

A Report

On

“Industrial Visit – AUTOBOTS VOLVO”

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

From: 3rd April to 5th April 2018.

- **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:** “Autobots Volvo, Behind L.J. Campus Sarkhej, Ahmedabad”
- **Number of Students:** 86 (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. Vivek Y. Parikh (Asst. Prof. Mechanical Engg. Dept.)

1. OVERVIEW:-

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 of Autobots Volvo was 86 accompanied by 3 faculty members. On the day of visit, the students and the faculty reached the venue at 2:15 pm. The students as well as faculty travelled by their own vehicle and reach the place accordingly on time. A brief overview of Volvo was given by Mr. Amar Contractor, Mr. Sagar Choksi and Mr. Hardik Shah to the students and their attendance was taken.

VISIT. AUTOBOTS VOLVO WORKSHOP

The visit was started at Volvo workshop around 2:30 pm. The number of students was divided in batch of 30 and visit was done on three consecutive days of Automobile branch.

The visit was initiated with brief introduction of different departments of two workshops. One was general service workshop and the engine room, second was the accidental work and stockyard.

After meeting General Manager, he introduced floor incharge Mr. Shreyas to us who was expert in Volvo hybrid technology. He explained whole system of working of Workshop, Vehicle management, service schedule, warranty terms, customer problems and vehicle problem diagnosis, etc

Then he 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 him. He then explained about the electronic faults that occur in the Volvo cars.

Then he took the students to repair and sales department. There was large number of Wheels and Tyres of Volvo cars in storage area.



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 and there was another car came for electrical fault. Mr. Shreyas explained about the technical fault.

Then students were explained about fuel supply system and Diesel particulate module. The students have seen different models of Volvo cars like XC90, XC60, S80, S60 and V40 cross country. One important feature that students observed was hydraulic bonnet lock.

Mr. Shreyas showed bottom 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.

Our faculty member at LJET and Mr. Shreyas 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. As Volvo is pioneer in Safety, he shows demo of how airbags of car activates and give safety to passengers.



Then the students saw the dismantled engine of Volvo car 5 cylinder engine. They have seen the camshaft, crankshaft, gasket, timing gear, belt etc.

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.



Some glimpses of Volvo are as under –

L. J. INSTITUTE OF ENGINEERING AND TECHNOLOGY – AHMEDABAD.
MECHANICAL/AUTOMOBILE ENGINEERING DEPARTMENT



CONCLUSION

The visit ended at 4:00 pm, the faculties and students return their home. The overall response of the students was positive – below are listed feedbacks of few of the students

1. Many of their concepts of Automobile Engines were cleared during visit.
2. Practical exposure was very good.
3. Seen new technology apart from our syllabus.
4. Please arrange such type of visit frequently.

ACKNOWLEDGEMENT

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