

Inventor Assignment #7

Reading Assignment:

Read Chapter 14 in Parametric Modeling with Autodesk Inventor 2013, by Randy Shih

Computer Assignment:

(Note: Extra time may be allowed on this project as it will take a bit more time than earlier projects.)

Complete the exercise (Leveling Assembly) at the end of Chapter 14 in the text.

Additional specifications:

- 1) Create metric parts for the 4 parts in the problem.
 - Create a **detail drawing** for each part using an A-size sheet with an appropriate scale.
 - The detail drawings for the first three parts should include 4 views (front, top, right, and isometric), including dimensions, title block information, etc.
 - The detail drawing for the 4th part (the adjusting screw) should include 3 views (front – showing the hex hole), right, and isometric)
- 2) Create an assembly using the 4 parts. Use appropriate constraints to put the parts together.
- 3) Create an assembly drawing using an A-size (portrait) sheet with an appropriate scale. Include:
 - A parts list (include a column for material with mild steel listed as the material for each)
 - Balloons identifying each part
 - Appropriate title block information.
- 4) Add a **motion constraint** to the assembly so that when you turn the screw with the mouse, the lifting assembly operates as designed. Also add a **mate constraint** that can be **driven** so that the device will operate properly over its intended range. **Demonstrate** the proper of motion to the instructor. Also record a video clip of the motion of the leveling assembly and demonstrate it to the instructor as well. (Note: the adjusting screw has M10 x 1.5 threads, so its **pitch** (distance between threads) is 1.5mm, meaning that it should move 1.5mm for each rotation. Use this value with the motion constraint.)
- 5) Staple together the assembly drawing and the four detail drawings and submit them to the instructor.