ABSTRACT

Comfort and stability when driving a car plays an important role, one of which is the car suspension. This final project makes a prototype air suspension, air suspension is a suspension system that uses air pressure on the balloon as a vibration damper. Air suspension is made to make it easier for car users to adjust the comfort and stability of the car on different road terrain and car load status. The height of the car can be adjusted according to the user's needs, by using the manual control button to control the Mini Compressor and Solenoid with Relay Module. Arduino UNO R3 as a microcontroller, balloon as a reservoir for air pressure and air sensor as a detector for air pressure values in balloons displayed on the LCD. The results obtained on air suspension by measuring between the tires and car fenders are a maximum car height of 45 mm and a minimum car height of 10 mm. The car can accommodate a maximum load on the front of which is 2 kg and the rear of the car a maximum of 3 kg. In the attenuation of the air suspension balloon vibration which was tested using the SW-420 vibration sensor, the lowest vibration value was 36 and the highest vibration value was 350.

Keywords: Car, Pneumatic, Arduino, Air Sensor, Solenoid