Ride comfort has become a claim for the rider. In line with the demands of an increasingly high of comfortable, so researching about vehicle comfortable today many do. Ideal conditions to be obtained in the comfort of the rider is the ability to withstand vibration as long as possible. But this condition is almost impossible to achieve, so the approach is to minimize the effect of disturbances in the form of road unevenness by installing a suspension system between the wheels and the vehicle body.

In the rural multipurpose vehicle suspension analysis (GEA) will be compared with the results of analysis of the existing vehicle suspension on the market Daihatsu Grand Max. Equation modeling suspension system uses a quarter and half of vehicle which will be converted into matrix form and can be obtained in accordance with the desired output using state space methods. To input the street is kind of a sinusoidal profile with a height / amplitude and α by 5 cm by 20 cm.

From this analysis, the graphics acceleration to comfort the ISO 2631 standard, which can be seen in this graph that the comfort level model of a quarter or half-car vehicle Grand Max spring stiffness can cause fatigue after applying vibration to the rider for 4-8 hours at a frequency of 5-10 Hz. For car suspension deflection Grand Max has an average deflection is greater than the GEA, either on the model of a quarter or half of the vehicle. For safety level car Grand Max has smallest deflection tire, so the steering better handling capabilities.

Key word: Suspension system, ISO 2631 Criteria comfort, maximum stroke