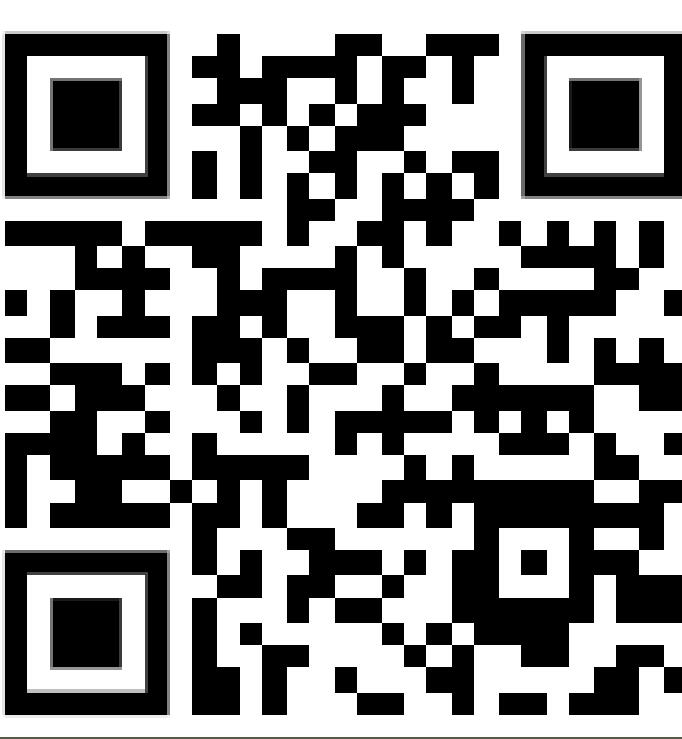




Restoration of a 1983 porsche 944

Is it possible to restore an older car to be more durable and have higher performance and safety ratings than newer cars?

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Research Question/ Hypothesis

"Is it possible to restore an older car to be more durable and have higher performance and safety ratings than newer cars?"

There is very little research and data that explores the benefits of restoring an older car and how the performance of a restored car can be better than newer cars.

My hypothesis is that older cars once restored can beat newer cars in all of those factors while being cheaper than many newer cars.

Introduction

The goal of my project was to restore the Porsche 944 to the best of my ability in the time I had and modify and upgrade it to make it look, sound, and perform better. Another goal was to determine if older cars, after being restored, are equal to or better than newer cars based on performance, safety, durability, and quality. I also took into account the cost to determine if buying a newer car is cheaper or restoring an older car is cheaper. I used parts that anyone would be able to get to restore their car. I built and fixed all the parts and pieces myself. I tested the car at different stages for data on the increase in all performance, safety, durability, and quality. This research will allow for people to learn more about restoration of older cars and help them decide whether buying an older car and restoring it or buying a newer car is better for them.

Background

Old cars are constantly being discarded. All of these parts and components could be used to restore another car or recycled for some other use.

Everyone wants the newest and best car, but people don't realize older cars have the ability to become great cars if restored properly and treated well. No one realizes that older cars can be as good as newer cars in many ways like performance and even safety. Also, some people don't realize that older cars are better than newer cars in some ways like quality and feeling, etc.

There is not much information on how older cars are better than newer cars and how older cars can get to being better or on the same level of newer cars in performance and safety. Restoration of cars is decently big in society with car enthusiasts, but not many take the car to the next level of making it the best version of the car it can be. With the car industry changing and cars becoming more expensive and also being worse quality because of focus on mass production, the car industry needs a change and restoration of older cars can help that.



Methodology

I began with an inspection done by a Porsche dealership to determine the problems that the car has. It gave me what parts I needed to replace or fix. These parts were the belts, battery, headlights, sealing, and more. It also gave me some things that I needed to watch and fix later. Next, I started the restoration. I did research on all the parts that were needed to be fixed. Once I found the perfect parts, I ordered them and once they got to my house I replaced/fixed the parts. This happened for all the parts that Porsche said needed to be fixed and/or replaced.

Once all the needed parts were fixed, the next part was to work on modifications. An idea I had is an engine swap which research was needed to find if it's possible and what engine to use. I did extensive research to discover which modifications would best boost speed, safety, and overall performance. Once I found some good parts that I wanted to add to the car, I ordered them. After installing them, I tested the car to gauge the improvements and wrote down the parts and what they did for improvement. I collected all the data of the mods and the car to see the improvement overtime and determined that restoration is better.

The last part of the restoration was the car's appearance. I decided on paint and interior designs as well as wheels, exhaust and all things that make the car look/sound better and be nicer. I did research on the best paints, interiors, and exhausts. I ordered the wanted things that were needed for the looks and installed them onto the car and made the car looks better.

Once all of that was done I did some final tests. These tests were a dyno test, track test, casual driving test, and a maintenance check. The dyno check determined the horse power and torque and the overall power of the car at the end which was 350 horsepower and 280lbft of torque. The track test determined it has great handling and can take high speeds up to 130 mph. The casual driving test determined that it is great for normal driving and handles poor road conditions quite well. Lastly, the maintenance check determined the car is in great shape but will need to be checked again in a year. It showed everything is good and nothing else is needed so the restoration is considered complete at that time.

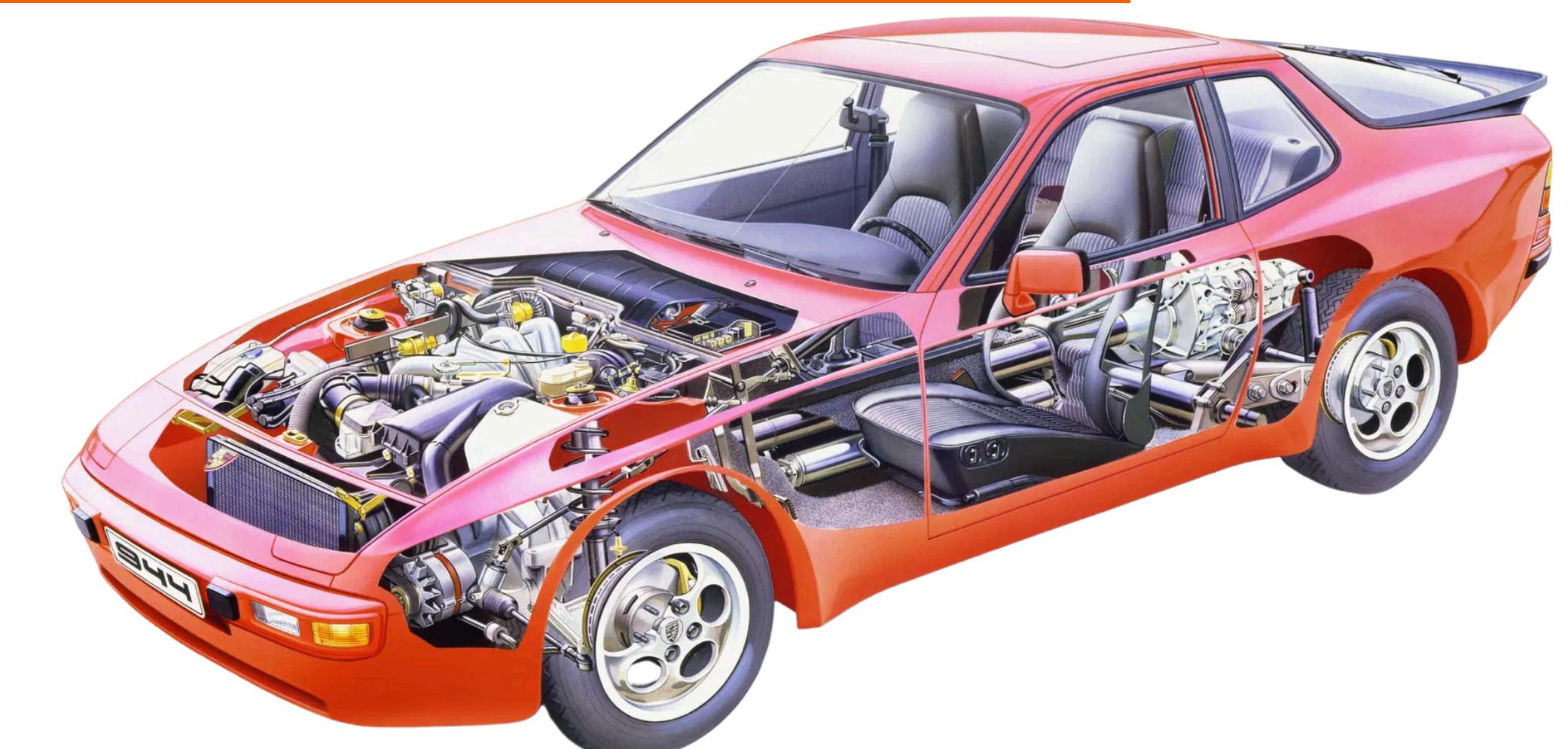
Results

From the restoration, the car improved a lot and works and drives great. The performance increased and now has around 350 horsepower and 280lbft of torque. The safety improved with the addition of the cameras allowing better sights around the car for safety of the passengers and people around the car. Since many of the parts were fixed or replaced the longevity of the car was improved so now the car will last longer, while being maintained and checked up on often. The car also sounds better and louder, and the appearance of the car has improved a lot.

Conclusion

My research overall found that restoration of older cars can be cheaper and have the same, similar or even better performance, safety, and longevity depending on the car. Common road cars today are normally made cheaply, are slow, are made to not last that long and aren't as safe. The car that I restored is better in the three factors than those cars. Safety in my car is close to newer cars today but not as advanced with the newly updated features. The body of my car is safer since the material is steel; that creates a stronger barrier between danger and the passengers than newer cars today with aluminum that can be dented easily and are supposed to crumble on impact. This crumble feature is supposed to lessen the impact on the driver, but it makes it easier for the passengers to get hit. On average my car compared to newer cars is at the level of performance, safety, and longevity. My car was also cheaper in total with the cheapest new car being around 20,000\$. My car costed about 7,000\$ and every modification, fix, and repair in total costed around 11,000\$. To further my research I plan on modifying the car further and testing it to create the best version of the car and determining the performance, safety, and longevity after to see the improvements.

Graphic: Porsche 944 engine, interior, and transmission.



Citations

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