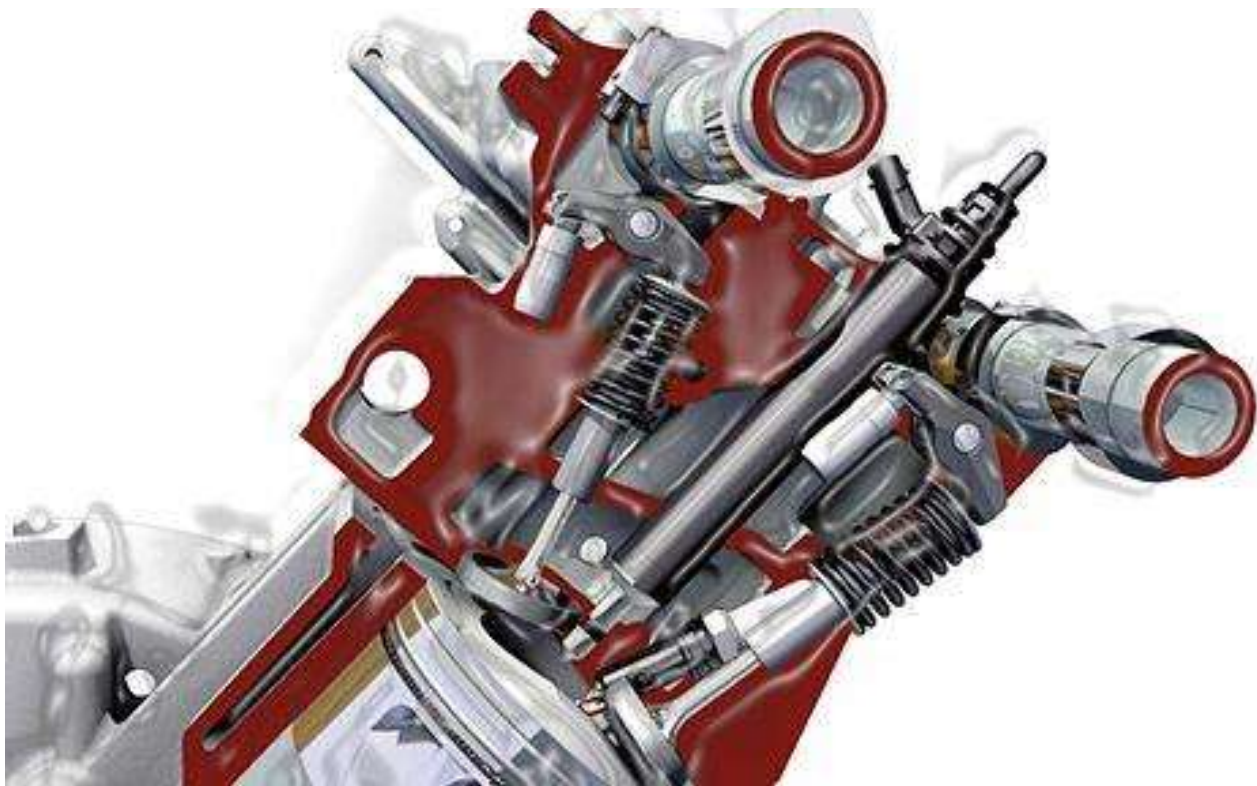


Automobile Mechanics and IC Engines

Robotech Labs Private Limited





Automobile Mechanics and IC Engines

Topics Covered in the workshop :

Automobile Mechanics and IC Engine Workshop is designed to demonstrate students about the IC Engines. It covers the latest basics and advanced topics about Automobile Industry.

Introduction

- What is an automobile?
- Brief history.
- Changes over the years.
- Indian automobile industry.

Chassis design

Brief terminology –

- Multi point strut bar.
- Fender bar.
- Anti-roll bar.

Types of chassis –

- Ladder frame chassis.
- Tubular space frame chassis.
- Monocoque frame chassis.
- Ulsabmonocoque.
- Backbone frame chassis.
- Aluminium space frame.
- Carbon fibremonocoque.

Suspension Unit

Brief terminology –

- Weight Transfer
- Jacking forces
- Camber and Caster angle

- Spring Rate

Types of suspensions –

- Dependent suspension
- Independent suspension

Steering System

- Ackerman Steering Principle
- Steering Mechanisms
 1. Rack and Pinion
 2. Recirculating Ball Type
 3. Worm and Sector
- Understeer, Oversteer
- Power Steering

Transmission system

- Flywheel
- Clutch
 1. Single Plate Clutch
 2. Multi Plate Clutch
 3. Cone Clutch
 4. Centrifugal Clutch
 5. Electromagnetic Clutch
- Gearbox
 1. Constant mesh type
 2. Synchromesh type
 3. Sliding mesh type
- Reverse and its working
- Types of Transmission
 1. Manual
 2. Semi-Automatic
 3. Automatic
 4. CVT
- Differential
- 2WD, 4WD, AWD

Braking Unit

- Disc Brakes
- Drum Brakes
- Magnetic Brakes
- Vacuum Brakes
- Anti-lock braking System
- Brake Actuators
 1. Cable operated
 2. Solid Bar connection
 3. Single-circuit hydraulic
 4. Dual-circuit hydraulic
- Power Brakes
- Brake Fluids

Fuel Supply System

- Fuel Filter
- Carburettor
- Fuel Injector
- Spark Plug

IC Engine

- Types of IC Engine
- 4-Stroke Engine
- 2-Stroke Engine
- Engine Layout and working
- Valves and Valve Timing
- Engine Cooling
- Turbochargers
- Superchargers
- Latest Technologies
 1. PGMFi
 2. MPFi
 3. CRDi



Practical Sessions

Assembling and Diassembling of IC Engine

Charges:

Rs 1200 per person

Duration

2 Days (14-16 Hours)

Certification:

Certificate of Appreciation from Robotech Labs Private Limited and our associates.

Requirements:

Seminar Hall, Projector, Sound System .