



**MAEER's
MIT COLLEGE OF RAILWAY ENGINEERING &
RESEARCH
(MITCORER)**

Academic Year 2018-19

A Brief Report on
“Railway Workshop Visit at Ghorpadi-Pune”

Date: 20th October 2018

Time: 10 am to 3pm

**Venue: Railway Workshop,
Ghorpadi-Pune**

Technical Head

Er. Vijaysinh Dadas
Works Manager, Kurduwadi Railway Workshop, CR

Visit Coordinator

Prof. V. V. Bhosale
Prof. A. A. Pawar
MITCORER, Barshi

Agenda of the Visit

To provide students the real insight of working procedure at Railway Workshop.

Report on

“Railway Workshop Visit at Ghorpadi”

As part of Curriculum of **Railway Engineering** of SE, Student Industrial visit was organized by **MAEER's MIT College of Railway Engineering & Research, Barshi** as to provide students the real insight of working procedure at **Railway Workshop Ghorpadi-Pune**. A batch of 26 students with Faculty Prof. V. V. Bhosale, Prof. A. A. Pawar, Prof. Rohini Rankhamb and Prof. Shendage S. S. attended the workshop on 20th October 2018

About Railway Workshop Ghorpadi -

History- It was established on 13 August 1981, the then railway minister Kamalapati Tripathi inaugurated the loco shed. It was planned under WP 1978 – 79 to home 60 locos. The shed was further extended to home 100 locos under WP 1981 – 82. Now it holds around 135 locomotives of which 63 locos are operational with mail express links, but now it holds almost 200 locomotives.

Work Details –

In this Diesel Locomotive shed Major and minor schedules of Diesel Locomotives are carried out. The shed is ISO 9001:2000, ISO 14001:2004 and OHSAS 18001:2007 certified. The shed is divided into Light Schedule Repair Section, Heavy Schedule Repair Section, Heavy Repair (Mechanical), Heavy Repair (Electrical), Bogie Section, Machine Shop and Training Centre. The shed is located near Ghorpuri railway station and entrance of the shed is between a railway crossing gate.

Important facilities available:

Under floor wheel lathe for wheel turning:

This is utilized for maintaining wheel profile, without removing wheel sets from locomotives. This saves a lot of time and effort which otherwise would have gone into it.

Spectrography for analysis of lubricating oil:

This is helpful in doing predictive maintenance. By this machine, lube oil of locomotives is analysed for various metallic traces which would have come into lube oil due to wear and tear. Any metallic trace showing unusual concentration indicates to the distressed condition of related component.

DM water plant:

The cooling water used in locos should have pH value within a specified range. This pH range is maintained with the help of DM water plant. The process used is ion exchange regeneration process.

Water Load Box:

This facility is utilized to test the horse power of locomotive by simulating online full load condition. The various parameters of locomotive are tested as per their standard values and any deviations are rectified.

Also New technology inputs to locomotives:

S.No	Item	Features
1	MCBG (Microprocessor based governors)	MCBG or "Microprocessor based governors" are fast replacing hydro-mechanical governors used in earlier days. These governors are more efficient and effective in controlling fuel consumption as well as in utilizing power of diesel engine.
2	MEP (Mechanical, Electrical, and Plumbing Systems)	Existing excitation control system is being replaced by microprocessor based system which is having fault logging, data recording facility and interactive screen in driver cab. Hence, it is helpful in maintenance and troubleshooting and thereby improving online availability and reliability of Locomotive.
3	VCD (Vigilance Control Device)	VCDs are provided on locomotives, so as to keep loco pilots vigilant all the time. If no any operation is carried out within 60 seconds then VCD will give indication for 17 seconds, still no response for another 17 seconds audio visual indication will come. After 94 seconds penalty brake will be applied and train will be stopped automatically.
4	REMMLOT (Remote Monitoring and Management of Locomotives and Trains)	Loco remote monitoring system is being provided on locos for monitoring their critical parameters in real time. This is helpful in doing predictive maintenance as well as shed can have the location of their locos through GPS.

Beneficial exposures to our Railway Engineering students:

1. Diesel locoshed visit helps to understand Locomotives, Types, Construction and Working of Locomotives.
2. Visit helps to understand about the maintenance like Preventive, Scheduled and Breakdown Maintenance of Locomotives.
3. Various systems used in locomotives are explained properly.
4. Various authorities and functions related to Indian Railways are explained during the visit like RDSO (Research Designs and Standards Organisation).
5. Students are able to better identify their prospective areas of work in the overall organizational functions
6. Students become more aware of the Railway Workshop practices and regulations
7. Helps them see their future place in the world of Railway Engineering.
8. While doing any experiments or projects, it is more important to have practical knowledge. It is gained by observing real life scenarios. In Railway Engineering this is possible only by visiting the industrial workshops.

List of models/workshop equipment demonstrated –

Following are unique machines, which are used only in Railway Workshops.

Sr.No	Equipment Nomenclature	Application
1.	Wheel lathe machine	To machine the railway wheel
2.	Spectrography machine	To analysis of lubricating oil
3.	DM water plant	To maintain pH value of cooling water within a specified range

Prof. V. V. Bhosale
Visit Co-ordinator/s

Prof. Ajam Shaikh
I/C Principal

Visit Photographs



Railway Chief Instructors with MITCORER students



Visit to Railway Part Library



Discussion session with Railway Chief Instructors and MITCORER students



MITCORER Students at Diesel Loco-Shed, Ghorpadi-Pune.