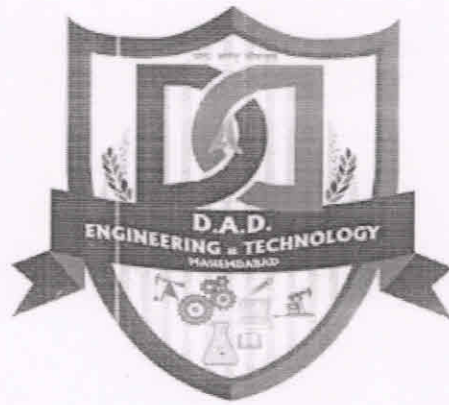


**D.A.DIPLOMA ENGINEERING AND TECHNOLOGY,
MAHEMADAVAD(682)**



Department of Mechanical Engineering

**A REPORT ON INDUSTRIAL VISIT AT
GSRTC- CENTRAL WORKSHOP, NARODA, AHMEDABAD**



**Gujarat State Road Transport Corporation
ગુજરાત રાજ્ય માર્ગ વાહન વ્યવહાર નિગમ**

Visit Date : 3RD SEPT., 2016

82 students of DIPLOMA 5TH Semester (Mechanical engineering) took bus facility from DADET, MAHEMDABAD to CENTRAL WORKSHOP , NARODA along with the faculties Mr. DIXIT DAMOR, Mr. DHARMVIR CHAUHAN, Mr. HIREN PAREKH and Mr. AMIT VOHRA.



INTRODUCTION

At present GSRTC have 16 Divisions and 128 Depots in its overall organization system. Main central office is situated at Ahmedabad. The top management (Board of Directors) looking after various activities are Government appointee (mostly IAS officers). It has three tiers system consisting of Central Office (01 at Ahmedabad), Divisions (16 – all over Gujarat as on 2008-09). If we talk of Divisional Level, it has two segments - 1) Traffic Side 2) Mechanical Side.

Each Division has number of Depots functioning under it. All the depots are accountable to Divisional Head. GSRTC is operating in 3-tier system. In 3-tier system, depot is the operating unit equipped with a small maintenance workshop. A group of depots operating in the neighboring areas are working under the Divisional Management having Divisional workshop for major overhauls and repairs. The divisions come under the General Manager at the head office. This type of organization is expected to have the step by step delegation from head office, to Divisional office and to depot.

In 3-tier management system, Divisional Management is recognized as a responsibility centre. Therefore depot becomes an operating organ of the Division. Complete delegation is concentrated at the Divisional level so far as operational plan, revenue-maximization and cost-minimization are concerned. Complete documentation and accounting system are based on divisional unit as a whole by pooled performance of the depots working under a Division. Division as a whole becomes a profit centre.

Top management is responsible for the strategic planning, policy drafting and making investment decisions. It also decided on procurement and distribution of resources to the Divisions. Therefore the responsibility of 'return on the investment' lies with the top management. Hence the organization as a whole becomes an investment centre.

Central Workshop

The Corporation has 3-tiered system of maintenance & repairs in vogue to meet with its entire Maintenance and Repairs requirements viz. Depot Workshop, Divisional Workshop and Central Workshop. The Corporation has at present 126 Depot Workshop, 16 Divisional Workshop and 1 Central Workshop which look after all major/minor mechanical works. Central workshop of GSRTC has very large area and workshop equipped with adequate machineries and very good facilities for bus body fabrication, Engine recondition tyre retreading, printing of ticket and stationeries. There are many shops/ sections/ departments for various functions.

START OF OUR JOURNEY:-

An knowledgeable instructor named JAYESH PATEL guided of workshop with many practical knowledge.

DEPARTMENTS VISITED:-

- 1) **Cylinder head cleaning.**
- 2) **Crank shaft resurfacing.**
- 3) **Washing area for crank shaft.**
- 4) **Injection pump repair room.**
- 5) **Injection pump testing room.**
- 6) **Engine assembly and disassemble room. (for repair purpose).**
- 7) **Piston store room and assembling area.(inspection purpose)**
- 8) **Crank shaft store room.(inspection purpose)**
- 9) **Cam shaft store room.(inspection purpose).**
- 10) **Engine testing department.**
- 11) **Tyre section.**
- 12) **Body shop.**

1.) CYLINDER HEAD CLEANING.

No. of workers: one or two

Main aim: - To clean the cylinder heads especially the seat of valve so that every inlet and outlet valves can function properly.

Time required (estimated):- 15 to 20 min for each valve seat. Machines/tools required:- cleaning tools.

2.) CRANK SHAFT RESURFACING:-

No. of workers:- Two or Three

Main Aim: - To Clean each and every boundary of crank shaft with grinding process for smooth functioning.

Time required: - 1 hour for each piece.

Machines/tools required: - Special purpose lathe with grinding wheel.

3.) WASHING AREA FOR CRANK SHAFT:-

No. of workers: - ONE.

Main Aim: - washing out with liquid for removal of foreign particles after Resurfacing.

Time required:- 15 min.

Machines/Tools required:- crane for lifting, cleaning agent(diesel + liquid).

4.) INJECTION PUMP REPAIR ROOM :-

No. Of workers:- Two or more.

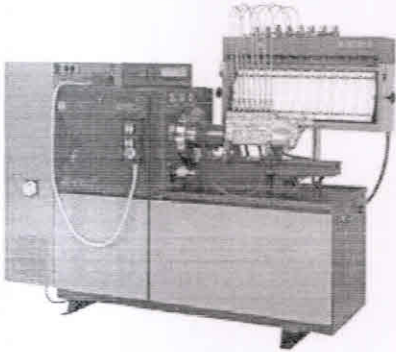
Main aim:- Injection pump is device which supply fuel From fuel tank to injector and maintain pressure. Maintenance work is done at this area related to injection problem in engine.

Cause: - when any liquid particles get match with diesel the filter filters it and passes diesel to engine .As a reason it becomes necessary to check and repair filters and pumps for Healthy life of engine.

Time required: - app. Half hour.

Machines/tools required:- Cleaning and spanners

5.) INJECTION MOULD TESTING BED.



No. of workers:- one or more.

Main aim:- After completion of injector maintenance work each pump should check for their proper working For that inspection Bosch fuel injector pump test Batch are Use. It will measure pressure quantity of fuel supply and distribution of fuel.

Time require: approx, 1 hour.

6.) ENGINE ASSEMBLY AND DISASSEMBLING ROOM

No. of workers :- 5 to 10

Main aim: - to disassemble all engine parts for further repair work OR replace work and Clean them.

Time required:- 2 hour for each engine.

Machines/ tools required: - tools that open engine parts, crane.

7.) PISTON STORE ROOM (FOR INSPECTION).

No. of workers: - Five to Six.

Main aim :- After removal of engine parts piston and all its related parts are kept here for Inspection purpose and replaced if necessary storage for replace and damage Parts.

Time required: - depending upon damage.

8.) CRANK SHAFT STORE ROOM.

Corrosive crank shaft are kept here. Taken from here for repair to crank shaft inspection room and calculate the damage if possible than send for further process to crank shaft resurfacing room.

9.) CAM SHAFT STORE AREA

Damaged pieces are kept here and then send to resurfacing room after proper inspection.

10.) ENGINE TESTING DEPARTMENT.

No. of workers: - one on each tests bed.

Main aim :- check proper functioning of engine through certain parameters such as:-

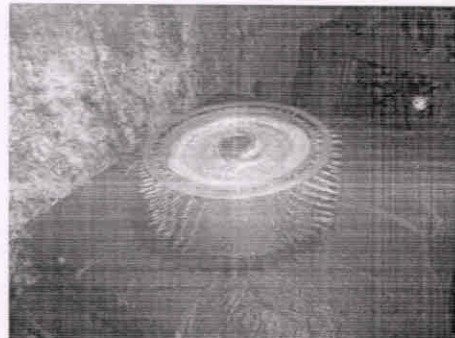
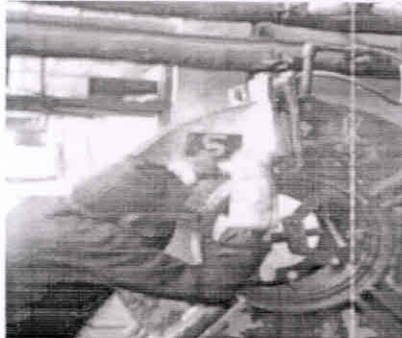
- Water brake dynamometer to measure BHP
- R.P.M of piston.
- Water inlet pressure.
- Water inlet temperature.
- Water outlet temperature.
- Low boil pressure.
- UB oil temperature.
- LUB oil pressure

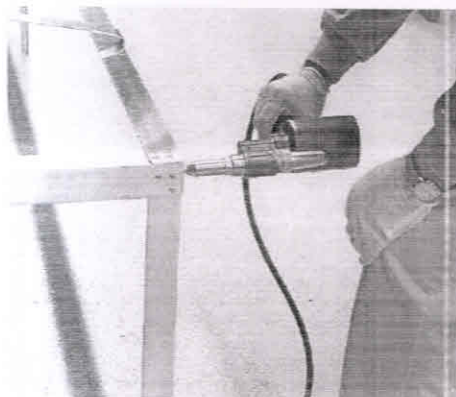
Time required :- 3 to 4 hours

Machines/ tools required :- Engine Testing set up

11.) TYRE SECTION.

- Here the tyre which are used and needs repair work are brought. Two types of process is done.
- HOT WORKING. In hot working process, the surface is removed and adhesive is place in layer. The main layer is than wrapped with raw material of rubber and then it is sent to remould machine
- COLD WORKING. In cold working process, damage is seen internal or external and strap is kept according to it with some pressure of about 150 pound and temperature of 380 Celsius.





12.) BODY SHOP.

Here, main frame is welded mainly material of alloy consisting of aluminum. And riveting process for seat and handle is done. Here mainly sheet metal process and joining processes are use.

EXPERIENCE FROM INDUSTRIAL VISIT.

- Exposure to better industrial economics.
- Interaction with Guides and other persons from industry is motivating.
- Know skills and interaction between different departments.
- After industrial visit, have upgraded our knowledge at very great level.
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- Interaction with Guides and other persons from industry is motivating.
- Know skills and interaction between different departments.
- After industrial visit, have upgraded our knowledge at very great level.
- It was a good experience, in each and every department; we got new ideas and we thinking which was necessary for our personal development.
- We have gone through entire process and came to know that they are using latest technologies that help us to understand importance of advancement in technology for better productivity.
- During visit we feel very satisfied with instructors and faculty guidance.

CONCLUSION:-

- We conclude that while passing through industrial visit, the cooperation is found to be very well organized, developed and most ideal industry in every walk if its production, administration and managements aspects.
- We extend our heartiest thanks to GSRTC for making 3rd September 2016 a day to cherish for your humble support and opportunity to visit such an esteemed organization.

- We want to thank to HR manager, operation head Asst. Prof. Ankit prajapati, Mitraj banker, Gopal chhantbar and Ankit parmar for guiding and sharing information about manufacturing and repairing works of GSRTC Plant.

.....
FACULTY SIGN

.....
H.O.D. SIGN

K.J.Delolia
Dy. C.E.
(W.W.)



Dudheshwar Water Works,
Dudheshwar Road,
Shahibaug, Ahmedabad- 380004

Telephone No. 25620645, 25624245 (M) 93270 38704

પ્રતિ,

તા. ૦૬/૦૮/૨૦૧૬

ડી. એ. ડીપ્લોમાં એન્જિનિયરીંગ એન્ડ ટેકનોલોજી
ખાત્રજ ચોકડી પાસે,
મહેમદાવાદ.

વિષય :- કોતરપુર વોટર વર્ક્સ ખાતે શૈક્ષણિક મુલાકાત ની મંજૂરી બાબત.

રેફરન્સ :- ડી. એ. ડીપ્લોમાં એન્જિનિયરીંગ એન્ડ ટેકનોલોજી
પત્ર નં. :- તા. ૨/૮/૨૦૧૬

મે. સાહેબ

ઉપરોક્ત વિષયનાં અનુસંધાનમાં જણાવવાનું કે ડી. એ. ડીપ્લોમાં એન્જિનિયરીંગ એન્ડ ટેકનોલોજી ને તા. ૧૧/૦૮/૨૦૧૬ ના રોજ સવારના ૧૦.૦૦ કલાકે કોતરપુર વોટર વર્ક્સની મુલાકાત લેવા માટે નીચેની શરતોને આધિન મંજૂરી આપવામાં આવે છે.

શરતો/સુચનાઓ :-

- કોતરપુર વોટર વર્ક્સ એ પ્રતિબંધિત વિસ્તાર અંતર્ગત આવતો હોઈ કેમેરા, મોબાઈલ ફોન કે અન્ય કોઈ પણ પ્રકારનાં સાધન દ્વારા કોઈ પણ જાતની ફોટોગ્રાફી/વિડીયોગ્રાફી કરવી નહીં.
- પ્લાન્ટની માહિતી આપતાં સ્ટાફ ની દરેક સુચનાઓનું પાલન કરવું, અન્યથા જે તે વિદ્યાર્થી અને સંસ્થાને ફરીથી પ્લાન્ટની મુલાકાત લેવાની મંજૂરી મળશે નહીં.
- પ્લાન્ટની મુલાકાત દરમ્યાન ઈલેક્ટ્રીકલ/મીકેનિકલ મશીનરીઝને, પ્લાન્ટની માહિતી આપતા સ્ટાફની મંજૂરી વગર અડકવું નહીં.
- પ્લાન્ટની મુલાકાત દરમ્યાન જો કોઈ કારણસર વિઝીટર્સ ને અકસ્માત થાય તો તેની જવાબદારી અનદાવાદ મ્યુનિસિપલ કોર્પોરેશનની રહેશે નહીં.
- પ્લાન્ટમાં પાન, મસાલા, ધુમપાન કે કોઈપણ કેફી દ્રવ્યનું સેવન નિષેધ હોઈ તેનો ચુસ્તપણે અમલ કરવાનો રહેશે.

ડે.સી.ઈ
(વો.વ.)

Managed By : Mahaba Kelavni Trust



D. A. Diploma Engineering & Technology

Approved by A.I.C.T.E. New Delhi & affiliated to G.T.U. Ahmedabad.

College Code No. 682

Ref. No.

Date : 02/08/2016

To
HR Manager,
Kotarpur Water Work
Hansol, Ahmedabad,
Gujarat 382340

Subject: Technical Visit for Diploma Engineering students

Respected Sir/Mam,

D.A. Diploma Engineering and technology is one of the premier engineering colleges in the Mahemdabad-Kheda region with Degree and diploma courses in Mechanical, Civil and Computer engineering branches.

We, besides traditional class room teaching believe in providing wide-ranging industrial exposure to the students in their chosen technical field by organizing industrial/ technical visits. Your plant water treatment has been one of the pioneers in the area of water works.

Our 5th semester civil branch students will certainly benefit by visiting your state of the art facilities. They also have subject of water supply and sanitary engineering in which they are studying about water treatment plant and it's working. By visiting your plant they will get practical knowledge about various treatments of water.

May we request you to kindly accord permission to a team of 30 students and 2 faculty members to visit your organization for technical cum industrial visit. Lect. Monika Patel will coordinate this visit from our end. We plan to conduct this proposed visit in August 2016. You may suggest alternate date if the proposed date/month is not convenient to you.

Please feel free to contact me/Miss. Monika Patel if you have any questions or concerns.

Thanking you in anticipation of your prompt and positive response.

With regards,

Yours sincerely

Jignesh R. Patel

Principal
D A Diploma Engineering and Technology,
Mahemdabad
Mobile: 9825047461, Phone: 02694- 244364

Monika Patel
B.E.Civil
Lecturer
D.A. Diploma Engg and Tech
Mahemdabad
9574919873/8866466176

Date - 11/08/2016
Time - 10.00 AM.

Received

By Patel
2/08

PRINCIPAL
D. A. DIPLOMA ENGINEERING & TECHNOLOGY
MAHEMDABAD.