



Speedometer

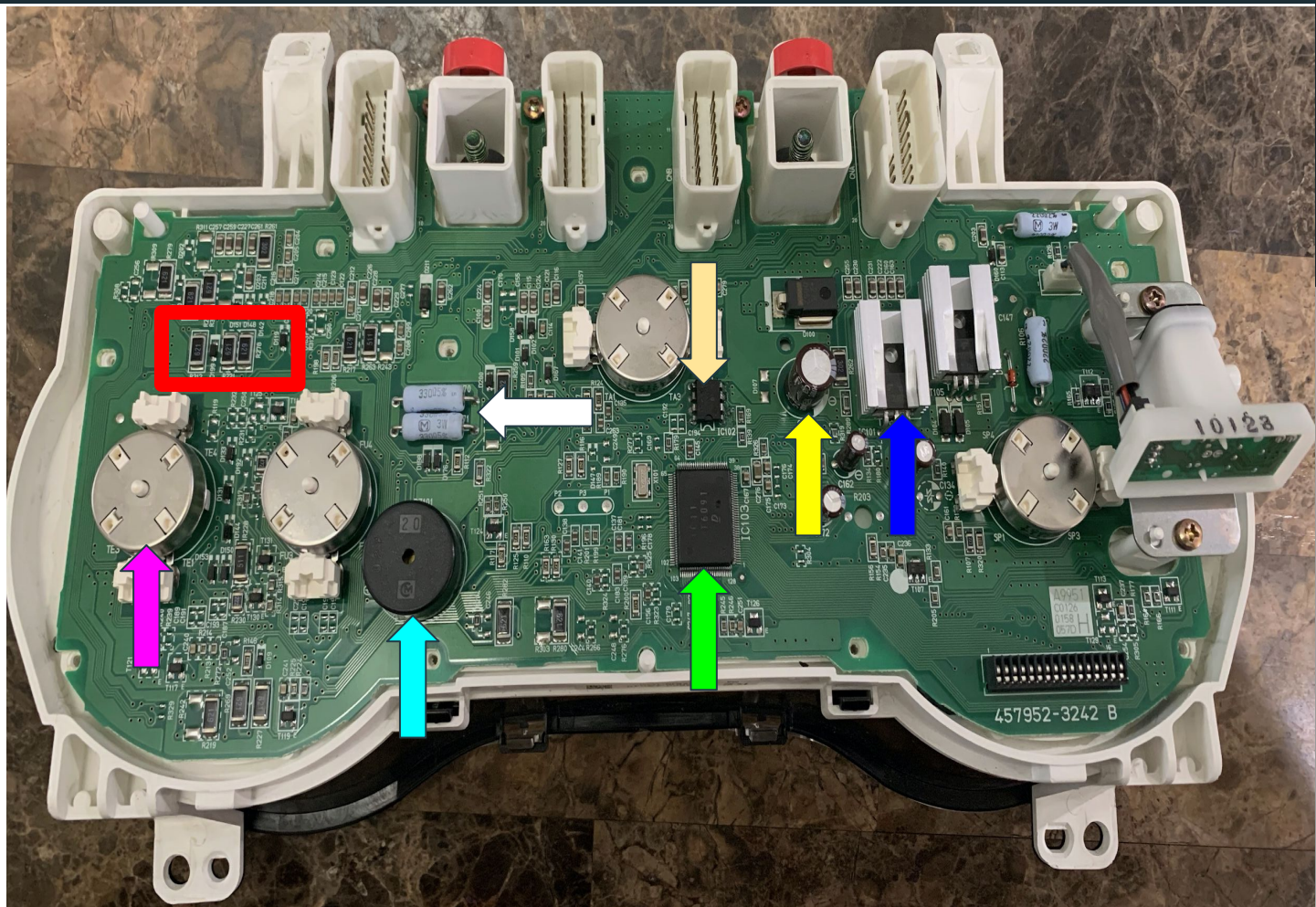
Introduction

The electronic device that I selected is a vehicle speedometer-cluster. I chose a speedometer because it is extremely helpful to drivers in monitoring their speed, signaling turning direction, indicating temperature and gas levels, and monitoring the vehicles health and safety.



Components

- ➡ Gauge
- ➡ Speaker
- ➡ Diode
- ➡ Processor
- ➡ Eeprom
- ➡ Capacitor
- ➡ Transistor
- Resistor



Definition of each component

Gauge: device used to make **measurements** in order to display certain dimensional information

Speaker: are transducers that convert electromagnetic waves into sound waves

Diode: a semiconductor device with two terminals, typically allowing the flow of current in one direction

Processor: a machine that processes something

Eeprom: a read-only memory whose contents can be erased and reprogrammed using a pulsed voltage.

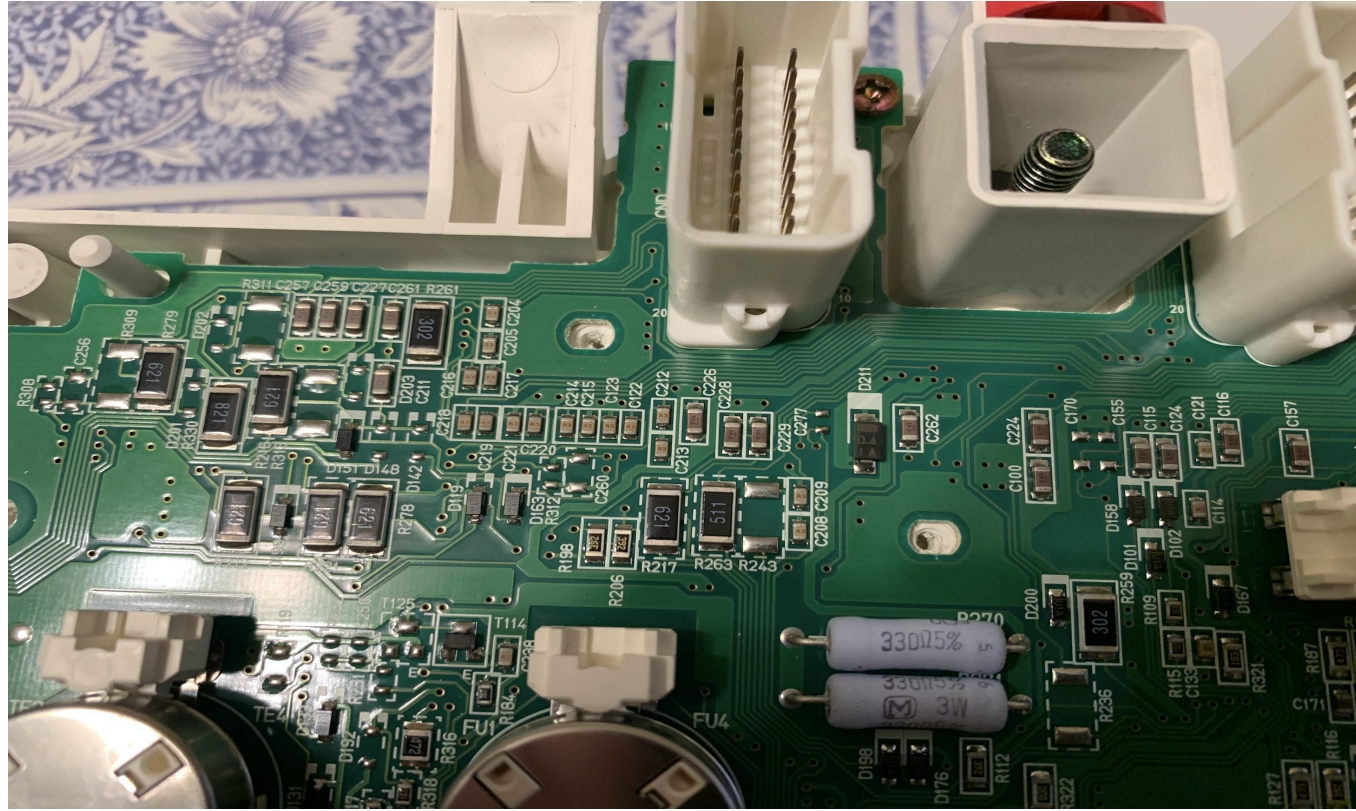
Capacitor: a device used to store an electric charge, consisting of one or more pairs of conductors separated by an insulator.

Transistor: a semiconductor device with three connections, capable of amplification in addition to rectification.

Resistor: a device having a designed resistance to the passage of an electric current.

4x4-AWD switch: Switch to turn your vehicle into 4x4 mode.

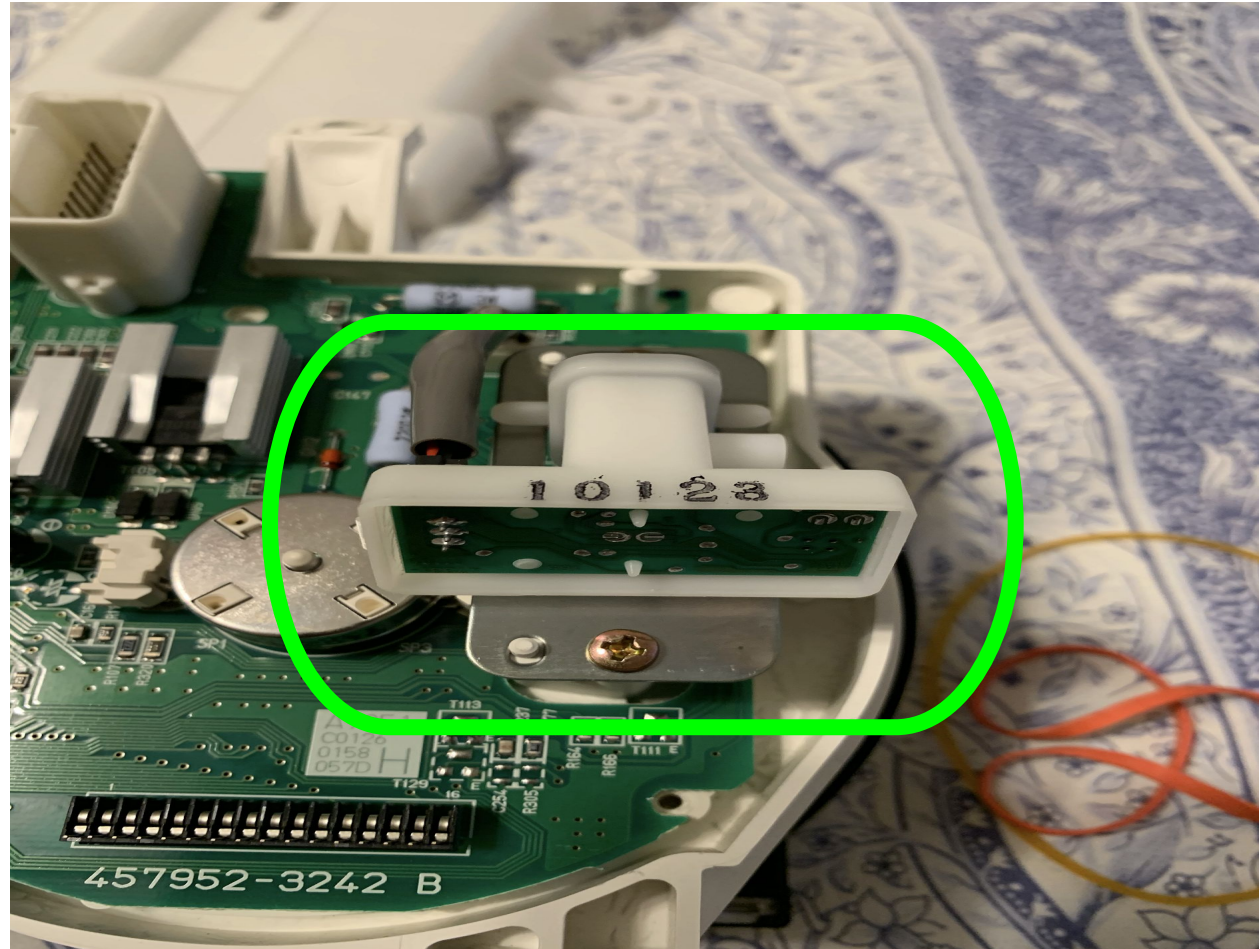
Ti components: There are no Texas instrument components on this board.



Component



4x4-
AWD
switch



Component uses and its role on the board

Gauge: Indicates speed measurement, Fuel and temperature level, and RPM

Speaker: Alerts about seatbelt, if door is ajar, and directional indicator

Diode: Allows power to pass through board

Processor: Brain that controls the components and activity of the speedometer

Eeprom: Displays the mileage and the total trip distance

Capacitor: Supplies sufficient power to the board to operate all components. Supplies enough power to light up the board

Transistor: Gives extra power to a needed component.

Resistor: Regulates power to each component as needed

4x4-AWD switch: changes power supply to each of the 4 wheels

Lessons Learned

From this experiment I learned about some of the components that speedometers have inside and each of their uses. I have also learned about how useful the speedometer is for safety. For example if you aren't wearing your seatbelt, the speedometer will start to make a beeping noise reminding you to put your seatbelt on.