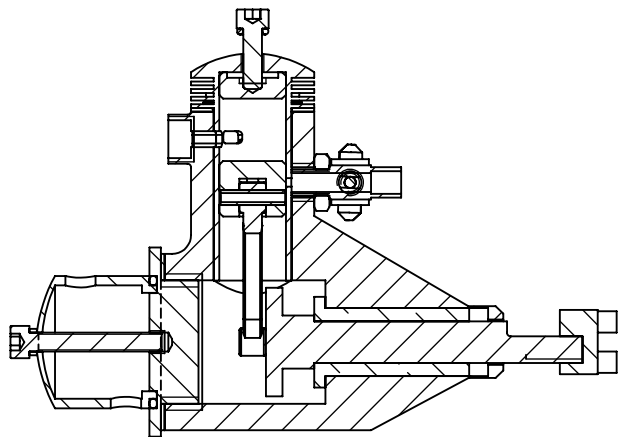
SCHOOL OF ENGINEERING UNIVERSITY OF BIRMINGHAM	AMENDMENTS						TOLERANCE UNLESS OTHERWISE STATED: DIMENSIONAL ANGULAR	N/A N/A	ALL DIMENSIONS IN mm	DO NOT SCALE DRAWING	
	ISSUE	DATE	CHANGE	ECN	BY	CKD				DATE: 10/12/18	DRAWN BY: GROUP 35
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									THIRD ANGLE PROJECTION 	DWG NO. 1	EXTERNAL VIEW
										MATERIAL: N/A	
								FINISH: N/A	SHEET NUMBER: 1		
										A3	



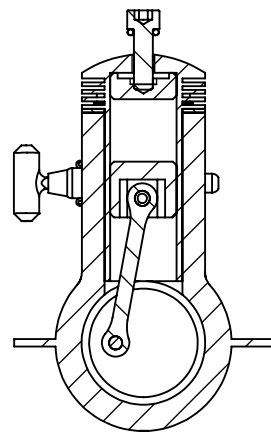
SECTION C-C



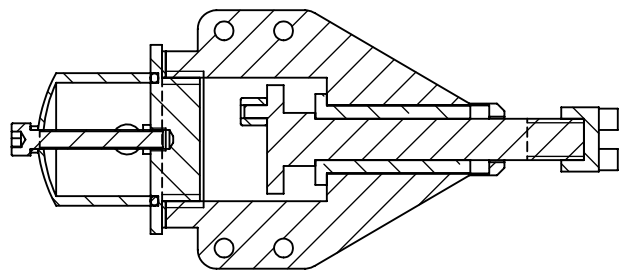
SECTION A-A



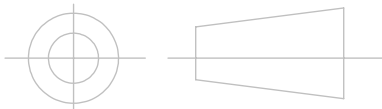
SECTION E-E



SECTION B-B



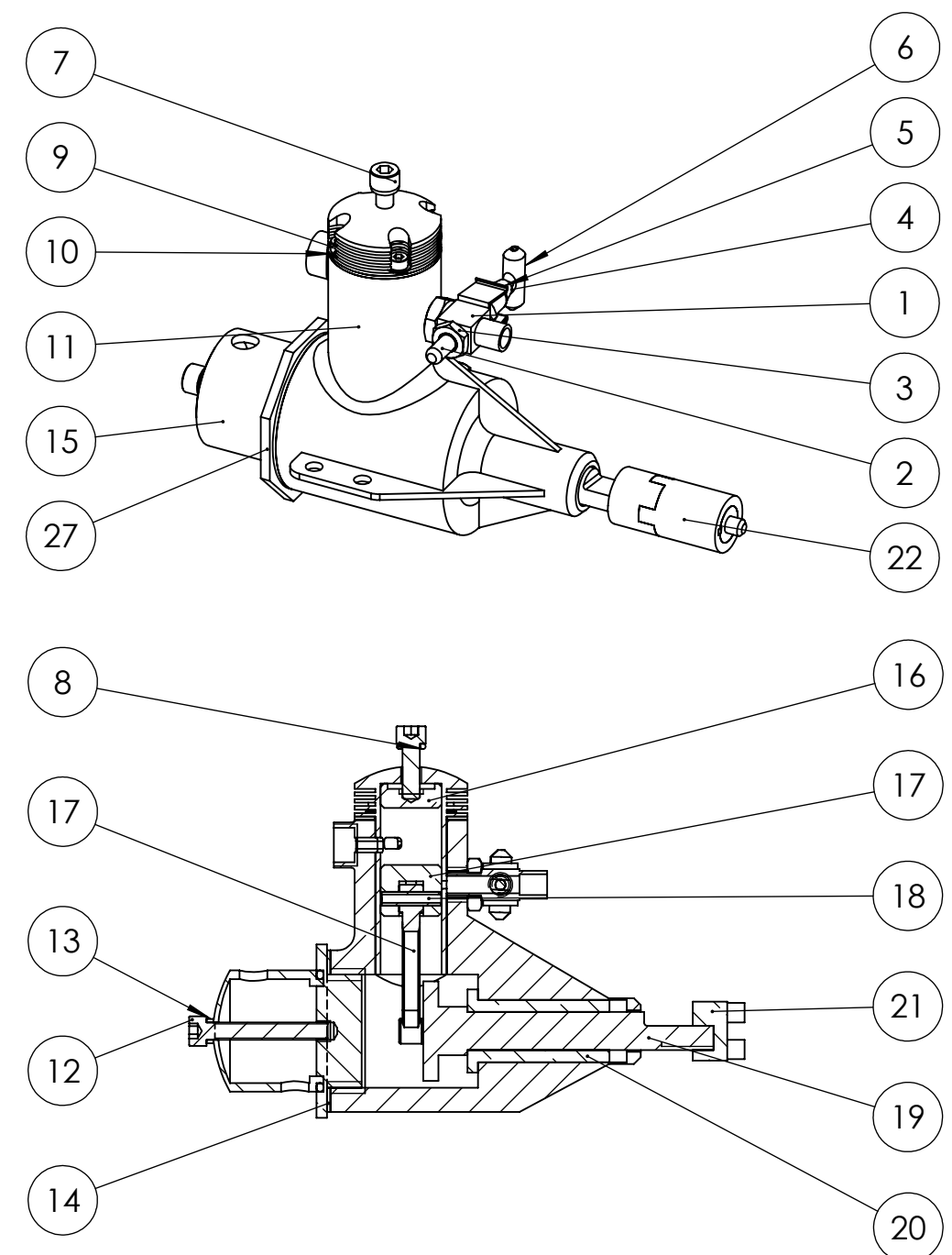
SECTION D-D

SCHOOL OF ENGINEERING UNIVERSITY OF BIRMINGHAM	AMENDMENTS						TOLERANCE UNLESS OTHERWISE STATED: DIMENSIONAL ANGULAR	N/A N/A	ALL DIMENSIONS IN mm	DO NOT SCALE DRAWING			
	ISSUE	DATE	CHANGE	ECN	BY	CKD				DATE: 10/12/18	DRAWN BY: GROUP 35		
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									THIRD ANGLE PROJECTION	DWG NO.	2		
										MATERIAL:	N/A	INTERNAL VIEW	
										FINISH:	N/A	SHEET NUMBER: 2	
													A3


	8	7	6	5
	ITEM NO	PART NAME	QTY	MATERIAL
F	1	CARBURETOR	1	ALUMINIUM TO BS EN AW-4032
	2	CARBURETOR TUBE	1	ALUMINIUM TO BS EN AW-4032
	3	M8 NUT	2	189-608 FROM RS COMPONENTS LTD.
	4	LOCKING CLIP	1	STAINLESS STEEL TO BS 970 416S21
	5	NEEDLE SLEEVE	1	ALUMINIUM TO BS EN AW-4032
E	6	NEEDLE	1	ALUMINIUM TO BS EN AW-4032
	7	COMPRESSION SCREW	1	281-091 FROM RS COMPONENTS LTD.
	8	WASHER	1	189-642 FROM RS COMPONENTS LTD.
	9	M3 BOLT	4	280-981 FROM RS COMPONENTS LTD.
	10	M3 WASHER	4	189-620 FROM RS COMPONENTS LTD.
	11	CRANKCASE	1	CAST IRON TO BS EN 1561 JL1020
	12	M5 FUEL BOLT	1	281-091 FROM RS COMPONENTS LTD.
	13	FUEL O-RING	1	689-574 FROM RS COMPONENTS LTD.
D	14	TANK O-RING	1	128-906 FROM RS COMPONENTS LTD.
	15	FUEL TANK	1	HDPE TO BS 6564-2
	16	CONTRA PISTON	1	ALUMINIUM TO BS EN AW-4032
	17	CONNECTING ROD	1	STEEL TO BS 970 080M40
C	18	GUDGEON PIN	1	STEEL TO BS 970 080M40
	19	CRANKSHAFT	1	STEEL TO BS 970 080M40
	20	BEARING	1	GGB BP25 FROM GGB BEARINGS
	21	SHAFT COUPLING	1	STEEL TO BS 970 080M40
	22	DYNO COUPLING	1	STEEL TO BS 970 080M40
C	23	M3 BOLT	4	281-007 FROM RS COMPONENTS LTD.
	24	M3 WASHER	4	HPW-3.2-6-1-N FROM ACCU LTD.
	25	M3 NUT	4	WF15111 FROM WESTFIELD FASTENERS LTD.
	26	HEAD CYLINDER GASKET	1	COPPER TO BS 6017 CW006A
	27	BACK CRANK CASE	1	CAST IRON TO BS EN 1561 JL1020

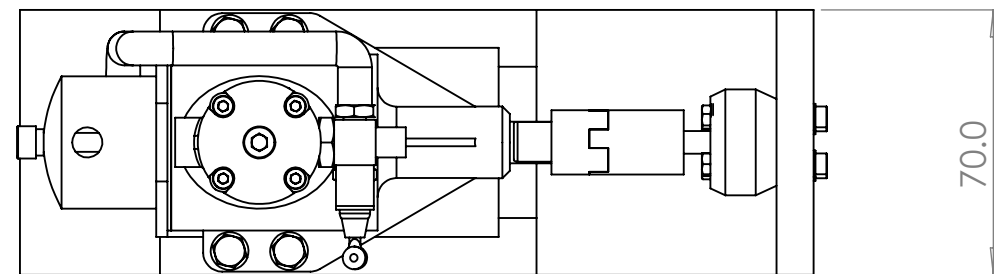
PARTS 23 TO 25 ARE INCLUDED IN THE ENGINE BUT NOT IN THIS DRAWING - REQUIRED FOR TEST FRAME MOUNTING.

ENGINE CAN BE ASSEMBLED USING ALLEN KEY.

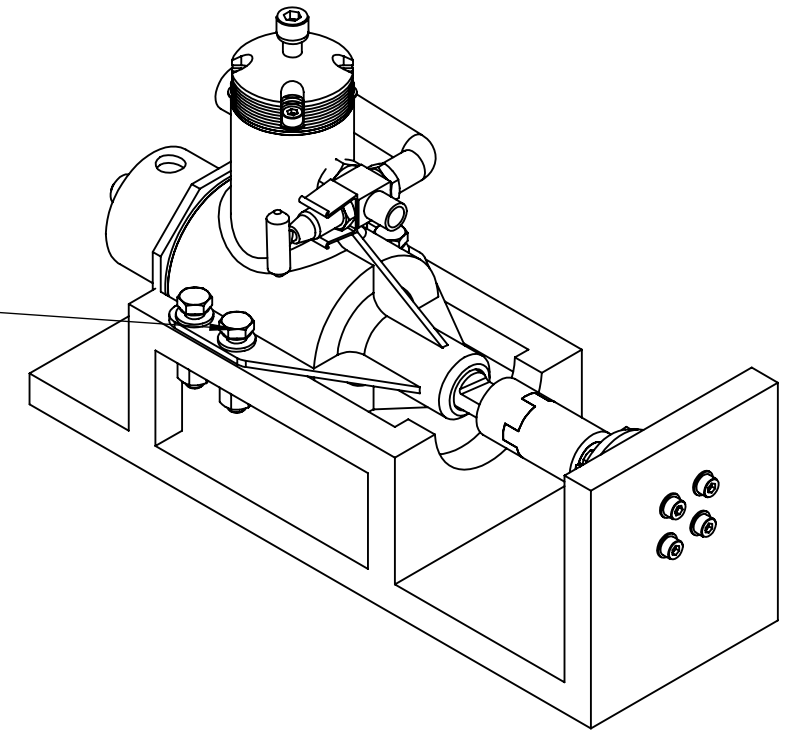


SECTION E-E

SCHOOL OF ENGINEERING UNIVERSITY OF BIRMINGHAM	AMENDMENTS						TOLERANCE UNLESS OTHERWISE STATED: DIMENSIONAL N/A ANGULAR N/A		ALL DIMENSIONS IN mm		DO NOT SCALE DRAWING	
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							THIRD ANGLE PROJECTION		DWG NO. <b>3</b>			
									MATERIAL: N/A		PARTS LIST	
						FINISH: N/A						
									SHEET NUMBER: 3		A3	

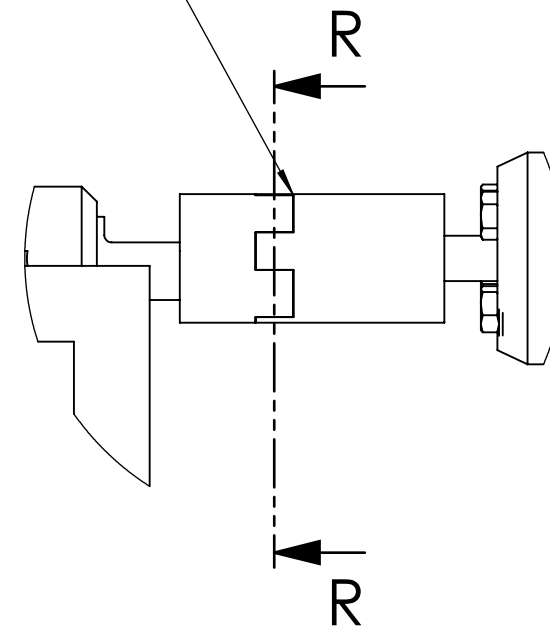
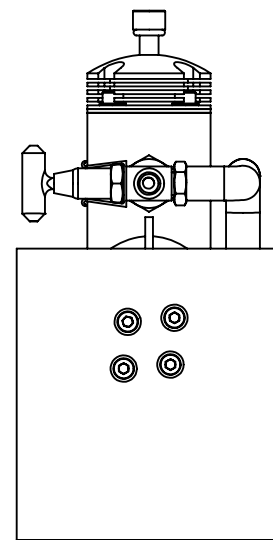
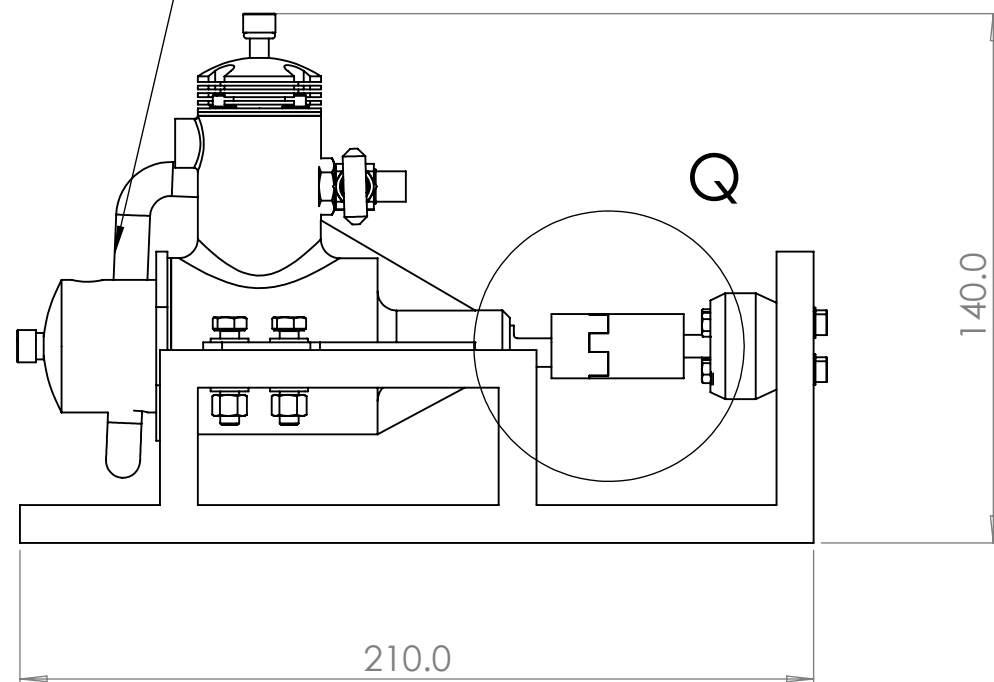


ALL TEST FRAME BOLTS AND  
SCREWS MUST BE USED WITH  
WASHERS- TO AVOID DAMAGE  
ON ENGINE.

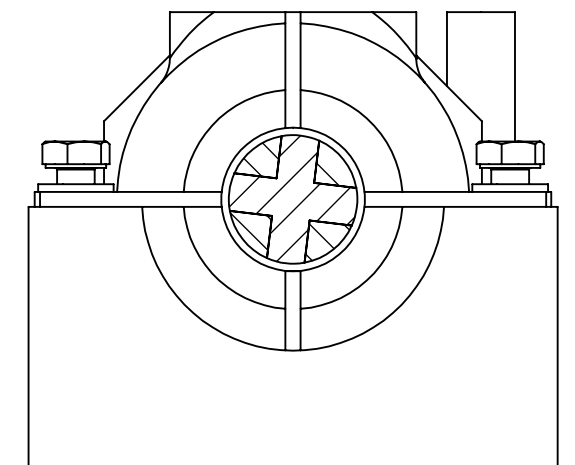


FUEL LINE CONNECTS TO BARB  
FITTING ON CRANKCASE AND AT  
THE BOTTOM OF THE FUEL TANK.

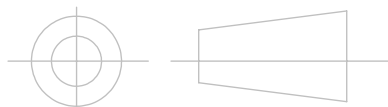
COUPLING HUB FOR TORQUE TRANSMISSION



DETAIL Q  
SCALE 1 : 1



SECTION R-R  
SCALE 1 : 1

SCHOOL OF ENGINEERING UNIVERSITY OF BIRMINGHAM		AMENDMENTS					TOLERANCE UNLESS OTHERWISE STATED: DIMENSIONAL N/A ANGULAR N/A		ALL DIMENSIONS IN mm		DO NOT SCALE DRAWING				
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									<div>THIRD ANGLE PROJECTION</div> 		DWG NO. 4			EXTERNAL VIEW	
											MATERIAL: N/A		SHEET NUMBER: 4		
											FINISH: N/A				A3
8		7		6		5		4		3		2		1	

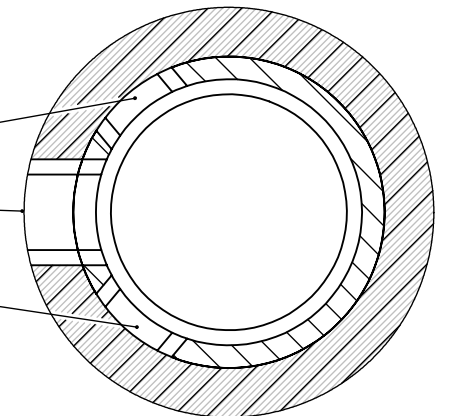
Technical drawing of a bolt head in perspective view. The bolt head is hexagonal with rounded edges and is hatched with diagonal lines. A central circular hole is visible. To the right of the bolt head is a large, bold letter 'N'.

## SCALE 1 : 1

A technical line drawing of a mechanical assembly. The central part is a vertical cylindrical component with a flange at the top. A horizontal dashed line passes through the center of this component, with an arrow pointing upwards and the letter 'M' to its left. To the right of the central component is a hexagonal nut-like structure. Two horizontal arms extend from the base of the central component. The left arm has a small rectangular block at its end, with an arrow pointing to it from the bottom-left. The right arm has a similar block at its end, with an arrow pointing to it from the top-right. A horizontal rod or shaft passes through the center of the base of the assembly.

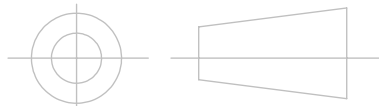
TRANSFER PORT-

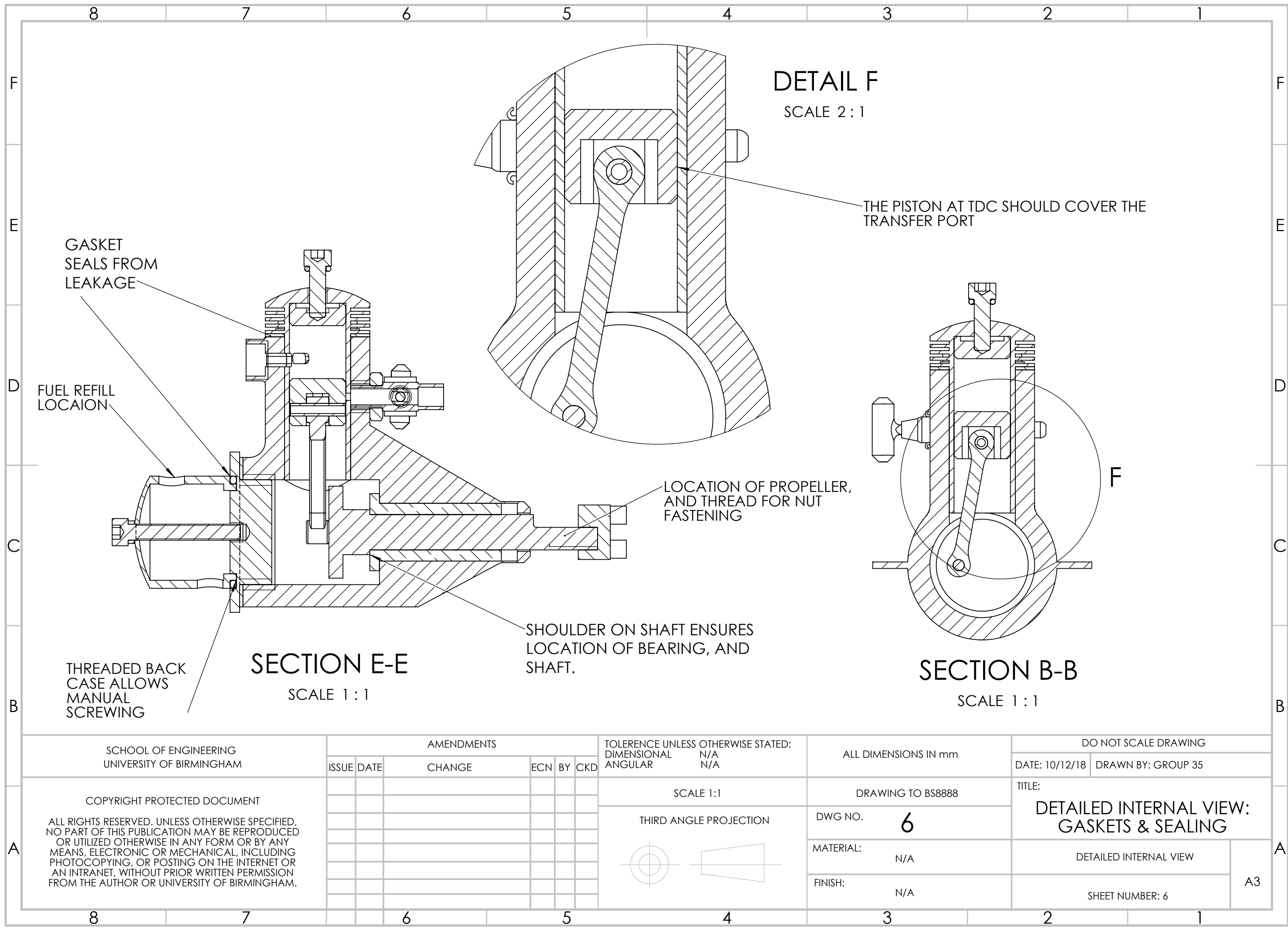
EXHAUST PORT-

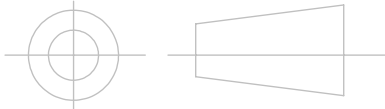


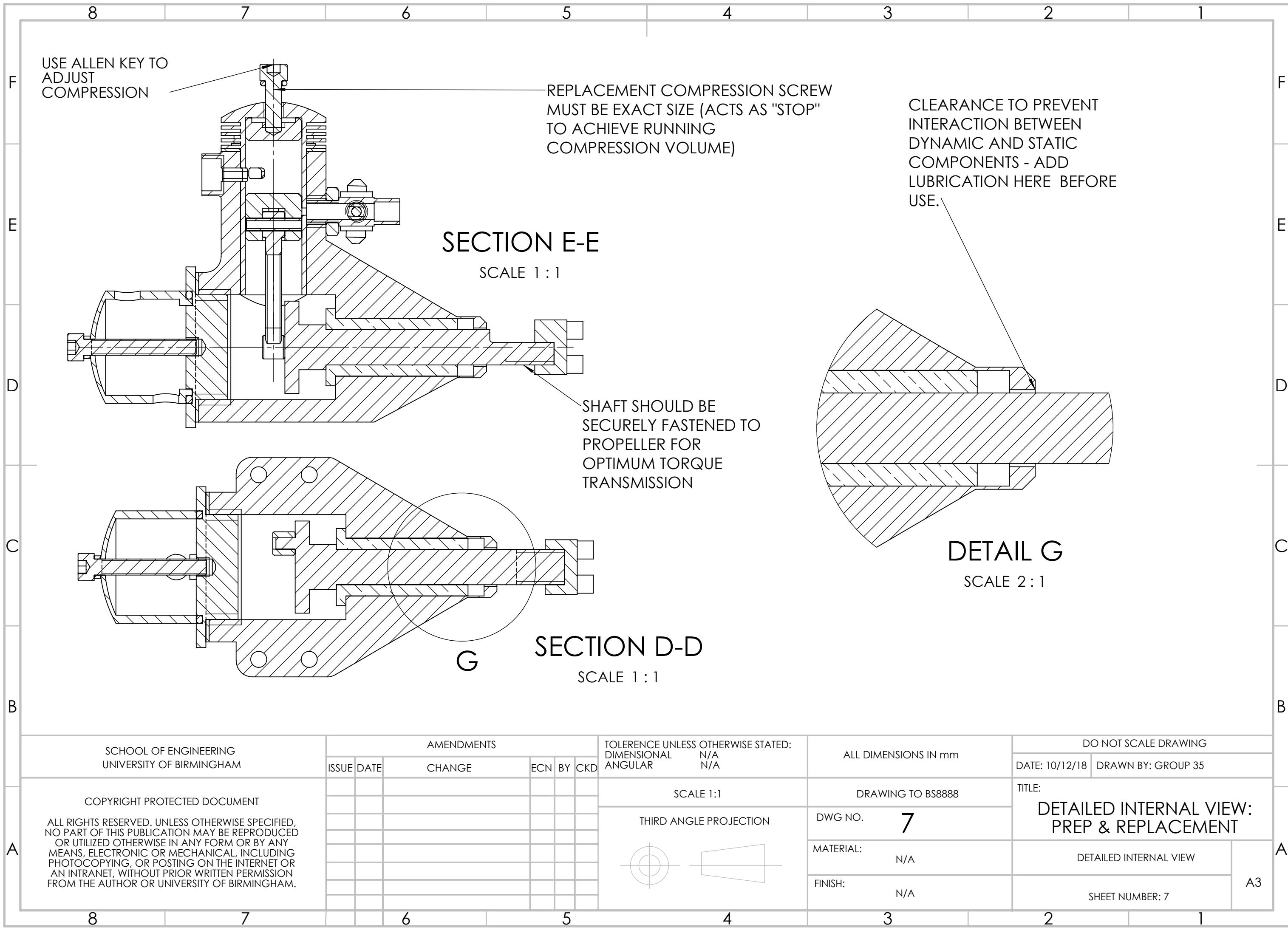
SCALE 2 : 1

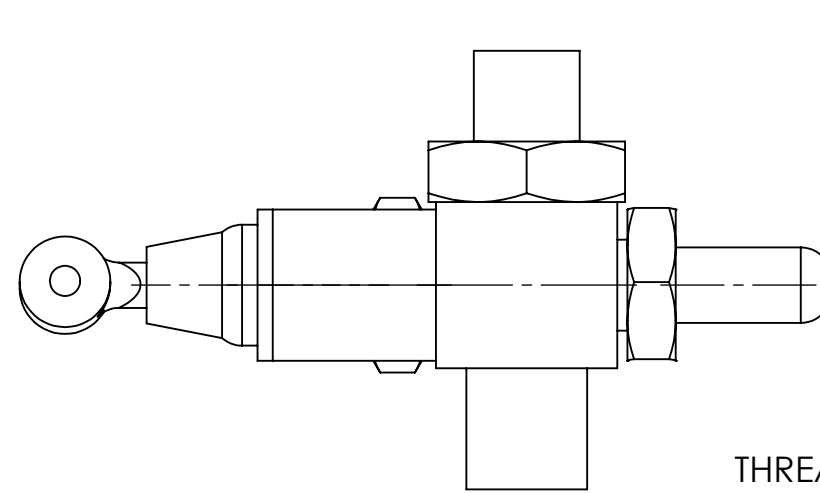
SCALE 2 : 1

SCHOOL OF ENGINEERING UNIVERSITY OF BIRMINGHAM	AMENDMENTS						TOLERANCE UNLESS OTHERWISE STATED: DIMENSIONAL N/A ANGULAR N/A		ALL DIMENSIONS IN mm		DO NOT SCALE DRAWING	
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							THIRD ANGLE PROJECTION		DWG NO. 5			
									MATERIAL: N/A		EXTERNAL VIEW	
									FINISH: N/A		SHEET NUMBER: 5	

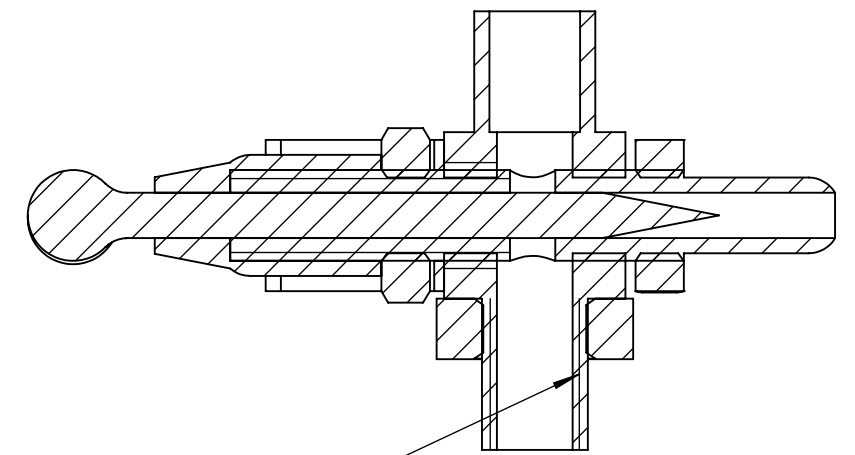


SCHOOL OF ENGINEERING UNIVERSITY OF BIRMINGHAM	AMENDMENTS						TOLERANCE UNLESS OTHERWISE STATED: DIMENSIONAL ANGULAR	N/A N/A	ALL DIMENSIONS IN mm	DO NOT SCALE DRAWING		
	ISSUE	DATE	CHANGE	ECN	BY	CKD				DATE: 10/12/18	DRAWN BY: GROUP 35	
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									THIRD ANGLE PROJECTION	DWG NO. 6		
										MATERIAL: N/A		
										FINISH: N/A	DETAILED INTERNAL VIEW	A3
											SHEET NUMBER: 6	



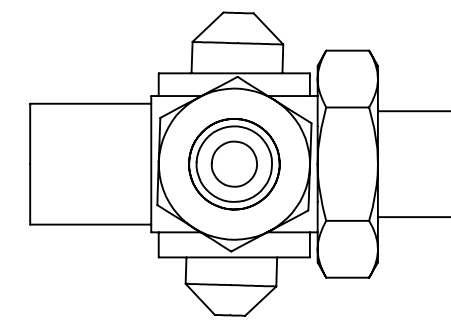
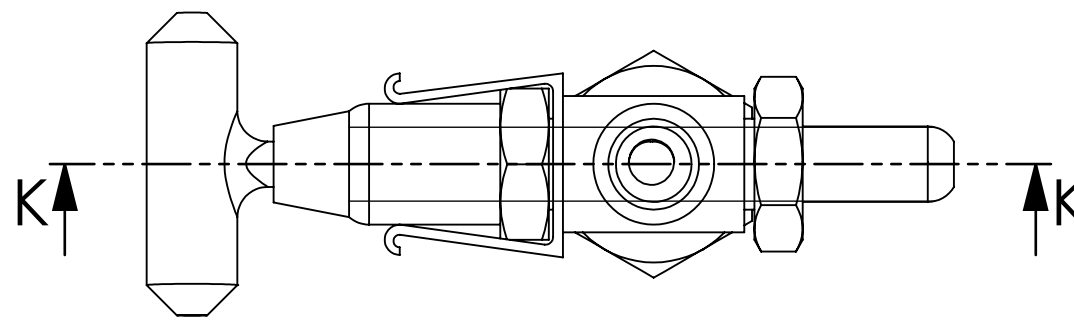
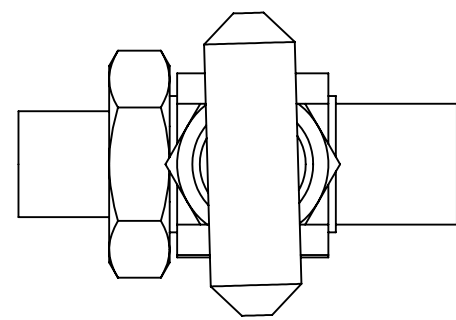


THREADED FOR CONNECTION WITH CRANKCASE-

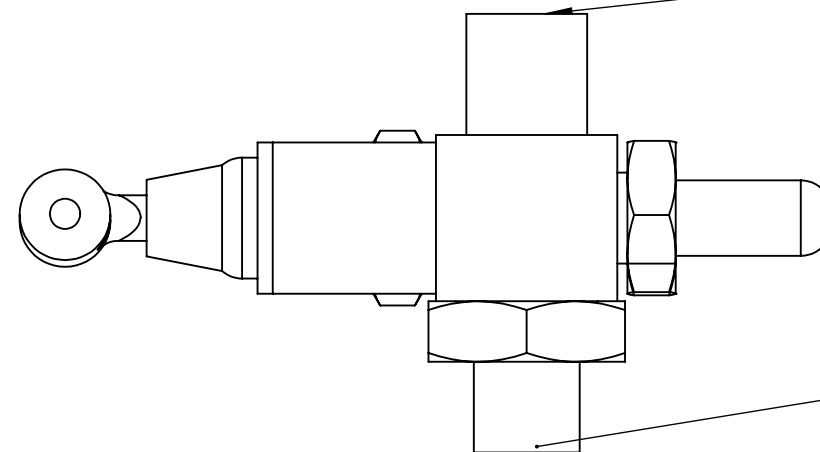


## SECTION K-K

SCALE 2:1

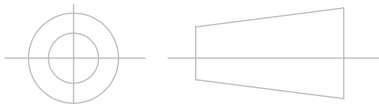


—AIR INTAKE



— FUEL INTAKE CONNECTS TO TUBE VIA BARB FITTING

— FUEL/ AIR MIXTURE

SCHOOL OF ENGINEERING UNIVERSITY OF BIRMINGHAM		AMENDMENTS						TOLERANCE UNLESS OTHERWISE STATED: DIMENSIONAL N/A ANGULAR N/A		ALL DIMENSIONS IN mm		DO NOT SCALE DRAWING		
		ISSUE	DATE	CHANGE	ECN	BY	CKD					DATE: 10/12/18	DRAWN BY: GROUP 35	
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								<div>THIRD ANGLE PROJECTION</div> 		DWG NO. 8				
										MATERIAL: N/A	DETAILED INTERNA VIEW			
										FINISH: N/A				
												SHEET NUMBER: 8		A3
8	7			6			5	4		3		2		1