#### A white jeep parked in front of a blue wall Description automatically generated with medium confidence

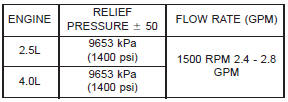
#### ****Week 3.3:****

This weeks focus was on hydraulics and pneumatics. Continue to use the system you chose and further analyze it. It may be necessary to make some assumptions about your system; clearly state any assumptions you make. Include a picture of your system and its technical specifications in your document. Create a word document that presents this information and then answers the following questions:

* Describe either the hydraulic or pneumatic parts of your system?

The power steering pump uses a hydraulic fluid to transmit power to the streeing rack in order to assist “turning” the wheels left or right. There is a mechanical control valve mounted in the steering rack to control the flow of the brake fluid to the right or left side of the piston inside the cylinder.

**PUMP SPECIFICATIONS   
(for Jeep Cherokee power steering pump)**

* What is the flow rate of the fluid power?

According to the power steering pump specifications the flow rate is 2.4 - 2.8GPM

* How much power is transmitted through the fluid power components?

Let’s say the rack cylinder is 2” in diameter and the shaft is 1” in diameter.

**Bonus Answer:**

This Jeep contains another hydraulic system used to slow the wheels’ rotation (slowing the vehicle) as well as preventing the wheels from rotating (keeping the vehicle stopped). The power source of this system comes from the force applied to the brake pedal by the operator’s foot. The brake pedal is a second-class lever which is used to apply a force on the fluid in the master brake cylinder. The master cylinder then transmits that power through metal/rubber tubing and into each brake caliper which contains a cylinder. Since the cylinders in each brake caliper have a larger fluid area the output force is upscaled.