



**WAGON SICKLINE  
ACTIVITIES**

# PREVENTIVE MAINTENANCE

## Wagons

Rake – KM/Time Based

Wagon – ROH

Time Based in ROH Depot

Wagon – POH

Time Based in Workshop

## Out of Schedule Repair

In Rake – in Yard

Wagon – in Sickline/Workshop

# WAGON SICKLINE ACTIVITIES

During Intensive Examination

Identification of Defective Wagons

Loadability

Body Defects

Unsafe to Run

Mechanical Defects

Braking Defects

May be Empty/Loaded

# WAGON SICKLINE ACTIVITIES

During Intensive Examination

Efforts to be Taken

To repair On Line

Body Defects

Each Detachment/Attachment has Cost

In Terms of Time Finally Money

Wagons not Repaired during

Yard Examination

Detached and Booked to Sickline

# WAGON SICKLINE ACTIVITIES

Wagons Detached for

Body Repair

Undergear Repair

Bogie Repair

Air Brake System

Slack adjuster Attention

CBC Mechanism Attention

Wheel Axle & Bearing Attention

# REASONS FOR DETACHMENT

Body Repair

Heavy Corrosion of Side Wall

End Wall

Floor

Roof

Body Bulged

Broken

Top Rails Corner

Damaged Body Stanchion

Damaged Door Pressing

Door Operating Mechanism

BOBRN

BOBYN

BOBSN

# REASONS FOR DETACHMENT

Under gear Repair

Defects in

ELB Mechanism

Hand Brake Mechanism

Air Brake System

Defects in

Bogie Mounted Brake Cylinder

Distributor Valve

# REASONS FOR DETACHMENT

Bogie Repair

Brake Beam Worked out

Brake Head Worked out

Any deformity in

Side Frame

Spring Plank

Bolster





# REASONS FOR DETACHMENT

## CBC Mechanism

Coupler Body Crack

Coupler Body Excessive Projection

Indicates Draft Gear Defect

## Wheel & Bearing

Wheel Profile

Notch on Axle

Bearing Seizure

Grease Oozing

Grease Seal Defective

# WAGON BODY REPAIR

Corrosion Repair

Gas Cutting of Corroded Portion

Welding of Standard Patch

Body Bulged Out

Pulling of Body Side Walls/End Walls

By Means of Pulling Arrangement/Jacks

Welding/Rivetting of Side Pillars

Corners/Top Rails Repair

Welding

Replacement

# WAGON BODY REPAIR

## Door Pressing

Got Hit during Unloading/Loading

Welding/Replacement

## Door Mechanism

Adjustment of Gap between Door Lips

Repair of Securing Arrangement

Replacing of Worn out Parts

## Body Pillars

Got Bent during Loading/Unloading

Welding/Replacement

# WAGON BODY REPAIR

Besides

Sole Bar

Scrapping at Door Way

Painting with Primer and Top Coat

Doors

Repair and Lubrication of Hinge

Fitting Door Fasteners

Pillars

Check at Bottom and Repair

# WAGON BODY REPAIR

Besides (Contd...)

Body Roof Floor

Patching by Standard Patch

Straightening if Bulged

Centre Pivot Top

Check for Crack and Wear



# UNDERGEAR REPAIR

Repair of Hand Brake

Replacement of Worn Out/Missing Parts

Hand Brake Wheel

Lever

Chain

Repair of Empty Load Box Device

Replacement of Worn Out/Defective Parts

ELB Handle and Plate

Rod

Gear Train

ELB Clutch

# UNDERGEAR REPAIR

Besides

Brake Linkage

Check for Free Movement

Hand Brake

Check for Proper Working

Empty Load Box Device

Check for Proper Working

# BOGIE REPAIR

Brake Beam Worked Out

Brake Head Worked Out

Disconnection of Trolley from Body

Lifting of Body

Trolley Run Out

Repair/Replacement of Brake Beam/Head

Deformity in

Spring Plank

Side Frame

Bolster

Replacement of Trolley

Friction Wedge Wear Out

Replacement



# BOGIE REPAIR

Repair of Area for which Wagon Detached

Besides

Adjustment of Holes of Brake Gear  
As per Wheel Dia

# AIR BRAKE ATTENTION

Defects in

Bogie Mounted Brake Cylinder

Distributor Valve

Replacement

Testing with SWTR



# AIR BRAKE ATTENTION

Besides

Distributor Valve

Test on SWTR

Angle Cock

Examination

Dirt Collector

Cleaning



# AIR BRAKE ATTENTION

Reservoir

Cleaning

Pipe Joints

Checking for Leakage

SAB Attention

Test for Functioning

Adjustment of

A Dimension  
e Dimension

# CBC ATTENTION

Coupler Body Crack

Removal of Coupler Body  
Replacement

Coupler Body Excessive Projection

Indicates Draft Gear Defect

Removal of Coupler Body

Removal of Yoke Pin

Removal of Yoke and Draft Gear

Replacement of Draft Gear

# CBC ATTENTION

Besides

Coupler Body

Visual Check for Crack

Contour Check by Gauge

Knuckle

Nose Wear by Gauge

Coupler Mechanism

Examination of

Operation

# WHEEL AXLE & BEARING ATTENTION

For Any Following Defects

Wheel Profile

Notch on Axle

Bearing Seizure

Grease Oozing

Grease Seal Defective

Wheel Set to be Replaced

Permissible Difference in Diameter

In Same Trolley - 13 mm

In Same Wagon - 13 mm

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# WHEEL AXLE & BEARING ATTENTION

Besides

Attention to Bearings

Visual Check for Grease Leak/Damage

Wheel

Check of Wheel Profile

Replacing with Turned Wheel

if required on

Axle

Any Notch Formation > 5 mm



# SICKLINE ATTENTION

## Technical Guidance

G-97	Air Brake System
G-95	CASNUB Bogie Maintenance
G-76	CBC Checking
G-70	Repair of BOXN Wagon
G-72	Welding Repair

# SICKLINE ATTENTION

## Important Statistics

Outturn of Wagon per Month Empty/Loaded)

Category of Repair

Mechanical General Repair

NPO/Body Repair

Wheel Change

Oldest Wagon

Sick Wagon Holding

Average Detention per Wagon

Wagon detained for Warranty Repair

# SICKLINE ATTENTION

## Warranty Claims

Welding Defect

Rivetting/Lock Bolting Defect

Manufacturing Defect

Material Failure

Improper Protection

Train Pipe/Air Brake System

Roller Bearing Defect

After Repair Report Send to

Railway Board for Debit to Manufacturer

# WARRANTY CLAIMS

SNo.	Description	Warranty Period
1.	New Wagons	24 Months from the date of commissioning.
2.	CTRB	48 Months from the date of supply or 36 Months from the date of commissioning.
3.	Adapters	48 Months from the date of supply or 36 Months from the date of commissioning.
4.	BP Hoses	36 Months from the date of supply or 24 Months from the date of commissioning.
5.	Brake Cylinder	36 Months from the date of supply or 24 Months from the date of commissioning.
6.	SAB	36 Months from the date of supply or 24 Months from the date of commissioning.
7.	CC Pads	30 Months from the date of supply.

# WARRANTY CLAIMS

SNo.	Description	Warranty Period
8.	PU Side Bearers	30 Months from the date of supply.
9.	EM Pads	30 Months from the date of supply.
10	CBC Coupler, Yoke, Knuckle	54 Months from the date of supply or 42 Months from the date of commissioning.
11.	Draft Gear	54 Months from the date of supply or 42 Months from the date of commissioning.
12	Distributor Valve	36 Months from the date of supply or 24 Months from the date of commissioning.
13	Angle Cock	36 Months from the date of supply or 24 Months from the date of commissioning.
14.	Composite Brake Block	18 Months from the date of supply.

# RESOURCE MOBILIZATION

Infrastructure Facility

Workplace

Material Storage

Office

Staff Amenities

Manpower

Material

Machinery and Plants

Tools & Gauges

# INFRASTRUCTURE FACILITY

## Categorization of Sickline

### A Category

Berthing Capacity under Covered Shed

Heavy Duty Concrete Flooring

Welding Facility

Compressed Air Facility

EOT Crane

### B Category

Less EOT Crane

# INFRASTRUCTURE FACILITY

Categorization of Sickline

C Category

Less Compressed Air

D Category

Less Welding Facility

E Category

Less Heavy Duty Flooring

F Category

Less Covered Shed



# INFRASTRUCTURE FACILITY

Workplace – Sickline

For Outturn of 500 per Month  
Shed Required – 2000 SqM

Covered Shed

Heavy Duty Concrete Flooring

Illumination

Electricity Supply for Machines

# INFRASTRUCTURE FACILITY

Workplace – Store

Shed for Imprest Store under SSE I/c

Pucca Road Approach

Rooms for Officers/Officials

Racks for Storing Materials

Computer Terminal with Printer

Furniture as per Layout

# INFRASTRUCTURE FACILITY

Workplace – Office

Building

PC terminal as per Requirement

Printer as per Requirement

Drinking Water

Rooms for Officials

Furniture as per Requirement

# INFRASTRUCTURE FACILITY

## Workplace – Staff Amenities

Toilet

Drinking Water

Water Cooler

Dress Changing Room for Ladies

Stainless Steel Tables & Chairs

Fitter's Lockers

First Aid Items

# INFRASTRUCTURE FACILITY

Manpower

Yardstick

5 Man per Wagon

A Cat Repair            Upto 8 Manhour

Normally Carried out at Yard

B Cat Repair            8 to 100 Manhour

Carried out at Sickline

C Cat Repair            > 100 Manhour

Carried out at Sickline

# INFRASTRUCTURE FACILITY

## Materials

Imprest Store at Shop Floor

Under SSE I/c for Day to Day Work

Material under PL Group

38 Wagon Material	73 Fasteners
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76 Electrode	77 Paint
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80 Oxy DA	90 Steel
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# INFRASTRUCTURE FACILITY

Machinery & Plants

EOT cranes 15t/5t

Welding Machines

Portable Rivetter

Trestles

Winches

Lock Bolting Machine

MIG Welding Sets

Plasma /Gas Cutting

# INFRASTRUCTURE FACILITY

Machinery & Plants – Air Brake Section

Elect Stationery Screw Air Compressor

Portable Diesel Compressor

Single Wagon Test Rig

BP Hose Testing Facility

SAB Test Bench





# INFRASTRUCTURE FACILITY

Machinery & Plants – Imprest Store

Truck 10t capacity

Forklift 2t

Platform Truck 2t

Battery Charger

Weighing Machine 500 kg

Light Store Vehicle

Hand Trolleys

# INFRASTRUCTURE FACILITY

Machinery & Plants – Misc Section

Gas Cutting Equipment

Heavy Duty Shaping Machine

Jib Crane 2.5t

Centre Lathe

Radial drilling machine

Bench drilling machine

Heavy duty pedestal grinder

Shearing machine 6 mm

# INFRASTRUCTURE FACILITY

Tools & Gauges

Jacks of Various Capacity

Pulling Arrangement – Chain & Hook

Wheel Dia Measuring Gauge

Wheel Distance Measuring Gauge

Gauges for CBC

Fitters Hand Tools

Electric & Pneumatic Tools

# **SPECIAL M&P FOR SS WAGONS**

For Body Repair of Stainless Steel Wagons

MIG/MAG Welding Set 400A

DC Arc Welding Rectifier

600 Amp

Portable Air Plasma

Cutting Machine

Lock bolts equipment

Portable grinding machine