Automotive sensors

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**Introduction**

In the early days of life, there were some major problems regarding the maintenance of the vehicles. It was very difficult and a huge challenge for the automotive industry to manually figure outperformance of the engine. Scientists were working on finding solutions which will help the automotive industry to figure out the performance of the engine with the help of technology. They introduced automotive sensors which are used in vehicles for several purposes. Automotive sensors monitor the engine temperature, oxygen level in the exhaust gases, crankshaft position and engine speed.

These factors should work properly, or the engine will not work accurately. After monitoring several factors in the engine, automotive sensors analyze the performance of the engine and give the results on how the engine is working. Automotive sensors have brought a new innovation in this world of technology for the automotive industry. However, with the rapid changes in technology, there are many challenges for the automotive industry on how they can utilize automotive sensors to improve the performance of the new vehicles.

**Discussion**

 Modern era cars completely rely on automotive sensors to monitor the performance of the engine. There are several types of automotive sensors which work differently and provide information to the computer which analyze the performance of the engine. These automotive sensors include oxygen sensor, air pressure sensor, engine temperature sensor, throttle position sensor and air temperature sensors (Fleming, 2001). Mechanics these days are finding very challenging to diagnose any problem in a vehicle. Computers are used which analyze the performance of the car with the help of the automotive sensors. Automotive sensors are not only used for monitoring engine performance in the vehicles but also is being used for monitoring performance of the brakes, clutches and other components these days in vehicles.

 Brake sensors are used in vehicle applications to check the pressure of the breaks using the vacuum brake booster sensor. Similarly, clutch sensors are used in vehicle applications to determine the working of the clutch. Exhaust sensors are used in vehicles for finding the quality, pump pressure and exhaust gas temperature of the vehicle. With the help of different automotive sensors, the computer can control fuel injectors, spark plugs and the idle speed. It also helps a mechanic who can read a diagnostic code from the computer and fix the issue in the vehicle (Fleming, 2001).

 However, there are some precautions which are also very important for the automotive environment. Automotive sensors require a large power supply to perform properly. There are some temperature conditions which needs to keep in mind for automotive sensors. One of the main components of the automotive sensor is a sensor signal conditioner. This component contains all the information about temperature stability. The information is stored in EEPROM but any loss of data during operation could damage the sensor and will be unusable. So it is important to take precautions before operating automotive sensors.

**Conclusion**

 Automotive sensors have really helped the automotive industry a lot in analyzing the performance of vehicles. The advanced sensing technology has helped a lot in increasing the performance of the vehicles. However, there are several challenges which the automotive industry is currently facing. Due to the rapid changes in the technology and launch of electric vehicles has caused more quality and performance concerns for the automotive industry. Old automotive sensors are not capable enough to help in analyzing the performance of the vehicles. So with the change in technology automotive sensors needs to be modified in order to provide assistance to the mechanics on how they can increase the performance of the vehicles (van, 2013).

**References**

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