



ITEM	PART NUMBER	DESCRIPTION	MATERIAL
1	280-2021-1	UPPER SHAFT SUPPORT	BRONZE
2	280-2031-1	HOUSING	2024 ALUMINUM
3	280-2041-1	NUT	BRONZE
4	280-3021-1	MAIN SHAFT	4130 STEEL
5	280-3022-1	ROTATING DISC	4130 STEEL
6	280-2071-1	CIRCULAR HOOP	4130 STEEL
7	280-2081-1	LOWER SHAFT SUPPORT	BRONZE
4 & 5	280-1030-1	ROTATING SUBASSEMBLY	NA

- Centralia Gyroscopic Effects is a company that has hired you to make a complete set of manufacturing drawings on their title blocks. They want you to reverse engineer a competitor's spinning top by measuring the assembly. The deliverables are finished drawings for each detail part with the part numbers as assigned above. A subassembly drawing of the rotating assembly and the top level assembly drawing are also required. For additional clarity, one of the researchers at Centralia Gyro has requested a section view of the assembly that passes through the center of the rotating shaft.

- Individual drawings for each part should include the following
  - Material callout on a parts list located above the title block
  - Appropriate number of views to define the part
  - Plot drawings to scale on A-size paper with title blocks
  - Make proper thread callouts as required
  - Make weld callouts as required
  - Make callouts for countersinks, holes, tapers etc.
  - Item 2 should have a flatness of  $\pm 0.005$  on each side
  - Item 5 should have the outer diameter be concentric to the inner diameter  $\pm 0.002$
  - Each detail drawing should list the next assembly
  - Each drawing should include any necessary notes, dimensions and tolerances.
- A Subassembly drawing, 280-1030-1 *Rotating Subassembly*, should be made to assemble the Number 4 and Number 5 parts.
  - Tolerances on the detail parts should ensure a press fit of .0005 to .0015 inches
- An Assembly drawing with part number 280-1000-1 *Spinning Top* should be made to assemble all parts
  - The torque on the nuts should be called out
  - The assembly drawing should callout the correct number of each part for the assembly
- A separate BOM Bill of Material should be made

Deliverables	Date Due
BOM	March 6
Item 4 & 5 Detail Drawings	March 6
Subassembly Drawing	March 6
Item 1,2,3,6,7 Detail Drawings	March 11
Assembly Drawing	March 13