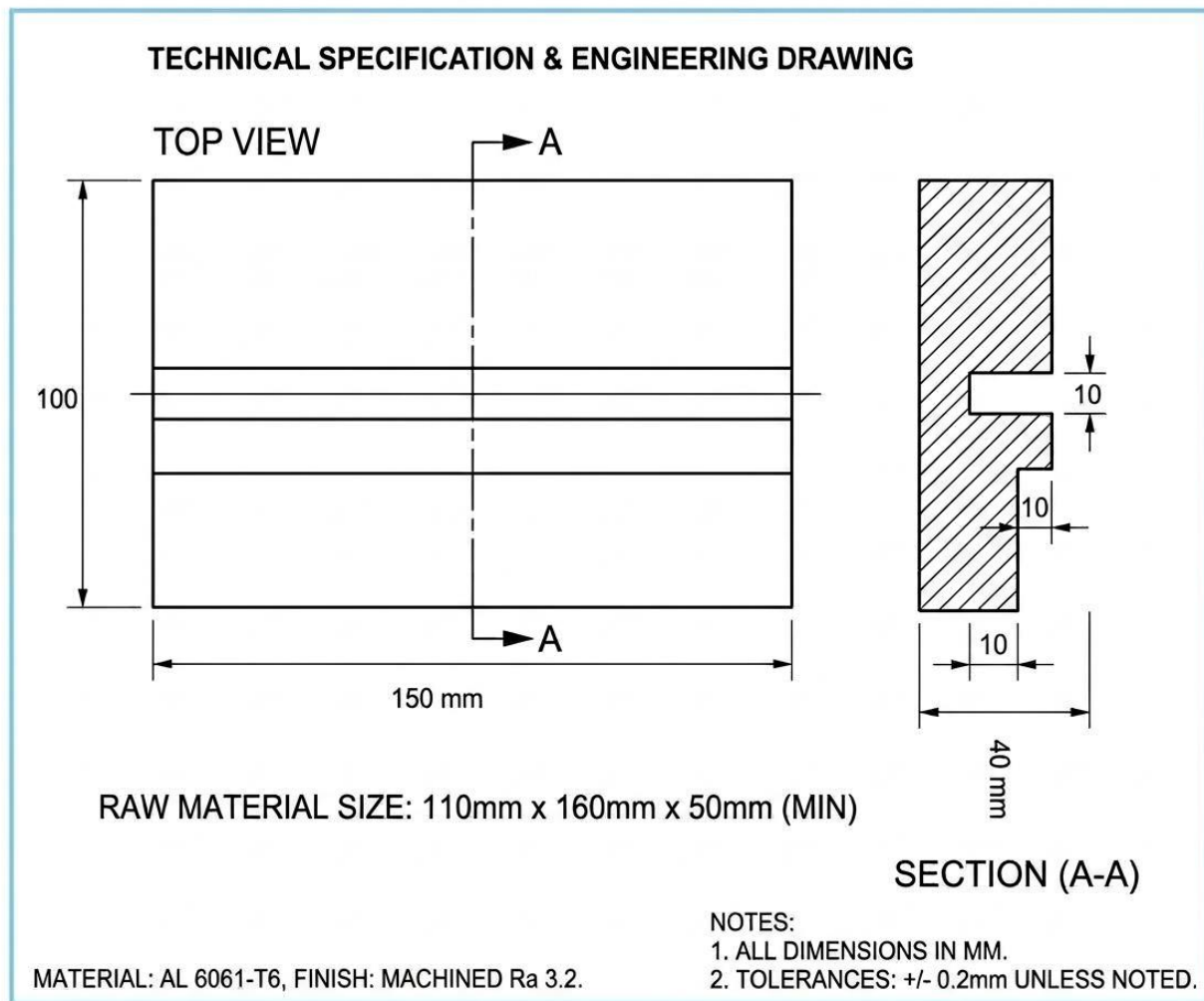


Ex. 1: Write the sequence of operations for manufacturing the part as per the engineering drawing specifications



Operation Process Sheet

This is the sequence of operations for manufacturing the part as per the engineering drawing specifications.

Operation No.	Operation Description	Tool Type	Achieved Dimension	Machine Type	Surface Finish
10	Material Inspection & Preparation	Vernier Caliper & Steel Rule	160 x 110 x 50 mm	Inspection Bench	N/A
20	Face Milling (Top Surface)	Face Mill (Ø 50 mm)	Thickness: 45 mm	Vertical Milling Machine (VMC)	Ra 3.2 µm
30	Face Milling (Bottom Surface)	Face Mill (Ø 50 mm)	Thickness: 40 mm	Vertical Milling Machine (VMC)	Ra 3.2 µm
40	Side Milling (Length Ends)	End Mill (Ø 20 mm)	Length: 150 mm	Vertical Milling Machine (VMC)	Ra 3.2 µm
50	Side Milling (Width Sides)	End Mill (Ø 20 mm)	Width: 100 mm	Vertical Milling Machine (VMC)	Ra 3.2 µm

Operation No.	Operation Description	Tool Type	Achieved Dimension	Machine Type	Surface Finish
60	Slot Milling (Central Groove)	Slot End Mill (Ø 10 mm)	Slot: 10 mm x 10 mm	Vertical Milling Machine (VMC)	Ra 3.2 µm
70	Step Milling (Lower Shoulder)	End Mill (Ø 16 mm)	Step: 10 mm	Vertical Milling Machine (VMC)	Ra 3.2 µm
80	Deburring & Edge Breaking	Hand File / Deburring Tool	Chamfer: 0.5 mm x 45°	Bench Workstation	N/A
90	Cleaning & Degreasing	Air Blow Gun & Cleaning Solvent	Cleaned Surface	Washing Station	N/A
100	Final Quality Inspection	CMM / Height Gauge / Caliper	All Drawing Tolerances (± 0.2 mm)	Quality Control Bench	Ra 3.2 µm