

A Report

On

**“Industrial Visit – SKODA AND VOLVO ”**

For the Students of Automobile Engineering Department. (Semester – IV)

On 23<sup>rd</sup> April 2016. (Saturday)

**ŠKODA**

- **Objective:** “Training and Exposure on the various aspects of Cars and its technology related to the basics of Automobile Engines subject in Sem IV.”
- **Venue:** “SKODA, S.G. Highway and Volvo behind LJ Campus, S.G. Highway, Ahmedabad.
- **Number of Students:** 35 (IV semester, Automobile Engineering)
- **Head of the Department:** Ms. Prexa H. Parikh
- **Faculty Coordinator’s:**
  1. Mr. Abrarkhan M. Pathan (Asst. Prof. Mechanical Engg. Dept.)
  2. Mr. Tushar M. Thakar (Asst. Prof. Mechanical Engg. Dept.)
  3. Mr. Dhruv H. Patel (Asst. Prof. Mechanical Engg. Dept.)
  4. Mr. Milan J. Pandya (Asst. Prof. Mechanical Engg. Dept.)

**VOLVO**

## 1. OVERVIEW:-

### 1.1 SKODA

Skoda Auto (Czech pronunciation: koda), more commonly known as Skoda, is a Czech automobile manufacturer founded in 1895 as Laurin & Klement. It is headquartered in Mladá Boleslav, Czech Republic.

In 1925 Laurin & Klement was acquired by Skoda Works which itself became state owned during the communist regime. After 1991 it was gradually privatized and in 2000 Skoda became a wholly owned subsidiary of the Volkswagen Group.

Initially, the company was meant to serve the role of the VW Group's entry brand. Over time, however, the Škoda brand has shifted progressively more upmarket, with most models overlapping with their Volkswagen counterparts on price and features, while eclipsing them on space. Its total global sales reached 1.06 million cars in 2015 and had risen annually by 1.8 percent, profit had risen by 6,5%

On 23<sup>rd</sup> 2016, the Automobile Engineering Department (IV-Sem), L.J.I.E.T; arranged an **Industrial Visit for the students of Automobile.**

The main focus of this program was to enable the students to know about the various aspects of the latest cars and its technology.

### 1.2 VOLVO

The Volvo Group (Swedish: Volvokoncernen; legally Aktiebolaget Volvo, usually shortened to AB Volvo) is a Swedish multinational manufacturing company headquartered in Gothenburg. While its core activity is the production, distribution and sale of trucks, buses and construction equipment, Volvo also supplies marine and industrial drive systems and financial services. Although the two firms are still often conflated, Volvo Cars, also based in Gothenburg, has been a totally separate company since it was sold off in 1999. The companies still share the Volvo logo and co-operate in running the Volvo Museum.

Volvo was established in 1915 as a subsidiary of SKF, the ball bearing manufacturer; however the Volvo Group and Volvo Cars consider themselves to have been officially founded on 14 April 1927, when the first car, the Volvo OV 4 series, affectionately known as "Jakob", rolled out of the factory in Hisingen, Gothenburg.

Volvo means "I roll" in Latin, conjugated from "volvere", in reference to ball bearings. The brand name Volvo was originally registered as a trademark in May 1911 with the intention to be used for a new series of SKF ball bearings. This idea was only used for a short period and SKF decided to simply use "SKF" as the trademark for all its bearing products.

In 1924, Assar Gabrielsson, an SKF sales manager, and engineer Gustav Larson, the two founders, decided to start construction of a Swedish car. Their vision was to build cars that could withstand the rigors of the country's rough roads and cold temperatures.

AB Volvo began activities on 10 August 1926. After one year of preparations involving the production of ten prototypes the firm was ready to commence the car-manufacturing business within the SKF group. AB Volvo was introduced at the Stockholm stock exchange in 1935 and SKF then decided to sell its shares in the company. Volvo was delisted from NASDAQ in June 2007, but remains listed on the Stockholm exchange.

## **2. ORGANIZATIONAL STRUCTURE OF THE VISIT:-**

The number of students who attended the visit was 35 accompanied by 2 faculty members. On the day of visit, the students and the faculty left the college campus at 11:25 am and reached the venue at 11:30 am. The students as well as faculty travelled by their own vehicle and reach the workshop accordingly on time. A brief overview of Skoda and Volvo was given by Mr. A.M. Pathan and Mr. Milan Pandya to the students, their attendance was taken.

## VISIT 1. SKODA WORKSHOP

After reaching the venue at 11:30 am, Mr. Anandbhai who is the Engineer at Skoda gave a brief overview of their Industry and also he emphasized on the importance of Practical Knowledge in the field of Engineering. He explained the services provided at floor area and billing department.

Thereafter, Mr. Anandbhai, took 35 students to the workshop, wherein, he explained about the work going on regarding timing belt of car. The students were eager to know more and more, some questions were asked by students related to timing belt. Mr. Anandbhai replied that timing belt have to replaced after every 1 lakh kilometer. The average service cost at Skoda is around Rs. 12000/- which includes the service oil filter, clutch play, brake linings and oil changed.

Mr. Anandbhai, then took students to the stores where various parts available for replacement in car are stored. Then we all went to warranty section and replacement testing section. Then the students went to Air conditioner testing section were one of the car came for fault in Air conditioner unit.

Also, the students were taken to ECM testing setup. The Engine Control Module (ECM) is directly responsible for the monitoring and control of essential automotive functions including ignition, canister purge control, air compressor control, automatic idle speed control, transmission control interface, and the monitoring of various voltage and battery conditions. Typically, the ECM device has a microcontroller unit and memory, as well as built-in input/output controllers, to process signals from various sensors and switches. The ECM then responds with outputs to drive various devices through relays and digital commands.

Then next the students went to see the bottom view of car, were they have seen all parts. They have seen the fuel supply system, different components of exhaust system and so on. Then they have seen the various parts beneath the bonnet and asked many questions related to it to Anandbhai and technicians.

The students have seen various models of Skoda cars namely Fabia, Octavia, Rapid, Laura and Superb.

Some glimpses of Skoda are as under –



## **VISIT 2. VOLVO WORKSHOP**

The visit was completed at Skoda and then we went to Volvo workshop at 2:00 pm, with a small lunch break between two visit was provided to students. Visit 2 started off in a similar manner as it was in visit 1. The number of students was 35 in total of Automobile branch.

The students were shown the cars that have come from accident. The Air bags came out in the accident cars from the steering and front panel. There was another car in which the front portion was badly damaged.

There were different models of Volvo like XC90, XC60, S80, S60 and V40 cross country.

The visit was then explained by Mr. Dipendra Singh(Engineer) at Volvo. Mr. Dipendra Singh took the students to repair and sales department. There was large number of Wheels and Tyres of Volvo cars in storage area.

Mr. Dipendra Singh then explained students about lane sensing and computer controls related to cars. Then he explained deeply about Auto-transmission and Volvo Diesel version cars in India. In India there are only diesel versions with 5 cylinders had been launch till date as explained by Mr. Dipendra Singh. He then explained about the electronic faults that occur in the Volvo cars.

One important feature that students observed was hydraulic bonnet lock. Then students were explained about fuel supply system and Diesel particulate module.

Mr. Dipendra Singh should the beneath view of Volvo XC90, he showed the fuel systems, its design, technical points and various details related to that car. The faults that occur in any car was identified by Computer Detect system by using software.

Then Mr. Milan Pandya faculty at LJIET explained about the wheel balancing/alignment concept to the students. He cleared many technical doubts of the students.



Then the students went to dent removal area and paint shop. They have also seen different models of Volvo in different colors.

Then lastly the students saw the dismantled engine of Volvo car 5 cylinder engine. They have seen the camshaft, crankshaft, gasket, timing gear, belt etc. Mr. Dipendra Singh explained that the engine was dismantled due to damaged connecting rod. The connecting rod was bend as the car was run in water logged area.

Some glimpses of Volvo are as under –





## **CONCLUSION**

The visit ended at 3:30 pm, the faculties and students reached the college at around 3:35 pm. The overall response of the students was positive – below are listed feedbacks of few of the students

1. Nice and Interesting Experience
2. Kindly arrange a visit in a Bigger Industry.
3. Excellent!!!! Explanation was awesome.



## **ACKNOWLEDGEMENT**

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# ŠKODA

