

Lecture 23
3rd Semester M Tech. Mechanical Systems Design
Mechanical Engineering Department
Subject: Advanced Engine Design
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Lecture 23 – Electronic Fuel Injection System For I C Engines
Topic – Main Components of Electronic Fuel Injection System – 16-11-2020

Electronic Fuel Injection Systems

Gasoline fuel injection systems are **classified into three categories** namely

1. Throttle Body Injection (TBI) system,
2. Multi-Point Injection (MPI) system and
3. Gasoline Direct Injection (GDI) system.

Robert Bosch gasoline injection systems

Most of the fuel injection systems that have been designed are **based on Robert Bosch designs from Germany.**

Robert Bosch offers a number of gasoline fuel injection systems for a wide variety of engines.

The systems are:

1. The Mono-Jetronic System
2. The K and KE Multiport Jetronic System
3. The D-jetronic system
4. The L-LE and LH-Jetronic System
5. The Motronic System

Schematic diagram of an L-jetronic system with lambda closed loop control.

1.Fuel tank, 2.Electric fuel pump, 3.Fuel filter, 4.ECU, 5.Injection valve, 6.Fuel rail and pressure regulator, 7.Intake manifold, 8.Cold start valve, 9.Throttle valve switch, 10.Air flow sensor, 11.Lambda sensor, 12.Thermo time switch, 13.engine temperature sensor, 14.Ignition distributor, 15.Auxilliary air device, 16.Battery, 17.Ignition and starting switch.

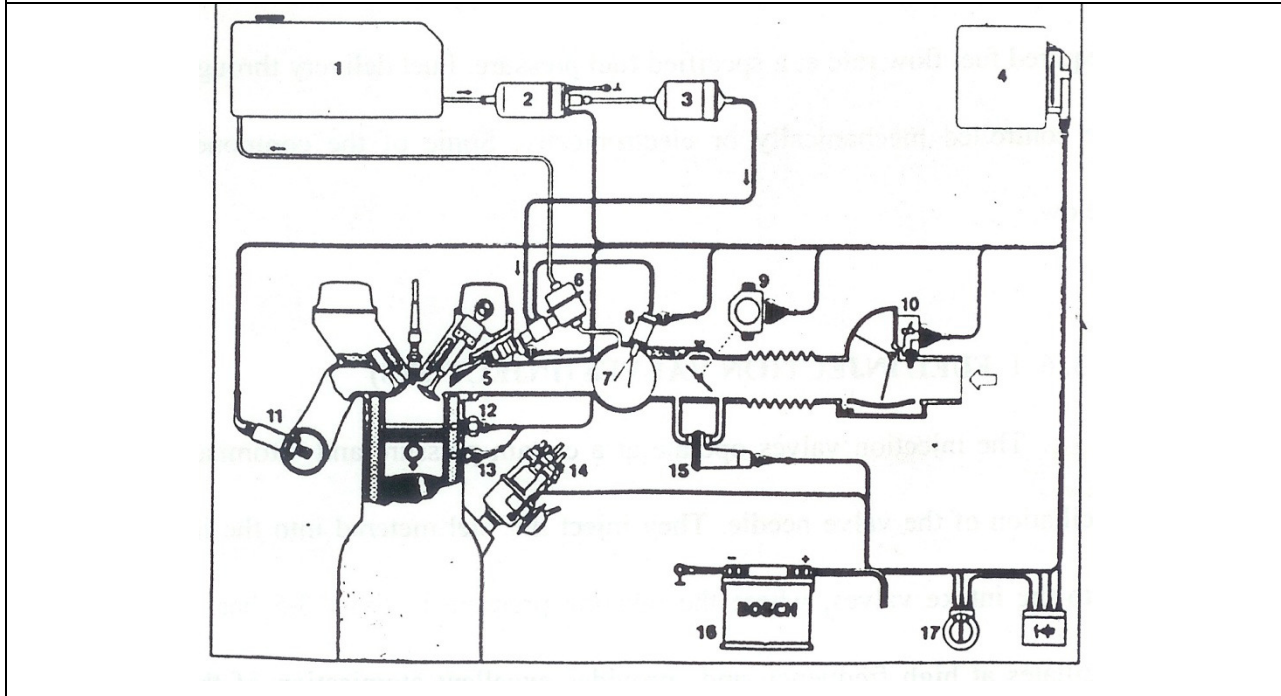


Fig. – The Components of L-Jetronic Fuel Injection System.

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Reference:

Bosch Automotive Handbook
7th Edition
Published by SAE International USA