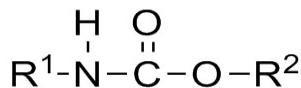


# Polyurethane

This technical article deals with the improvement from installing polyurethane motor mount inserts, suspension bushings, and exhaust hangars.

## What is polyurethane?



Polyurethane is any polymer consisting of a chain of organic units joined by urethane links. Polyurethane is used because of its ability to resist oils, most automotive chemicals and for its durability. Polyurethane used for automotive applications is measured in durometer. Durometer is a way to express hardness of a material, in this case polyurethane. Softer polyurethane is a 60 while harder is 95. The application of the polyurethane decides what durometer should be used.

## Why change?

Cars are manufactured with noise, harshness and vibration, also known as NHV in mind. Auto manufacturers want a vehicle that will have minimal NHV in their cars. The downside is the engine mounts, exhaust hangars, and suspension components are soft and allow excess movement for the sake of minimal NHV.

## Engine/Transmission Mounts



CorkSport Engine Mount Inserts for Mazda3

Polyurethane motor mounts inserts are used to fill the open space in the engine and transmission mounts. The insert limit movement of the rubber in the mount thus limiting the movement of the engine and transmission in the vehicle. There is a tradeoff for the lack of movement which is increased NHV. A properly setup insert with the correct durometer will result in minimal additional

NHV and give you improved performance. By keeping the engine in the correct location this results in easier shifts under full throttle.

## Suspension Bushings

Suspension bushings from the auto manufacturer are definitely geared more towards comfort than performance. Again the reason is NHV. A softer bushing will transmit less road noise and vibration through the car body. As a result, you have less feel and feedback from the road when your car is pushed to the suspensions limits. By using polyurethane (stiffer) suspension bushings you get better feedback and thus a better feel of what your car is doing.

## Exhaust Hangars



CorkSport Polyurethane Exhaust Hangars

The stock rubber exhaust hangars used on production cars work great for commuting and keeping your exhaust from falling off your car. However when you attend the local autocross and try to take a corner at your cars maximum corner limits you may get a clunk on the underside of your car from the exhaust system moving around. The solution is to use polyurethane exhaust hangars. The stiffer material keeps the exhaust in the proper locations. Exhaust movement gets worse when you install a performance exhaust system with larger exhaust piping. The clearances get smaller making polyurethane hangars a must.

## Summary

Whether avoiding exhaust cluck when auto-crossing or hitting pot holes on Any Street USA, looking for more responsive shifting, or better feedback when pushing your car to the limits, polyurethane performance parts can enhance your driving experience for minimal cost.