REPORT ON INDUSTRIAL VISIT TO BUSDEPOT

Students of third year B.Tech, Mechanical along with three faculty members visited **TSRTC BUS DEPOT** on 24th Feb 2015. 56 students, day scholars and hostellers alike assembled at 9 am and left the campus in two buses that were arranged for the occasion. We reached our destination by 9.30 am where we were given a warm welcome.


Introduction:

The origin of APSRTC dates back to June1932, when it was first established as NSR-RTD (Nizam State Rail & Road Transport Department), a wing of Nizam State Railway in the erstwhile Hyderabad State, with 27 buses and 166 employees. During the past 77 years, it has registered a steady growth from 27 to 22,333 buses with 778 bus stations, 216 Depots and 1, 881 bus shelters.


The Corporation's buses cover 79.83 lakhs KMs. and carry 156.78 lakhs people to their destinations every day. They connect 23,388/5010 villages to all major towns and cities in A.P which constitutes 95% of Road Transport. APSRTC operates to City and Mofussil areas. The Corporation's buses also ply to important towns and cities in the neighboring States of Tamilnadu, Karnataka, Maharashtra, Goa, Odisha and Chattisgarh.


The entire network is under the administrative control of 23 Regional Managers in 7 Zones. Zonal Head Quarters are at Hyderabad. APSRTC under the present name was established on 11th January 1958 in pursuance of the Road Transport Corporations Act 1950.

After Telangana state formation APSRTC not divided. still APSRTC Buses Running in both states Telangana State Road Transport Corporation or TSRTC is the state owned road transport corporation in the southern Indian state of Telangana.

VISIT DETAILS:

MAJOR DEPARTMENTS & SECTIONS:

WORKSHOP DEPARTMENT:

Dismantling Section vehicle accessories are separated to provide for keen scrutiny of the defective parts carried out when, Power loss due to poor engine compression. Excessive consumption of lubricating oil. Mechanical failures such as excessive noise due to defective ignition or injection.

Engine overhauling and assembly section:

Cylinder block from the dismantled engine is cleaned, then boring and honing is done to remove wear. The valve is grinded to proper finish and valve seat is lapped. The damaged piston is replaced by a new one. The wearied crankshaft is ground so that ovality and taper are within permissible limits; crank shaft is coated with recommended lubricant.

In this section Overhauling of Clutch Assembly. Clutch plate is checked for wear of the clutch lining wear.

Cracks in the clutch plate steel disc are also checked.

Pressure plate is checked for heat damages, cracks and flatness.

Overhauling of Gear Box.

The teeth of all gears are checked & the needle bearing.

The dog clutch and the sleeve are checked for pitted teeth and the splines are checked for wear

Overhauling Of Propeller Shaft check the propeller shaft for bends it is straightened out using hydraulic press Overhauling Of Differential Each tooth is inspected minutely for any pitting or broken teeth on crown wheel pinion, sun and star pinion Checking the back lash of the sun pinion with a star pinion

Fuel Injection Section:

Injection system consists of fuel tank, fuel feed pump, fuel injection pump, fuel filter, fuel injection nozzle and a governor.

The injection pump must give equal quantity of fuel to all cylinders and the supply should commence and stop at fixed degree of crank angle both of which are checked and adjusted on the injection pump test bench.

Fuel filter is necessary to supply clean fuel which needs to be replaced at regular intervals.

Facilities have been provided for suitable testing of the injectors, which includes .

Leak off test:

The injector tester is worked up to build a pressure of 150 atms, which is kept for 10 seconds (without spraying).In case there is a drop in pressure the body seat and the needle is lapped.

Spray test:

The injector is fixed up as done earlier and pressure gauge is disconnected by closing the valve. The tester is worked up four times and a second and the spray pattern is noted. If the spray pattern is in the form of a stream or jet, the needle and the nozzle body seat requires grinding.

Suspension Section:

After prolonged use or over loading, spring assembly gets flattened or one or two of its leaves get broken, the centre bolt is then removed and the broken leaf is dismantled and replaced with the new one.
The rubber bushes, which are used to hinge the suspension systems to the chassis, are greased and are replaced if these are worn out.

Vehicle overhauling Section:

The loose and distorted rivets are removed and new rivets are fixed, Red oxide paint is s prayed on the chassis frame to prevent corrosion.
Defects in the external body of the bus, which is made of sheet metal, are checked and the necessary corrective steps are taken.

Body Building Department:

This department essentially deals with the assembly of the interior and the exterior parts of the bus with the engine, gear parts etc.
Continuous process of welding, carpentry, sheet metal and painting.

Conclusion: The industrial visit to TSRTC gave us an insight into the operation of industry and also the various operations done in various departments