

**Analysis:**

- What is the necessary pressure for the hydraulic system to move a patient at our maximum weight capacity?
- Should / would our device be able to work for a variety of weights spanning our current weight limit?
- What is the minimum water pressure input that is needed to lift and lower the toilet seat?
  - Use fluid mechanics equations and assumptions
- How will we determine the max weight without failure of the toilet?
- What is the power required to lift the maximum weight at the desired velocity
  - Use basic kinematics at the maximum weight to develop a power minimum

**Benchmarking:**

- What materials have been used that provide the weight capacity required, but also a high level of sanitation?
- Does our design offer a better option than those currently on the market? -
  - Cost / installation / sanitation / usage
- What is the minimum and the maximum distance that the arm rest can be apart?
- Find general size requirements of other toilet chairs or of wheelchairs
- How will we test structural stability of our armrest and support options?
- What materials are most appropriate for a lifting system?
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**Prototyping:**

- Can the hydraulic lift system reach all of the height requirements set forth by the customer and engineering requirements when fully assembled?
- Will our design be able to fit in a standard accessible bathroom without impacting the usage of the bathroom both by people using the device and people not using the device?
- How do you determine if a user is comfortable sitting on the device?
  - Build prototype of the seat using similar materials, then have a survey for the tester to fill out
- What type of design will be most appealing to the users?
- How will we decide on a material?
- How will we control the actuation so the lift velocity is within tolerance?

**Chosen Questions to Focus On:****Analysis:**

What is the necessary pressure for the hydraulic system to move a patient at our maximum weight capacity?

What is the power required to lift the maximum weight at the desired velocity 90.4 Watts

**Benchmarking:**

What materials have been used that provide a high level of sanitation?

**Prototyping:**

Will our design be able to fit in a standard accessible bathroom without impacting the usage or comfort of the user?