

Typical Results with brief discussion

We used slotted slider crank mechanism that is added to the original mechanism in regular car. At the beginning both wipers at the rest, when it turns on to work, the original wiper will move as normal, at the same time the extra wiper will extend the whole way until it reaches the uncover area to clean it.

Conclusion and Summary

- The improved car wiper mechanism will provide a wider wipe area and that will help to increase the visibility which will increase the safety.

Invent an enhanced windshield wiper instrument which is new in the market and satisfactory to the customers

Project relevance

Locally:

This project can be manufactured locally which will help to support industries locally and increase job opportunities, which follows the kingdom vision (2030).



Globally and internationally:

This project can help to increase the rate of safety for drivers around the world.

Acknowledgments

In performing our senior project, we had to take the help and guideline of some respected persons, who deserve our greatest gratitude. The completion of this project gives us much Pleasure. We would like to show our gratitude to our advisor Dr.Mohammad Asad and co-advisor Dr.Nader Sawalhi , for giving us a good guideline for project throughout numerous consultations. Many people, especially our classmates and team members itself, have made valuable comment suggestions on this project which gave us an inspiration to improve our assignment. We thank all the people for their help directly and indirectly to complete our project.



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Design and Manufacturing of an improved Car Wiper Mechanism

Team (5)



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Abstract and Objectives

The car wiper was invented in 1905 by Mary Anderson. The project goal is to modify the existing design of Car Wiper mechanisms. The main objective is to design and manufacture a new mechanism to clean the complete area of the wind screen.

Objective:

- Design an improved car wiper.
- Produce a CAD model for the new design.
- Manufacturing a prototype.
- Test and evaluate the prototype.

Summary of Project:

The regular car wiper does not clean the whole area of the windshield. In our project, we designed our project by using a new mechanism that is able to clean the complete area of the windshield.

ملخص المشروع

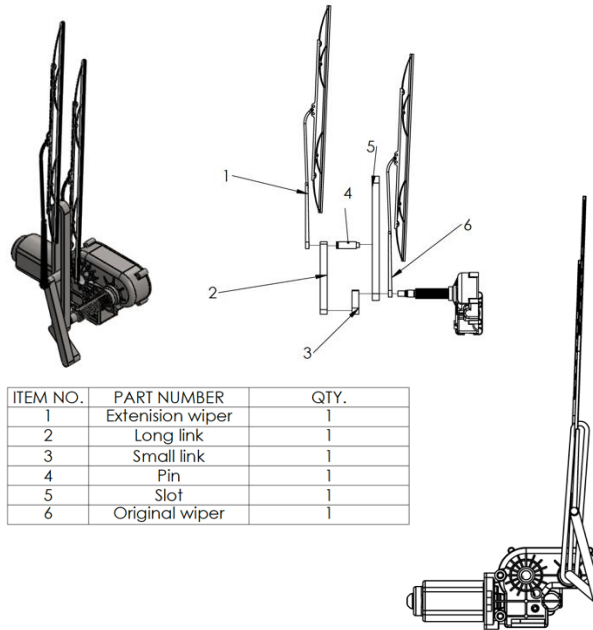
مساحات الزجاج في السيارات غير قادرة على مسح جميع أجزاء الزجاج. نحن في مشروعنا عملنا على تصنيع تركيبه ميكانيكيه في أجزاء ميكانيكا المساحات لتصبح قادرة على مسح جميع أجزاء زجاج السيارة.

Design:

Specifications

- The system measurement:
 - Original wiper (length): 16 cm
 - Extension wiper (length): 15 cm
 - Length of the slot: 8.5 cm
 - Length of the small link: 2.5 cm
 - Length of the long link : 4.5 cm

CAD model



ITEM NO.	PART NUMBER	QTY.
1	Extension wiper	1
2	Long link	1
3	Small link	1
4	Pin	1
5	Slot	1
6	Original wiper	1

Testing

In our project we used :

- 12 V, 2.4 A electric DC motor.
- Power supply.

We used the power supply to run the electric motor which is the only input to our mechanism. And to check the behavior of the mechanism. We measure the length of the original wiper and the extension wiper.

Typical Results with brief discussion

In our project which is design and manufacturing of an improved car wiper mechanism, we achieved the goal of the project which is designing a car wiper that is able to cover and clean the whole area of windshield of the car. In our project, we used two wiper that one of them is the original one that will clean the regular area of the windshield, and the other wiper is extension wiper that will extend to clean the uncover area in regular car.