Fuel injection is a system for introducing fuel into internal combustion engines, and into automotive engines, in particular. On diesel engines, fuel injection is a necessity, whilst on petrol engines fuel injection is an alternative to the carburetor.

On petrol engines, fuel injection became more common from the 1980s onwards. The primary difference between carburetors and fuel injection is that fuel injection atomizes the fuel through a small nozzle under high pressure, while a carburetor relies on suction created by intake air accelerated through a Venture to draw the fuel into the airstream. The fuel injector creates an pressure up to 100 bar. It is necessary to study the pressure force acting on the fuel injector walls. The cad model of fuel injector is designed in solid works 2014. And analysis is carried out in solid works simulation.