

**PROBLEM 1-3**

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**Statement:** A quadriplegic needs an automated page turner to allow her to read books without assistance. Consider the factors involved, write a goal statement, and develop a set of at least 12 task specifications that constrain this problem. Then suggest 3 possible concepts to achieve the goal. Make annotated, freehand sketches of the concepts.

**Solution:**

Goal Statement: *Create a means to allow a quadriplegic to read standard books with minimum assistance.*

Task Specifications:

1. Cost no more than \$1 000.
2. Useable in bed or from a seated position
3. Accept standard books from 8.5 x 11 in to 4 x 6 in in planform and up to 1.5 in thick.
4. Book may be placed, and device set up, by able-bodied person.
5. Operate from a 110 V, 60 Hz, 15 amp circuit or by battery power.
6. Be visually unthreatening and safe to use.
7. Require no more than 1 able-bodied adult for assistance in use.
8. Useable in absence of assistant once set up.
9. Not damage books.
10. Timing controlled by user.
11. Page turning requires no more than a mouth stick-switch closure.
12. Be simple to use with minimal written instructions necessary.

Concepts and sketches are left to the student. There are an infinity of possibilities.