

## Maintenance Pattern of LHB Coaches



<b>Type of inspection</b>	<b>Items</b>
<b>Coaching Depot Schedule</b>	<ul style="list-style-type: none"><li>• Schedule D1 : Every Trip/Weekly</li><li>• Schedule D2 : Monthly <math>\pm</math> 3 days</li><li>• Schedule D3 : Half Yearly <math>\pm</math> 15 days</li></ul>
<b>Shop Schedule</b>	<ul style="list-style-type: none"><li>• Shop Schedule I : 18 months/ 6 lakh Kms whichever is earlier</li><li>• Shop Schedule II : 36 months/ 12 lakh Kms whichever is earlier</li><li>• Shop Schedule III : 72 months/ 24 lakh Kms whichever is earlier</li></ul>

## Schedule D1 (Trip)

Type of inspection	Items
Visual inspection for cracks, damages and corrosion, loosening/missing fittings.	<ul style="list-style-type: none"><li>• longitudinal beams, cross beams &amp; bolster,</li><li>• brake supports, damper supports, traction centre supports and anti roll bar supports</li><li>• Brake cylinders/ brake levers and Hand brake equipment</li><li>• brake discs for damage/wear/broken ribs.</li><li>• All grounding cables &amp; WSP equipment cables for breaks/ damages.</li><li>• Springs</li><li>• Dampers for oil leakage and rubber element for crack</li><li>• Bearings for hotness and leakage.</li><li>• Wheels for cracks, damages and tyre defects.</li><li>• Control Arm, Anti Roll bar Assembly, Traction Centre, Rotation Limiter</li></ul>
Check functionality	<ul style="list-style-type: none"><li>• Air Brake equipment and Hand brake equipment.</li><li>• passenger emergency valve &amp; pull box</li><li>• WSP equipment</li><li>• Pneumatic brake system</li></ul>

## Schedule D2 (Monthly)

<b>Component</b>	<b>Activities</b>
<b>Bogie Frame</b>	Wash the bogie frame thoroughly with water jet in washing line, making sure that water is not directed towards pneumatic / electrical connections and axle bearings.
<b>Brake Equipment</b>	<ul style="list-style-type: none"><li>• Verify that the clearance between each pad and disc surface is 1-1.5 mm.</li><li>• Check wear of brake pads/ brake discs. If groove depth is reached, it is necessary to replace the discs.</li><li>• Lubricate the brake levers, fixings and all moving parts using prescribed grease (Autol Top 2000 spray).</li></ul>
<b>Axle Bearing Instruments</b>	<ul style="list-style-type: none"><li>• Inspect the Earthing equipment for wear of slip assembly / carbon bars.</li><li>• Monthly / Quarterly inspection of WSP equipment to be carried out as per schedule given by OEM.</li></ul>
<b>Wheel &amp; Axle</b>	Check treads diameter and wear of wheel profile. If necessary, perform reprofiling
<b>Pins , Bushes</b>	Lubricate all pins and bushes.

## Schedule D3 (Half Yearly)

Component	Activities
<b>Bogie Frame</b>	<ul style="list-style-type: none"><li>• Examine the bogie frame for corrosion / damages, especially at critical locations.</li><li>• Carry out paint touch up with high built epoxy primer and paint as per RCF specifications MDTs – 166.</li></ul>
<b>Axle Bearing Instruments</b>	<ul style="list-style-type: none"><li>• Replace all carbon brushes on earthing devices.</li></ul>
<b>Wheel &amp; Axle</b>	Check wheels offset on axle (1600 mm± 1 mm)
<b>Control Arm</b>	Renew protection treatment with Tectyl / Cortec VC 1368 on the rubber joint on visible areas.

# Shop Schedule-I (18 Months)

Component	Activities
<b>Brake Equipment</b>	<ul style="list-style-type: none"><li>• Perform function test of the Air Brake system components:- Distributor valve, Check valve, Isolating cocks/angle cocks, Filters, indicators, test fittings, Emergency brake valve &amp; pull box, Brake cylinders &amp; WSP Equipment</li><li>• Wear of Brake gear pin, re-greasing , replacing if required</li><li>• Hand brake functional check</li><li>• Examine the Brake calipers and Brake pads for wear and damages. Replace, if necessary.</li><li>• Examine the brake discs to detect any thermal or fatigue cracks. Replace, if necessary. Brake disc bolts should be checked for tightness.</li></ul>
<b>Axle Box Instruments</b>	<ul style="list-style-type: none"><li>• Overhaul the grounding equipment.</li><li>• Carry out overhauling and testing of WSP equipment as per OEM's instructions.</li></ul>

# Shop Schedule-I (18 Months)

Component	Activities
<b>Primary/Secondary Suspension</b>	Attention of springs, lift stop pin and safety cables for corrosion, wear, damage and cracks and rubber and rubber/metal bonded parts for damage, cracks and ageing, Damper for functionality and oil leakage
<b>Bearings</b>	Rotate the bearing assembly to detect any abnormal condition. Check the bearing mounted end play. If end play is beyond permissible limit or if any roughness is detected while rotating the bearing, dismount the bearing and send for reconditioning.
<b>Wheels and Axle</b>	<ul style="list-style-type: none"><li>• Wheel profiling and wheel balancing</li><li>• Overhaul of the axle, remove signs of corrosion, renew corrosion protection and repaint the axle</li><li>• Check wear of wheels, if necessary, replace them</li><li>• Ultrasonic test on the wheel and axle</li></ul>

# Shop Schedule-I (18 Months)

Component	Activities
<b>Control Arm, Anti-Roll Bar Assembly, Traction Centre</b>	Perform a general overhaul of the control arm, anti-roll bar, traction centre components (Traction lever, Traction Rods).
<b>Bogie Frame and Bogie Bolster</b>	Examine the bogie frame and bolster for cracks, damages and corrosion
<b>Upper gear work</b>	<ul style="list-style-type: none"><li>• Corrosion repair of body</li><li>• Provision of Amenity fittings</li><li>• Functioning of Water supply system</li><li>• Functioning of electrical panels and CDTS</li></ul>
<b>CBC</b>	



# Shop Schedule-II (36 Months)

Component	Activities
<b>Brake Equipment</b>	<ul style="list-style-type: none"> <li>• Perform overhauling of the Air Brake system components:- Distributor valve, Check valve, Isolating cocks/angle cocks, Filters, indicators, test fittings, Emergency brake valve &amp; pull box, Brake cylinders 8WSP Equipment</li> <li>• Replace of Brake gear pin, re-greasing , replacing if required</li> </ul>
<b>Bogie Frame and Bogie Bolster</b>	<ul style="list-style-type: none"> <li>• Check the dimensional and geometrical tolerances</li> <li>• Cleaned (with scrapping/shot blasting) and painted with high built epoxy primer</li> </ul>
<b>Bearings</b>	Dismount the Bearings and send for inspection/reconditioning.
<b>Under Frame &amp; Running Gear</b>	Inspect head stock, sole bar, cross bar etc for corrosion, damage
<b>Must change item</b>	All must change items should be replaced as per guideline
<b>Furnishing work</b>	100 % furnishing of Rexine, and other upper gear works

# Shop Schedule-III( 72 Months)

Component	Activities
Damper	Replace
PVC Floor	<ul style="list-style-type: none"><li>• Replacement of up graded specification PVC flooring.</li></ul>
Air Brake components	<ul style="list-style-type: none"><li>• As per instruction of OEM</li></ul>