

Machining Plan

Gyro Mounting Block

1. Rough cut

Material	HDPE
Material Source	McMaster Car 8671K15 1" x 12" HDPE
Dimensions	18 mm x 18 mm x 23 mm
First Tool	1 1/8" fly cutter
Roughing Pass	1 mm (repeat as necessary)
Finish Pass	0.3 mm

2. Finish size

Material	HDPE
Material Source	See previous step
Dimensions	16 mm by 16 mm by 21 mm
First Tool	1" 4FL HSS
Roughing Pass	1 mm (repeat as necessary)
Finish Pass	0.3 mm

3. Cut bottom hole

Material	HDPE
Material Source	See previous step
Diameter	7.97 mm (adjust to slip fit)
Depth	10 mm
First Tool	1/8" 2FL carbide 1/2" LOC
Roughing Pass	1 mm
Finish Pass	0.3 mm

4. Cut top shelf

Material	HDPE
Material Source	See previous step
Depth	3 mm
Width	12.3 mm
First Tool	1/2" 2 flute HSS center cutting
Roughing Pass	1 mm (repeat as necessary)
Finish Pass	0.3 mm

5. Drill and tap back hole

Material	HDPE
Material Source	See previous step
First Tool	Drill
Diameter	3.3 mm
Depth	8 mm
Second Tool	Tap? Without changing fixture
Diameter	
Depth	

6. Drill and tap mounting holes (2)

Material	HDPE
Material Source	See previous step
First Tool	Drill
Diameter	1.6 mm
Depth	Through hole (12.3 mm)
Second Tool	Tap? Without changing fixture
Diameter	
Depth	

Motor Mounting Clip (2)

TBD

Motor Mount

TBD

Reaction Wheel

TBD

Shaft Tip

TBD