Part Name: Base		Part Number: 01			Drawing Number: 01		
Revision No.: 1		Date 19/10/19			Planner: Alexander Cunio (z5204704)		
Material: Aluminium		Stock Size: 100x70x10 rectangular prism			Comments: RPM derived from TAFE instructions		
Op. Number	**Description**	**Machine**	**Tooling**	**Speed (rpm)**	**Feed (mm/min)**	**Time (min)**	**Risk Assessment**
101	FACE all six surfaces to be smooth and perpendicular to dimensions of 100 mm, 70 mm, and 10 mm	Mill	100mm carbide tooth face cutter	360 [1]	144 [1]	20	• Loose clothing getting caught in the spindle • Swarf produced in the cutting process becoming projectiles, which could cut individuals or enter the eye • Cuts from sharp objects, including edge between two machined surfaces and cutting bits • Injury from incorrect lifting technique used when lifting clamp • Always remove all loose clothing (including jewellery and hoodies) and tie back any long hair • Wear long sleeve clothing and safety goggles at all times to prevent swarf coming in contact with skin and eyes • Ensure care is taken when handling cutting bits or machined work • Only lift heavy objects with multiple individuals using the correct lifting technique [2]
102	Inspect surfaces and dimensions to those described by the engineering drawing	Calliper, square	-	-	-	2	-
103	Deburr edges	Bastard file	-	-	-	2	• Sharp edges and remaining swarf can cause cuts • Handle the machined pieces carefully • Always place one hand on the handle and use the other to guide the file so it cannot slip
104	Mark and punch locations for centre hole countersunk holes	Vernier Height Gauge, hole punch	-	-	-	10	-
105	Drill central 10mm hole for connecting rod	Drill press	10 mm drill bit	500 [1]	-	5	• Loose clothing getting caught in the spindle • Swarf produced in the cutting process becoming projectiles, which could cut individuals or enter the eye • Cuts from sharp objects, including cutting bits • Drill bits or work pieces may become projectiles if they come loose

							• Always remove all loose clothing (including jewellery and hoodies) and tie back any long hair • Wear long sleeve clothing and safety goggles at all times to prevent swarf coming in contact with skin and eyes • Ensure care is taken when handling cutting bits • Ensure drill bits are correctly secured into the chuck before use and work piece are securely mounted in clamp
106	Inspect dimensions to those described by the engineering drawing	Calliper, square	-	-	-	2	-
107	Drill four 5.5mm holes for mounting to housing	Drill press	5.5mm drill bit	500 [1]	-	10	• Loose clothing getting caught in the spindle • Swarf produced in the cutting process becoming projectiles, which could cut individuals or enter the eye • Cuts from sharp objects, including cutting bits • Drill bits or work pieces may become projectiles if they come loose • Always remove all loose clothing (including jewellery and hoodies) and tie back any long hair • Wear long sleeve clothing and safety goggles at all times to prevent swarf coming in contact with skin and eyes • Ensure care is taken when handling cutting bits • Ensure drill bits are correctly secured into the chuck before use and work piece are securely mounted in clamp
108	Inspect dimensions to those described by the engineering drawing	Calliper, square	-	-	-	2	-
109	Countersink four 5.5mm holes	Drill press	90° counter sink bit	200 [1]	-	5	• Loose clothing getting caught in the spindle • Swarf produced in the cutting process becoming projectiles, which could cut individuals or enter the eye • Cuts from sharp objects, including cutting bits • Drill bits or work pieces may become projectiles if they come loose • Always remove all loose clothing (including jewellery and hoodies) and tie back any long hair • Wear long sleeve clothing and safety goggles at all times to prevent swarf coming in contact with skin and eyes • Ensure care is taken when handling cutting bits • Ensure drill bits are correctly secured into the chuck before use and work piece are securely mounted in clamp

110	Inspect all drilled holes and countersinks for size, position and alignment	Calliper	-	-	-	2	-
111	Mill two 6mm slots	Mill	6mm slot drill	3000 [1]	600 [1]	15	• Loose clothing getting caught in the spindle • Swarf produced in the cutting process becoming projectiles, which could cut individuals or enter the eye • Cuts from sharp objects, including edge between two machined surfaces and cutting bits • Injury from incorrect lifting technique used when lifting clamp • Always remove all loose clothing (including jewellery and hoodies) and tie back any long hair • Wear long sleeve clothing and safety goggles at all times to prevent swarf coming in contact with skin and eyes • Ensure care is taken when handling cutting bits or machined work • Only lift heavy objects with multiple individuals using the correct lifting technique [2]
112	Deburr edges	File	-	-	-	2	• Sharp edges and remaining swarf can cause cuts • Handle the machined pieces carefully • Always place one hand on the handle and use the other to guide the file so it cannot slip
113	Inspect part	Calliper, square	-	-	-	2	-

References

[1] TAFE NSW Engineering Skills Centre Ultimo, Student background notes for basic machining operations, Sydney: TAFE NSW, 2010.

[2] TAFE NSW Engineering Skills Centre Ultimo, Student background notes for the use of hand and power tools, Sydney: TAFE NSW, 2010.