



Soaring High...



KHARAGPUR WORKSHOP
SOUTH EASTERN RAILWAY



Preface

Kharagpur Workshop is the only maintenance Workshop on South Eastern Railway which undertakes POH of all types of Rolling Stocks of SER, other Zonal Railways and non-Railways users/PSUs. As per present capacity, Kharagpur Workshop stands 2nd in wagon, 5th in coaches, 3rd in Diesel locomotives, 4th in electric locomotives, 4th in EMU and 2nd in tower cars among all the workshops of Indian Railways.

Beginning with POH of Steam Locomotive and manufacturing of its components, Kharagpur Workshop has kept pace with evolution of various designs of different types of Rolling Stocks on Indian Railway. In the process, many shops have undergone changes in product mix requiring suitable alterations in their layout. The manufacturing activity which was at its peak in Steam Loco days has reduced to a few components rendering many manufacturing shops redundant.

To remain future ready, Kharagpur workshop is focussing on POH of LHB coaches, Stainless steel wagons, 3-Phase Locomotive and 3-Phase EMUs. Diesel shop increasingly taking POH of PSU locomotives to earn non-fare revenue. New skill sets of staffs are improving in this direction. Kharagpur workshop is increasingly adopting new technologies like MIG welding, Plasma Cutting and Huck bolting. Staffs are being trained in these new technologies. Also, to improve productivity of the shops, Workshop has planned to introduce large scale automation.

To suit the evolving requirement of POH of LHB coaches, Stainless steel wagons, 3- Phase Locomotives etc., Workshop has been transforming its Civil, Electrical, Mechanical infrastructures giving adequate attention on Staff amenity, safety etc. To give clean, ergonomic and safe working environment, several Centres of Excellence have been set up and are being set up.

KHARAGPUR WORKSHOP

MILESTONE

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| <ul style="list-style-type: none"> ● 1898 : Workshop established ● 1903 : POH of steam locomotive ● 1917 : POH of coach & wagon ● 1963 : POH of Diesel Locomotives | <ul style="list-style-type: none"> ● 1985 : POH of Electric locomotive and EMU ● 2009 : IOH Bogie to Division ● 2014 : DEMU factory at Haldia ● 2018 : IOH of LHB bogie to Division. ● 2019 : POH of 3 Phase Electric Locomotive |
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BASIC INFRASTRUCTURE

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| <ul style="list-style-type: none"> ● Area of workshop : 150.73 Acres ● Track Length : 87.5 Km ● Road Length : 24.20 Km ● Covered Area : 0.32 Sq Km | <ul style="list-style-type: none"> ● Traverser Lines : 2.6 Km ● Cranage Lines with Gantry : 4.10 Km ● Boundary Wall Length : 12.96 Km ● Staff Quarters : 4186 |
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ACTIVITY

Main Workshop : POH of AC/NAC/LHB Coaches, EMU/MEMU, Electric Loco, Tower Car, SPART, SPARME and NMG / NMGH / NMGHS

Activity	Rly	Target 2025-26 (Yly)
ICF AC COACH	SER	132
ICF NAC COACH	SER	612
LHB AC COACH	SER	516
LHB NAC COACH	SER	372
TOTAL COACHES	SER	1632
EMU/MEMU	SER-435, ECoR-73, SECR-18	526
Electric Locomotive	SER	58
SPART/SPARME	SER-2, ECoR-2	4
Tower car (4W)	SER-3, ECoR-6,SECR-5	14
Tower car (8W)	SER-5, ECoR-3,SECR-5	13
NMG/NMGH/NMGHS	SER	54

Wagon shop : POH of Wagon

Activity	Rly	Target 2025-26 (Yly)
Wagon	SER	7200

Quality Certification

SN	Certification	Logo	Validity
1	Supervisory Training Centre, KGP has achieved IGBC Green Existing Building Rating System “Gold” certification in the month of Feb’2021.		25-09-2027
2	ISO 3834-2:2021: Quality standard for fusion welding for metallic materials for Entire Kharagpur Workshop including Wagon shop		03-01-2027
3	5S certification: Workplace organizational method described by Sort, Straighten, Shine, Standardize and Sustain Shop no 12 ERS Shop & Shop no 21 DSL Shop		28-05-2026
4	5S certification: Workplace organizational method Production shop, Electrical Shop, New wagon Works, Carriage shop, DEMU shop/HLZ		28-05-2026
5	NABL (National Accreditation Board for Testing and Calibration Laboratories) certification		02-04-2026
6	Integrated Management System(IMS):Quality Management ISO 9001:2015 Environment Management ISO 14001:2015 Occupational Health & Safety Management ISO 45001:2018		03-12-2027
7	ISO 50001:2018 Energy Management Standards		03-12-2027
8	Green Unit certification: Centre of “Excellence” for Energy, Environment, Green Buildings, Renewable energy, Water & Climate change activities.		Sep-2024 (Certification under process)
9	Hazardous Waste Management- for Entire Kharagpur Workshop including Wagon shop. Consent to Operate from WBPCB		30-11-2028

Centre of Excellances

DV SECTION (CARRIAGE SHOP)

Section has been developed with unidirectional flow layout. Ergonomically designed work benches with required tools to provide ensure quality of work. Potable power wrenches, vacuum cleaner, air jet is used for component cleaning. One fully computerised and one Digital test bench have been provided

DV Testing Machine



Automatic Jet cleaning machine has been developed in house and provided for cleaning of DVs.

DV Cleaning Machine

AIR BRAKE COMPONENTS POH SECTION (WAGON SHOP)



1. Dust free working environment with separate workstations, isolated by rooms.
2. Window of larger size allowing good visibility in day light, LED Light fitting arrangement for energy saving,
3. Ergonomically designed work station and seating arrangement for working staff to achieve optimum working capacity.

AIR BRAKE COMPONENTS POH SECTION



4. Gravity roller conveyor for material transportation from one workstation to another.
5. Better exhaust system for fume free cleaning area.
6. Epoxy flooring as per 5S pattern for better working environment.
7. Exploded view of components for developing better knowledge among staff as well as training purpose.
8. Separate working area for each and every component with stacking racks and assembly table.
9. Computerized test bench for final testing and data recording.
10. Bilingual Work instruction boards for ready reference in trouble shooting.

CTRB OVERHAULING

1. Dust free and air-conditioned working environment with separate workstations, isolated by glass partitions.
2. Larger Window & glass partition allowing good visibility in day light, LED Light fittings for energy saving.
3. Ergonomically designed work station and seating arrangement for staff to achieve optimum working potential.



4. Motorized conveyor for material transportation from one workstation to another through crates.
5. Higher capacity exhausts system for fume free cleaning area.
6. Epoxy flooring as per 5S pattern for better working environment.
7. Separate working area for each activity with stacking racks and assembly table. Restricted movement of staff within sections for maintaining cleanliness

ERRU OVERHAULING

With a view to increase the skills & performance of staffs and to create a hygienic working atmosphere, this centre of excellence has been created with full Air Conditioning, epoxy coated



floor, improved LED surface mounted panel lights. Upgraded tools and machineries have been provided to make the system operative, hygienic and successful

DEMU COMPONENTS OVERHAULING



Commissioned in Feb'19. DC MCB, Speedometer, Relays, Traction Motors, Air Dryers etc of DEMU Power car are overhauling and testing done.

REGIONAL WELDING TRAINING INSTITUTE

Commissioned in Feb'19. Different types of Welding machines such as Virtual welding simulator, Master Welding table, Manual Metal Arc Welding, MIG/MAG Welding, TIG Welding, Submerged Arc welding, Plasma Cutting, Oxy-Acetylene Gas cutting installed.



BMBC TEST BENCH



Overhauling of Bogie Mounted Brake Cylinder in one-way movement, with improved cleaning system, assembly in dust free air-conditioned atmosphere and testing of BMBC in an in-house developed Test Bench.

ROLLER BEARING OVERHAULING

Overhauling of Roller bearing with improved material flow layout, cleaning system, dedicated areas for testing, ergonomic environment for enhancement of quality and output. Epoxy flooring with marked path of material movement. Inaugurated on January'2019.



VCB OVERHAULING



Centre of excellence for VCB Overhauling Section has been inaugurated on 05.02.2019 by GM/SER during his visit to Kharagpur workshop. New Epoxy flooring has been done. Larger door, windows and glass partition allowing good visibility during day time. Glass Enclosure has been erected to perform high voltage test of VCB. Micro-processor based testing and analysing test facility has been incorporated. Ergonomically designed chairs and working tables have been provided to staff of this section.

Innovations

Buffer Easy Movement Trolley

A trolley has been designed to move the 185kgs buffer set from one place to another single handed with ease. Manpower has been reduced, less time consuming, no chances of any accidents/injuries, proves to be safe in all ways as safety is the most important aspect in work field. It is also cost efficient



D.V. Easy Movement Trolley

A trolley has been designed to move the Distributor Valve from one place to another single handed with ease



Training Centres

Supervisor Training School

Infrastructure :

- 02 (two) Hostel Buildings namely DLPH and App. Home No.500 & 501 with 410 bed capacity for accommodation of undergoing trainees.
- 23(Twenty-three) class rooms available in the premises out of which 14 Class Rooms ear-marked as Smart Class Room with a total capacity of 420 trainees, equipped with LCD projectors/OHP, Green Boards/White Boards, Digital interactive Board/Interactive board and desktop all-in-one computer.
- Besides 04 (four) New Labs viz. Computer Lab; Diesel Model Room; Refrigeration & Air-Conditioning Model Room; C&W Model Room and Electrical & Electronic Lab. equipped with software moulded interactive trainers (Equipment) are available.
- Advanced Train Driving Simulator for Hands on Training to Running Staff (i.e. ALPs, LPs and Loco Inspectors).
- A well-equipped library consisting of around 10,000 books on Engineering, Management, Science & Technology, Railway Specific subjects and inland journals.
- Technical park comprising Models of Engine Block of WDM2 Loco, CASNUB Bogie, ICF Bogie, FIAT bogie, BOBRN Model, Forged wheel & cast wheel, CBC-H-type coupler, CO-CO type Bogie for WDM2 Working Air brake Model, Alarm Chain pulling arrangement and Model of TRD etc.

Facilities to Trainees :

- Every Hostel is having arrangement for mess run by the trainees on 'no profit no loss' basis.
- Indoors games: Chess, Carom & Table Tennis.
- Out-door games: Cricket, Football, Volleyball & Badminton.
- Recreation rooms equipped with TV, magazines & newspapers available in each hostel.
- Four-station multi-gymnastics unit.
- Regular Yoga practice.

Regional Welding Training Institute



Reception Area



Smart Class Room



Welding Simulator



Master Welding Table



Welding Booths



MIG/MAG Welding

Green Efforts

Different locations in Workshop were used for dumping low/nil value scrap. Two of the most prominent locations were: Behind EMU Shop Area (10,000 sqm) between CETL and Bhusi Gate (80,000 sqm). Accumulated over a period of 2-3 years.



EMU Garden- Before and After



Bhusi Gate - Before and After