

Front suspension Mounting

Siqi (Edward) Liu 1000049303
Kexin (Hannah) Zhao 1000049316

Problem Statement

A motorbike front suspension with wheel needs to be adapted/fitted to the EV.

Customer Needs

Assessing the height the vehicle should be off the road, and adapting/modifying the suspension to suit.

An angle of 20-25 degrees from vertical should be achieved.

Mounting points need to be developed in the vehicle with appropriate strengthening.



Solution Demonstration

The upper plane is made to fit the structural frame of the electric vehicle and provide a new support point for the installation of the front suspension.

Bushing is made to support the entire front suspension, and it can play a role in strengthening the stress point.

The bushing of the lower plane is connected with an additional plane, and a structure with two baffles is connected to it, and screw holes are drilled at the connection of the three to fix the position and prevent rotation.

The main purpose of its structure is to control the rotation angle of the front suspension within the required range of 20-25°.



The installation style of the front suspension and the display of the fixed position of the finished product after installation.

Conclusion

The final task of this project is to retrofit and install the front suspension for an electric vehicle. Although we have experienced failures in determining the drilling position and designing and manufacturing the bushings, in this process, we are concerned about the machining tools, methods, and sequences. After training, the suspension was installed successfully.

Recommendations of Project

In the future improvement work of this project, attention should be paid to the stability of the suspension, the improvement of steering control and the enhancement of the effect of the shock absorber.