

Vehicle Reconstruction

Vehicle Reconstruction Workshop is a two-day workshop that is being organized to help students learn the industrial workflow. The Vehicle Reconstruction Workshop would cover numerous topics from which the students can immensely benefit. The topics to be covered at the two-day workshop would include aspects of how automobile components function, how a vehicle is conceptualized, designed and manufactured.

This workshop offers a platform for the students that would help them enhance their skills and foster their engineering thoughts giving them the much-needed pragmatic experience.

Course Curriculum

1. Open air Demonstration on Maruti 800, human interface with machine
2. Overview: Major components, vehicle layout, Vehicle categorization
3. Body Package: Exterior/Interior Trims, Fender, Noise harness, Box concept, BIW
4. Platform Strategies: Platform concept, Carry over Content, New designed part

• Engine Dismantling:

1. Starting system: Self-starting system
2. Carburetor: A/F Mixture requirement, Speed control, Cold starting, Accelerating type carburetor
3. Intake/Exhaust Manifold: intake manifold, cylinder head, Overhead CAM assembly, Intake/Exhaust valve, Exhaust manifold
4. Ignition System: Conventional Ignition system layout, Major components, Electronic Ignition system, Ignition time advancing
5. Cooling system: Types of cooling system, Cooling system layout, Cooling jacket, Major components, Temperature control
6. Lubrication System: Flow layout
7. Exhaust System: Emission norms, NO_x Conversion to CO₂, H₂O



● **Transmission Dismantling:**

1. Clutch: Requirements, Performance curve, Torque converter, Centrifugal clutch
2. Transmission: Requirements, Gear ratio selection, Power curve, MTgearbox, Dual clutch Transmission
3. Power drive: Power distribution, Power loss, Open Differential, LS Differential, CV power shafts

● **Suspension/Steering/ Brakes Dismantling:**

1. Suspension: Design criteria, Suspension geometries, HUB assembly, F/R Suspension assembly
2. Vehicle alignment: Toe In/Out, Caster, Camber, King-pin alignments and its effect on vehicle dynamics
3. Manual Steering system: Design criteria, Rack and pinion, Steering column, Tie rods, Ball-joints, Knuckle length
4. Wheel-Tyre: Nomenclature, selection criteria, Tyre characteristics, Tyre construction, Tread Pattern, RFT
5. Braking Unit: Hydraulic brake system, ABS, DAC, ESP

Workshop Highlights:

Complete Disassembly of Engine, Transmission and Suspension.

Hands on experience on each component of car

Discussion on Pregnancy period of a car.

Modern assistance in emergency.

Lecture on Advance Technologies in Automobiles

Discussion on Vehicle Maintenance & Diagnostics

Duration:

The duration of this workshop will be two consecutive days, with eight hour session each day in a total of sixteen hours properly divided into theory and hands on sessions.

Eligibility:

It's a basic level workshop so there are no prerequisites. Anyone interested, can join this workshop.

Fees: Rs. 700 /- (inclusive of all taxes) per participant.

