

APPENDIX- A

TRANSPORTATION CODES FOR COACHES

| S. No. | TRANSPORTATION CODE | DETAILS |
|--------|---------------------|--|
| 1 | ART | ACCIDENT AND TOOL VAN OR RELIEF VAN |
| 2 | CT | TOURIST CAR |
| 3 | CTS | TOURIST CAR FOR 2 ND CLASS PASSENGERS |
| 4 | CZACEN | AIR CONDITIONED CHAIR CAR WITH END ON GENERATION |
| 5 | ERR | FOUR / SIX WHEELER |
| 6 | ERU | FOUR / SIX WHEELER SELF PROPELLED TOWER VAN |
| 7 | FCS | FIRST CLASS COUPE AND SECOND CLASS |
| 8 | FSCN | FIRST CUM II CLASS 3-TIER SLEEPER |
| 9 | GS | SECOND CLASS FITTED WITH SELF GENERATING EQUIPMENT |
| 10 | LR | LUGGAGE WITH BRAKE VAN |
| 11 | NMG | NEW MODIFIED GOODS |
| 12 | OHE | OVER HEAD EQUIPEMNT INSPECTION CAR |
| 13 | PPS | FULL BOGIE POSTAL VAN |
| 14 | RA | INSPECTION CARRIAGE (ADMINISTRATIVE) |
| 15 | RAAC | AIR CONDITIONED INSPECTION CAR |
| 16 | RD | INSPECTION CARRIAGE (SUBORDINATE) |
| 17 | RE | INSTRUCTION VAN (MOBILE TRAINING CAR) |
| 18 | RH | MEDICAL VAN |
| 19 | RHV | AUXILIARY MEDICAL VAN |
| 20 | RK | DYNAMOMETER CAR |
| 21 | RN | GENERATING VAN |
| 22 | RS | STORES VAN |
| 23 | RT | ACCIDENT AND TOOL VAN OR RELIEF VAN |
| 24 | RZ | TRACK RECORDING CAR |
| 25 | SLR | SECOND CLASS LUGGAGE AND BRAKE VAN |
| 26 | SMN | POWER CAR WITH MID ON GENERATION |
| 27 | VP | PARCEL VAN |
| 28 | VPC | PARCEL VAN CONVERTED |
| 29 | WACCNEN | VESTIBULED AC 3-TIER WITH END-ON-GENERATION |
| 30 | WCB | VESTIBULED PANTRY CAR |
| 31 | WSCZACEN | VESTIBULED AC CHAIR CAR WITH END-ON-GENERATION |
| 32 | WCD | VESTIBULED DINING CAR |
| 33 | WCRAC | VESTIBULED AIR CONDITIONED TWIN CAR |
| 34 | WCTAC | VESTIBULED AIR CONDITIONED TOURIST CAR |
| 35 | WFACEN | VESTIBULED AIR CONDITIONED FIRST CLASS WITH END ON GENERATION |
| 36 | WFC | VESTIBULED FIRST CLASS |
| 37 | WGACCN | VESTIBULED AIR CONDITIONED THREE TIER WITH SELF GENERATING ELECTRICAL EQUIPMENT |
| 38 | WGACCW | VESTIBULED AIR CONDITIONED TWO TIER WITH SELF GENERATING ELECTRICAL EQUIPMENT |
| 39 | WACCWEN | VESTIBULED AIR CONDITIONED TWO TIER SLEEPER WITH END ON GENERATION |
| 40 | WGFAC | VESTIBULED AIR CONDITIONED FIRST CLASS WITH SELF GENERATING ELECTRICAL EQUIPMENT |
| 41 | WGFACCW | VESTIBULED FIRST CUM AC 2-TIER SLEEPER |

| S. No. | TRANSPORTATION CODE | DETAILS |
|--------|---------------------|---|
| 42 | WGSCN | VESTIBULED SECOND CLASS THREE TIER SLEEPER WITH SELF GENERATING EQUIPMENT |
| 43 | WGSCNLR | VESTIBULED SECOND CLASS THREE TIER SLEEPER WITH LUGGAGE AND BRAKE VAN |
| 44 | WGSCZ | VESTIBULED SECOND CLASS CHAIR CAR WITH SELF GENERATING ELECTRICAL EQUIPMENT |
| 45 | WGSCZAC | VESTIBULED SELF GENERATING SECOND AC CHAIR CAR |
| 46 | WGSD | VESTIBULED SECOND CLASS DOUBLE DECKER WITH SELF GENERATING ELECTRICAL EQUIPMENT |
| 47 | WLRRM | POWER CAR END-ON-GENERATION |
| 48 | WSCZACEN | VESTIBULED AIR CONDITIONED SECOND CLASS CHAIR CAR WITH END ON GENERATION |
| 49 | WSLRN | VESTIBULED SECOND CLASS, BRAKE CUM LUGGAGE AND POWER CAR |

APPENDIX – B

**ITEMS WHICH MUST BE CHANGED
DURING POH OF HIGH SPEED COACHES
(RDSO letter no. MC/CB/MARS dtd. 9.8.99)**

1. Roller bearing grease (when opened)
2. Locking plates (T-0-2-637) (when opened)
3. Rubber sealing ring of axle box front & rear cover (T-0-2-625) (when opened)
4. Rubber packing ring (T-0-1-632)
5. Guide ring (T-0-1-635)
6. Guide bush (T-0-1-634)
7. Circlip for dash pot guide bush (if used) (ICF Sk-0-1-182, item 3)
8. Wearing piece (T-0-5-649)
9. Wearing plate (T-0-5-648)
10. Side bearer oil
11. Dashpot oil
12. Brake gear bushes (as a set) (RDSO Sk. 81039)
13. Brake shoe key (T-3-1-618)
14. Shoe adjuster assembly (T-3-1-612, T-3-1-607, T-3-1-609) & M16 nut & bolt with split pin
15. Brake beam bush collared (T-3-2-644)
16. All bulb type cotters (T-3-2-632) (when opened)
17. Sealing washer for air vent screw (T-0-1-629)
18. Rubber stopper & crown bolt (RDSO Sk.-97068)
19. Rolling ring (VB-79/M)

20. Joint ring (VB-87/M)
21. Gland packing ring (VB-87/M)
22. DA valve diaphragm
23. Vacuum hose pipe – 50 mm dia (VB-504/M)
24. Vacuum brake syphon pipe – 20 mm dia (VB-510/M)
25. All rubber item of air brake equipment (if overhauled)
26. Centre pivot locking plate (T-0-6-612)
27. Bush for equalising stay (RDSO SK 88018 item 5 & 6, RDSO SK 88105 item 5)
28. Bush for 18 kw alternator (MG/T-3-2-009)
29. Bush for 4.5 kw alternator (T-0-3-659 item 5)
30. Silent block for anchor link (T-0-7-601)
31. Centre pivot bushing sleeve (T-0-6-603)
32. Dirt collector filters
33. Buffer bolts (T-2-2-503)
34. Centre pivot bolts

APPENDIX - C

**MODIFICATIONS IN BG COACHING STOCK
(RDSO's Letter No. MC/CB/MARS Dtd. 24.06.98)**

| Sr. No. | Description of Modifications | Sketch / Drg. No. | Applicability | Category |
|---------|--|--|--|----------|
| 1 | Adoption of worn and intermediate profile of wheels | RDSO SK - 92082 & 91146 | Railways and Production Units | A |
| 2 | Standardisation of 16t. Equalising Stay on all new coaches | RDSO SK - 88105 & 93236 | Production Units only | A |
| 3 | Provision of locking arrangement for guide caps of a) Existing Bogies, b) New Bogies | RDSO SK - 85070 alt. 3 ICF / SK-0-1-182 | Railways and Production Units | A |
| 4 | Axle end locking arrangement for direct mounted spherical roller bearings | ICF Drg. No. T-0-2-637 alt. a | Railways and Production Units | A |
| 5 | Procedure for manufacture and inspection of bolster suspension hangers | Drg. No. C/BE-4501 alt 7 | Railways and Production Units | A |
| 6 | Schedule of technical requirement of silent block for anchor link | Spec. C-9406 (Rev.1) | Railways and Production Units | Spec. |
| 07 | Lowering of attendant berth to approx. 600 mm. from floor level in AC coaches | RCF Drg. No. M1000517 | Railways and Production Units | A |
| 08 | Earmarking of one seat in GS coaches for physically handicap person | RDSO SK - 96078 | Railways and Production Units | A |
| 09 | STR No. C - 9503 for upholstery cloth for coaching | Spec. No. C-9503 amendment slip 1 | Railways and Production Units | Spec. |
| 10 | Schedule of requirement for LP sheet | Spec. C- 9602 with amend slip 1 | Railways and Production Units | Spec. |
| 11 | Provision of APD for foot plate of vestibule by welding of washer with securing pin | RDSO SK – 95199 | Completed, may be treated as standard | A |
| 12 | Provision of compression spring to support canvas vestibule frame | RDSO SK – 96006 | Railways only | A |
| 13 | Modified pin for 'Z' lever hanger to avoid working out of bushes in the brackets | RDSO SK – 98127 | Railways and Production Units | A |
| 14 | Color coding of SAB spindles for different length | ICF Drg. No. T-3-3-704 | Railways and Production Units | A |
| 15 | Revised locations for fixing holes in buffer case to minimize cracking of head stock | RDSO SK – 94043 94044 | Production Units only. Railways to make new purchase as per revised drawing. | A |
| 16 | Provision of PVC flooring and aluminium chequered plate in doorways and gangways | | Railways and Production Units | A |
| 17 | Use of high performance grease viz Servogem - RR3 and Balmerol Multi-grease in roller bearing axle boxes | - | Railways and Production Units | - |
| 18 | Use of plastic axle guide bushes to STR - C-8215 (Rev.II) | RDSO SK - 84102 | Railways and Production Units | Spec. |
| 19 | Elimination of roof filling arrangement and provision of foot step and handle in lieu of ladder | RDSO SK - 90088 | Railways only | A |
| 20 | Interior colour scheme | RDSO SK - 90068 | Railways and Production Units | A |

| Sr. No. | Description of Modifications | Sketch / Drg. No. | Applicability | Category |
|---------|---|---|---------------------------------------|----------|
| 21 | Provision of FRP tissue on trough floor, sole bar, turn under and side wall | ICF Drg. No. ICF SK- 9-0-890 | Railways and Production Units | A |
| 22 | Modification to increase linen room capacity in 2tier AC coaches | RDSO SK - 88103 Alt.2 | Railways only | A |
| 23 | Modification of suspension of under slung water tank provided under AC Coaches | ICF Drg. No. WGFAC - 6- 3-208 (col II) WGFAC3 - 6- 3- 305 alt.'d' | Railways and Production Units | A |
| 24 | Strengthening of bogies frame for transom mounting of 4.5 KW alternator for 110 V. dc system | RDSO SK – 88062 | Railways and Production Units | A |
| 25 | Provision of wall type fans in the lavatories of AC coaches | - | Railways and Production Units | A |
| 26 | Modification for pad locking of body side door from inside of a coach | RDSO SK –87020 | Railways and Production Units | A |
| 27 | Provision of TRA type roof ventilators | ICF Drg. No. WLRRM4-7-3-402 alt. 'n' & WLRRM4-7-3-401 alt. 'g' | Railways and Production Units | A |
| 28 | Strengthening of partition wall between guard's lobby and luggage / brake van | ICF Drg. No. SLR - 9-0-001 | Railways and Production Units | A |
| 29 | Provision of wire rope arrangement below seats for luggage securing | ICF Drg. No. ICF/SK -6-1-234 | Railways and Production Units | A |
| 30 | Provision of aluminium chequered flooring in pantry portion, washing room and door ways of PCs. | RDSO SK – 85121 (existing), 85120 (new) | Railways and Production Units | A |
| 31 | Provision of safety partition on flaps on end berths at either end of AC Sleeper coaches | RDSO SK – 83014 alt. 1 | Completed, may be treated as standard | A |
| 32 | Provision of nylon wire net magazine pouches. | - | Railways and Production Units | A |
| 33 | Marking of 125 mm diagonal cross in fluorescent yellow paint and fitment of acrylic reflector in addition to existing tail lamp / board | RDSO SK – 85020 | Railways and Production Units | A |
| 34 | Provision of five additional safety bars on body side door windows | RDSO SK – 84162 | Railways and Production Units | A |
| 35 | Modification of body pillars for corrosion repair | RDSO SK – 76020 alt. 7 | Railways only | A |
| 36 | Provision of M24 bolt and nuts for fitment of bottom cover to the centre pivot flange with bent plate anti rotation of bolts | ICF Drg. No. ICF/ SK-1-1-135 and RDSO SK- 75108 alt. 1 | Railways and Production Units | A |
| 37 | Provision of four bars on window of body side wall of guard's portion of brake van | - | Railways and Production Units | A |
| 38 | Use of seamless pipe in air brake system | Spec. No. 04 ABR – 94, amendment Slip 4 | Railways and Production Units | Spec. |
| 39 | Modification in design of existing 13t. equalising stay & safety strap | RDSO SK – 88018 alt. 6 and SK – 97022 | Railways only | B |
| 40 | Provision of rubber stopper to maintain axle box crown clearance | RDSO SK – 97068 | Railways and Production Units | B |
| 41 | Provision of FRP frame glass shutter as alternative to aluminium shutter | ICF /SK- 5-4-094 and spec. C-9403 | Railways only | B |

| Sr. No. | Description of Modifications | Sketch / Drg. No. | Applicability | Category |
|---------|---|---|--|----------|
| 42 | Provision of FRP banjo shutter as alternative to aluminium shutter | ICF / SK-5-5-020 & Spec. C-9403 with amend. slip no. 1 & 2 | Railways only | B |
| 43 | Provision of UHMWPE/NFTC axle box packing | RDSO SK- 97072 & STR No. C-9703 | Railways only | B |
| 44 | Standardisation of seats and berths | RDSO SK- 97051, 97052, 97053, 97054 & 97055 | Production units only | B |
| 45 | Use of single piece FRP louvre shutter | RDSO SK- 97020 & STR C - 9403 with amend slip 1 & 2 | Railways and Production Units | B |
| 46 | Semi-permanent locking arrangement for unused vestibule doors | RDSO SK- 84179 & 84154 | Railways and Production Units (in vestibule with sliding doors) | B |
| 47 | Slack adjuster articulation arrangement in vacuum braked coaches | RDSO SK – 96102 alt. 1 | Railways only | B |
| 48 | Brake beam for air braked coaches & brake beam test procedure | RDSO SK - 82010 alt. 5 | Railways and Production Units | B |
| 49 | Modified design of brake head and brake shoe key for snug fitting of brake block. | RDSO SK - 94026 & 94027 | Railways and Production Units | B |
| 50 | Increased length of 30 mm of brake block hanger | RDSO SK- 93286 | Railways and Production Units | B |
| 51 | Modification to passenger alarm system in vacuum brake system | RDSO SK - 96040 | Railways only | B |
| 52 | Use of ventury type chute for lavatories | ICF / SK-6-3-324 | Railways and Production Units | B |
| 53 | Modification to safety strap for axle guide arrangement and axle box lug | RDSO SK - 90005 alt. 2 | Railways and Production Units | B |
| 54 | Provision of emergency openable window in non AC coaches | ICF Drg. No. DMU/DPC-5-4-002 | Production Units | B |
| 55 | Provision of closing piece and inspection door on sliding door pocket in luggage compartment of SLR / WLRRM coaches | ICF Drg. No. TLR-4 -2-717, SLR - 4-2-002, WLRRM -4-2-604 , WLRRM-4 -2-605 | Railways and Production Units | B |
| 56 | Provision of complete FRP window including window sill & guides | RDSO Spec. No. C-9502 | Railways and Production Units | C |
| 57 | Use of 12 mm. compreg flooring in place of 19 mm. plywood | STR C- 9407 type II | Railways and Production Units | C |
| 58 | Standardized stainless steel inlays for lavatories | ICF/STD-4 -1-002 | Production Units only. Railways in corrosion repair coaches | C |
| 59 | Fitment of UIC vestibule on coaches | Spec C-8812 rev. I RDSO Sk-88058, alt.5 & Sk-88059, alt. 5 | Railways and Production Units | C |
| 60 | Use of Nylon 66 bushes in brake gear with N5 finished Electro plated pins | RDSO SK-81039, 82023, 84018, 84116, 84132 and 93186 alt. 2 | Railways and Production Units | C |
| 61 | Safety wire rope arrangement for brake beam | RDSO SK- 93289, 93340 & 82010 | Railways and Production Units | C |

| Sr. No. | Description of Modifications | Sketch / Drg. No. | Applicability | Category |
|----------------|---|---|-------------------------------|-----------------|
| 62 | Use of high capacity buffer packs inside buffers of coaches | Spec. C- 9501 (Rev. I), SK- 96002 alt. 3 | Railways and Production Units | C |
| 63 | Fitment of enhanced screw coupling and draft gear | RDSO Sk- 79061 & Sk- 79067 | Railways and Production Units | C |
| 64 | Fitment of Emergency window in AC and Non AC coaches | RDSO-SK. 98161 (Alt.1), ICF/STD 3 -4-005, ICF/SK. 5-4 168 | Railways and Production Units | C |

APPENDIX D

LIST OF RDSO TECHNICAL PAMPHLETS

| S.No. | RDSO No. | Description |
|-------|----------|--|
| 01 | C-6803 | Maintenance and repair procedure for hydraulic shock absorbers used on coaching stock. |
| 02 | C-6904 | Instructions for repair of corroded ICF coaches BG |
| 03 | C-7103 | Instructions for examination and maintenance of bogies and undergear of coach nominated to run at sanctioned speed of 110 kmph (BG). |
| 04 | C-7301 | Direct admission valve for passenger coaches maintenance instructions. |
| 05 | C-7511 | Instructions for adjustment of buffer height of ICF built BG coaches in workshops and depots. |
| 06 | C-7512 | Hindi version of C-7511, adjustment of buffer height of ICF BG coaches. |
| 07 | C-7601 | Description of water raising apparatus and instructions for filling water in coaches fitted with under slung water tanks. |
| 08 | C-7602 | Instructions for corrosion repairs ICF built BG coaches. |
| 09 | C-7607 | Instructions for inspection, repair and manufacturing procedure for helical springs of ICF & BEML built coaches. |
| 10 | C-7703 | Instructions for inspection and maintenance of roller bearing axle boxes of BG/ICF bogies.. |
| 11 | C-7717 | Instructions for maintenance of axle box guide arrangement for mainline ICF built coaches (BG/MG) |
| 12 | C-7807 | Instruction for maintenance of bogie and under gear of Rajdhani express coaches (BG) (for shops and maintenance depots) |
| 13 | C-7808 | Hindi version of C-7807, maintenance of bogie and undergear of Rajdhani coaches. |
| 14 | C-7809 | Instruction for inspection, repair and manufacturing procedure for helical springs of ICF & Jessop's EMU stock. |
| 15 | C-7817 | Instructions for inspection and maintenance of direct mounted roller bearing axle boxes of BG/ICF bogies. |
| 16 | C-7901 | Maintenance and repair procedure of Gabriel vertical hydraulic shock absorber. |
| 17 | C-7902 | Hindi version of C-7901, maintenance and repair procedure Gabriel shock absorber. |
| 18 | C-7907 | Wheel and axle manual |
| 19 | C-8105 | Schedule of requirements for asbestos sheets roof ceiling of railway passenger coaches. |
| 20 | C-8107 | Schedule of requirements for nylon bush for brake gear for mainline coach. |
| 21 | C-8108 | Hindi version of C-8107, nylon bushes for coaches |
| 22 | C-8207 | Schedule of requirement for FRP Battery Box. |

| S.No. | RDSO No. | Description |
|-------|------------------|--|
| 23 | C-8211 | Schedule of requirements for rubberised coir cushion |
| 24 | C-8215 | Schedule of requirements for plastic guide bush for axle box guide of ICF/BG bogie (tentative) |
| 25 | C-8217 | Schedule and requirements for aluminum chequered sheets for use as flooring material on coaching stock. |
| 26 | C-8219 | Fibre glass reinforced plastic in railway coaches |
| 27 | C-8303 Rev. I | Technical specification for hot coiled helical springs used on main line coaches and EMU stock. |
| 28 | C-8305 | Anti-pilferage measures for compartment, lavatory and other coaching stock fittings. |
| 29 | C-8409 | Tentative schedule of requirements for sheet moulding compound to be used for manufacture of FRP products for passenger coaches. |
| 30 | C-8415 | Tentative schedule of requirements for FRP seat cum back tests of Indian railway coaches. |
| 31 | C-8419 Rev. I | Technical specification for hot coiled helical springs used on maintenance coaches & EMU stock. |
| 32 | C-8421 | Tentative schedule of requirements for FRP wall protector for bath room of coaching stock of IR (Sk. -83114) |
| 33 | C-8515 | Schedule of requirements for flexible PVC flooring for passenger coaches (tentative) |
| 34 | C-8517 | Schedule of requirements for anaerobic adhesive for use on coaching stock (tentative). |
| 35 | C-8518 | Hindi version of C-8517, anaerobic adhesive for use in coaches. |
| 36 | C-8519 | STR for air brake equipment for coaching stock. |
| 37 | C-8527 | Roller bearing specification |
| 38 | C-8531 | Particular specification for BG (1676 mm) all metal integral light weight self-generating Ist class air conditioned coaches. |
| 39 | C-8533 | Particular specification for BG all metal light weight coaches. |
| 40 | C-8605 | STR for nylon guide roller/wearing piece for retractable footplate |
| 41 | C-8606 | Hindi version of C-8605, nylon guide roller/wear piece for retractable foot plate. |
| 42 | C-8623 | STR for decorative thermosetting synthetic resin bonded laminated sheets. |
| 43 | C-8625 | Note on cleaning media for use in bearing cleaning plants. |
| 44 | C-8626 | Procedure for manual ARC welding of wear plates (IRS: R-65-78) |
| 45 | C-8629 | Report of committee on reduction of weight of coaches. |
| 46 | C-8703 | Specification for shock absorber. |
| 47 | C-8805 | Instructions for inspection/maintenance of air brake equipment on passenger coaches. |

| S.No. | RDSO No. | Description |
|--------------|-----------------|--|
| 48 | C-8812 | Schedule of requirements for UIC type elastomer flange connections for intercommunication between passenger coaches. |
| 49 | C-8903 | Schedule of requirement for hot cases operated by liquefied petroleum gas for installation in Rly. pantry cars. |
| 50 | C-8906 | Schedule of technical requirements for vestibule canvas cloth to be used in passenger coaches. |
| 51 | C-8910 | Schedule of technical requirements for direct admission valve. |
| 52 | C-8914 | Schedule of requirements for flexible load bearing polyurethane foam to be used in berth and seats of passenger coaches. |
| 53 | C-9001 | Procedure for laying PVC flooring in passenger coaches. |
| 54 | C-9005 | Water raising system and instruction for filling water for air braked coaches |
| 55 | C-9009 | Description of water raising system to SK-86209 and instructions for filling water for air braked coaches. |
| 56 | C-9011 | Quality assurance specification for 'L' type Ferrodo quality 89/24 composition brake blocks for passenger trains. |
| 57 | C-9019 | Schedule of technical requirement for water purifier. |
| 58 | C-9101 | Specification for electric train set. |
| 59 | C-9103 | Schedule of technical requirements for plastic sheets (filled PVC) for use in interior roof ceiling of passenger coaches. |
| 60 | C-9105 | Schedule of technical requirements for FRP axle box front covers for all coil ICF type bogies for passenger coaches (BG) |
| 61 | C-9121 | Schedule of requirements for push cock (tentative) |
| 62 | C-9123 | Schedule of requirements for plastic lavatory chute (tentative). |
| 63 | C-9125 | Schedule of requirements for plastic packing ring (tentative). |
| 64 | C-9202 | Technical specification for fabricated bogie frame/bolster for coaching stock. |
| 65 | C-9203 | Schedule of requirements for plastic brake gear bushes for passenger coaches (ACETAL) |
| 66 | C-9206 | Instructions for operation of air brake main line passenger trains (BG) |
| 67 | C-9210 | Specification for pipes and joints for Air braked coaches |
| 68 | C-9212 | Guide for approval of manufacturers for supply of bolster suspension hangers for main line coaches and EMU stock. |
| 69 | C-9213 | Guide for approval of manufactures for supply of screw couplings for main line coaches and wagon stock. |
| 70 | C-9303 | Schedule of technical requirements for air brake system for loco hauled main line passenger stock for operational speed of 160 kmph (tentative). |

| S.No. | RDSO No. | Description |
|--------------|-----------------|--|
| 71 | C-9307 | Schedule of technical requirements of axle end locking screw used in roller bearing axle box arrangement of ICF coaches. |
| 72 | C-9309-U | Specification for sliding plug doors for mainline coaching stock. |
| 73 | C-9313-U | Specification for side-buffer. |
| 74 | C-9314-U | Plywood specification for new Ac chair car |
| 75 | C-9318-U | Specification for test scheme for stress investigation in prototype new design of BG AC coach shell. |
| 76 | C-9319 | Schedule of technical requirements for development of interior roof ceiling sheet for passenger coaches. |
| 77 | C-9321 | Schedule of technical requirements for development of light weight transverse upper sleeping berth to be used in AC coaches. |
| 78 | C-9322 | Schedule of technical requirements for development of light weight partition walls to be used in AC coaches. |
| 79 | C-9403 | Schedule of technical requirements for fibre glass reinforced (SMC) glass window frames, lavatory banzo frames and louvre sheets for use in coaches. |
| 80 | C-9406 | Schedule of technical requirements for silent block for anchor link. |
| 81 | C-9407 | Schedule of technical requirements for compreg laminate. |
| 82 | C-9408 | Instructions for operation of air braked main line passenger trains (BG) Dec,94. |
| 83 | C-9501 | Rubber buffer spring of 1030 kg. m. capacity for side buffers of BG coaches. |
| 84 | C-9502 | Schedule of technical requirements for fibre glass reinforced (SMC) window guides and sills for use in coaches. |
| 85 | C-9503 | Schedule of requirements for upholstery cloth for coaching stock. |
| 86 | C-9505 | STR for high tensile steel screw coupling. |
| 87 | C-9509 | STR for alloy steel draw hook on Railway coaches. |
| 88 | C-9511 | Schedule of technical requirements for Natural Fibre Thermo-Set Composite (NFTC) sheets for roof ceiling of passenger coaches (tentative) |
| 89 | C-9601 | Tentative specification for Natural Fibre composite board for use in flooring in passenger. |

| S.No. | RDSO No. | Description |
|-------|----------|--|
| 90 | C-9602 | Schedule of technical requirements for decorative thermo setting synthetic resin bonded laminated sheets for use in coaching stock. |
| 91 | C-9702 | Instructions for maintenance of brake system of air braked coaches fitted with bogie mounted brake cylinders and 'K' type composition blocks. |
| 92 | C-9703 | Schedule of technical requirements of packing ring for axle box guide arrangement. |
| 93 | C-9704 | Schedule of technical requirements for polymerised floor topping compound for flooring of coaches. |
| 94 | C-9705 | Schedule of technical requirements for Ultra High Molecular Weight Polyethylene (UHMWPE) for use in Railway coaches. |
| 95 | C-9802 | Overhauling and testing of hose coupling of air brake system. |
| 96 | C-9803 | Schedule of technical requirements for rubber items used in air brake components for coaching stock. |
| 97 | C-9805 | Specification for flasher light for SLR (Brakes, luggage-cum-2nd class). |
| 98 | C-9807 | STR for friction snubber for primary suspension of Broad Gauge mainline ICF all coil bogie for operation at max. speed of 105 kmph. |
| 99 | C-9808 | Schedule of technical requirements for manufacture of brake block hanger. |
| 100 | C-9809 | Specification for non-asbestos based 'K' type high friction composition brake blocks for bogie mounted mainline coaches (both AC & Non-AC coaches) |
| 101 | C-9810 | Specification for asbestos based 'K' type high friction composition brake blocks for bogie mounted mainline coaches (both AC & non-AC) |
| 102 | C-9901 | STR for upholstery for Ist class AC coaches and executive class chair car of Satabdi express |
| 103 | C-9903 | Inspection and test scheme for primary suspension of BG (1676 mm) main line ICF all coil bogie (13 t axle) for operation of maximum speed of 150 kmph. |
| 104 | C-9904 | STR for insecticide paint for coach interiors (tentative) |
| 105 | C-9905 | STR for specially Treated Brake Pins (Alternative to Electroplating) |

| S.No. | RDSO No. | Description |
|--------------|--------------------------------|--|
| 106 | C-9906 | STR for controlled Discharge Toilets for Indian Railway coaches (BG) |
| 107 | C-9907 | Specification for L-type composition Brake block for main line coaches. |
| 108 | C-9908 | STR for Biological Toilets in Indian Railway coaches. |
| 109 | C-9911 | STR for fire retardant curtain fabric |
| 110 | C-9912 | Tentative specification Natural Fibre Reinforced Panels (NFRP) for use in Railway coaches. |
| 111 | C-K013 | Specification for Bogie mounted brake cylinder with inbuilt Slack adjuster for EMU and mainline passenger coaches. |
| 112 | CMI 9801 | Maintenance instructions for IRY coaches fitted with IR-20 bogies. |
| 113 | CMI 9901 | Maintenance Instructions for enhanced draw gear & screw coupling (BG) of mainline coaches. |
| 114 | CMI-K003 | Guidelines for interpretation of wheel defects in solid/tyred coaching/EMU wheels in open line and workshops. |
| 115 | G-92 | Maintenance manual for IRSA-600 slack adjuster. |
| 116 | G-97, Amnd. Slip 2, July, 2001 | Maintenance manual of Air brake System for freight stock. |
| 117 | M&C/PCN/101/2001 | Specification for cleaning solution. |
| 118 | 02-ABR-94 | Specification for Air Brake for freight & passenger stock of Indian Railways. |
| 119 | R-64/98 (Revised) | STR for upper and lower rubber washers for mail line coaches. |
| 120 | R-19/93 | Wheels |
| 121 | IRS – M-41 | Corrosion resistant high tensile strength steel (corton) |

APPENDIX E

**STANDARD INTEGRATED MODULAR PITLINE
FOR UNIFIED MAINTENANCE**

This has been separately issued as CAMTECH's document no.
CAMTECH/M/99/INFRA-WASHING LINE/1.1

(Please refer latest version)

APPENDIX F

MAINTENANCE SCHEDULES

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|------------|---|---------------------------------------|--|--|---|
| | | | ‘A’ | ‘B’ | ‘C’ |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 1.0 | Coach | | | | |
| 1.1 | Coach should be washed both from out side & inside. | | | | |
| 1.2 | Disinfect and spray insecticide at corner and crevices of coaches after washing all coaches | - | | | |
| 1.3 | Intensive cleaning of coach | - | | | |
| 2.0 | Shell | | | | |
| 2.1 | Visually check body panels/end walls for damages | | | | |
| 2.2 | Visually inspect destination boards brackets. | | | | |
| 2.3 | Visually inspect window bars for damage/missing | | | | |
| 2.4 | Examine body side doors for working/ damages | | | | |
| 2.5 | Inspect door handles for damages/missing | | | | |
| 2.6 | Inspect vestibule and its Rubber fittings for damages/missing, repair if necessary | | | | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|------------|---|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 2.7 | Visually check vestibule fall plate, mounting brackets, pins and lock lever for ease of operation, damages/ deficiency | | | | |
| 2.8 | Thoroughly clean and remove dust, rust accumulated at pillars through turn under holes with coir brush and compress air | - | - | - | |
| 2.9 | Examine for corrosion of sole bar and other under frame members with torch light or inspection lamp | - | - | - | |
| 2.10 | Touch up damaged paint both inside & outside | - | - | - | |
| 2.11 | Check roof ventilator for damages | - | - | - | |
| 3.0 | Under frame | | | | |
| 3.1 | Visually examine centre pivot mounting bolts and attend if needed | | | | |
| 3.2 | Check condition of head stock/sole bar | | | | |
| 3.3 | Examine trough floor, turn under and other under frame members from underneath for corrosion | - | - | | |
| 3.4 | Visually inspect centre pivot cover | | | | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|---------|---|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 4.0 | Bogie | | | | |
| 4.1 | <i>Bogie frame</i> | | | | |
| 4.1.1 | Examine visually the condition of bogie side frame, transom, longitudinals and all welded locations | | | | |
| 4.1.2 | Examine rubber stopper/stop screw of axle box crown for damage/missing/loose | | | | |
| 4.1.3 | Inspect axle box safety straps/loops for damage/broken/missing | | | | |
| 4.1.4 | Bolster safety straps/loops for damage/broken/missing | | | | |
| 4.1.5 | Brake hanger brackets for damages | | | | |
| 4.1.6 | Inspect safety brackets for brake hanger pins | | | | |
| 4.1.7 | Examine oil level in side bearer oil-bath and oil filling cap, replenish oil if needed | - | | | |
| 4.1.8 | Check visually BSS hanger brackets | | | | |
| 4.1.9 | Examine visually anchor link brackets | | | | |
| 4.1.10 | Examine condition of wearing piece and wearing plate | - | - | - | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|---------|--|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 4.2 | Primary suspension | | | | |
| 4.2.1 | Visually examine axle box springs for breakage | | | | |
| 4.2.2 | Visually examine dash pot oil filling special screw for deficiency | | | | |
| 4.2.3a | Check oil leakages in dash pot through defective seals/vent screws | | | | |
| 4.2.3b | Add specified grade of oil in dash pot | - | | | |
| 4.2.4 | Visually examine axle box clearance | | | | |
| 4.2.5 | Check and attend axle guide assembly if necessary | - | - | - | |
| 4.2.6 | Check axle box clearance with gauge | - | - | - | |
| 4.3 | Secondary suspension | | | | |
| 4.3.1 | Visually examine bolster springs breakages/damages | | | | |
| 4.3.2 | Visually examine Bolster lower spring beam | | | | |
| 4.3.3 | Visually examine BSS hangers, hanger blocks, BSS pins | | | | |
| 4.3.4 | Check bolster clearance | | | | |
| 4.3.5 | Visually examine equalising stay rods and pins (small and big) | | | | |
| 4.3.6 | Visually check anchor links | | | | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|------------|---|---------------------------------------|--|--|---|
| | | | ‘A’ | ‘B’ | ‘C’ |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 4.3.7 | Examine visually the anchor link securing bolts and attend if needed | | | | |
| 4.3.8 | Visually examine Equalising stay brackets | | | | |
| 4.3.9 | Examine and attend safety loops of bolster | | | | |
| 4.3.10 | Check and attend safety loops of Equalising stay rod | | | | |
| 4.3.11 | Examine vertical shock absorbers for damages | | | | |
| 4.4 | <i>Brake rigging</i> | | | | |
| 4.4.1 | Check brake gear and adjust so that the piston stroke is within the limit. | | | | |
| 4.4.2 | Examine brake beams breakages/damages | | | | |
| 4.4.3 | Check and attend brake beam safety wire ropes/safety straps | | | | |
| 4.4.4 | Check and attend brake shoe head and key & replace if necessary | | | | |
| 4.4.5 | Check and replace worn brake blocks | | | | |
| 4.4.6 | Visually inspect brake hangers, brake gear pins and cotters/split pins and replace if necessary | | | | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|------------|--|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 4.4.7 | Visually inspected damaged/missing brake gear bushes and replace if necessary | | | | |
| 4.4.8 | Check and attend brake block adjuster | - | | | |
| 4.4.9 | Examine and attend brake levers | - | | | |
| 4.4.10 | Examine and attend floating lever suspension brackets | - | | | |
| 4.4.11 | Examine lever hanger pins. | | | | |
| 4.5 | <i>Bogie to be run out if found necessary during IOH and following should be done:</i> | | | | |
| 4.5.1 | Examine and replace all the brake gear components found deficient / worn out | - | - | - | |
| 4.5.2 | Examine and replace primary and secondary suspension components as required | - | - | - | |
| 4.5.3 | Examine wheel profile and thickness and gauge if in case they appear to be near condemning limit | - | - | - | |
| 5.0 | Brake System | | | | |
| 5.1 | <i>Air brake system</i> | | | | |
| 5.1.1 | Conduct brake test as per rake test and attend leakages and defective components if any. | | | | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|---------|--|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 5.1.2 | Visually inspect for damage on brake pipe, feed pipe and hose coupling. | | | | |
| 5.1.3 | Visually inspect suspension bracket for air brake equipment and anti pilferage device for any defect and rectify | | | | |
| 5.1.4 | Check passenger alarm by pulling the chain with spring balance with 6.4 kg to 10 kg force | Minimum 3 coaches | | | |
| 5.1.5 | Carry out manual brake release test to ensure proper function of release lever | | | | |
| 5.1.6 | Check and adjust brake gear to achieve correct piston stroke | | | | |
| 5.1.7 | Service application, release test of every coach of the rake to ensure full brake power | | | | |
| 5.1.8 | Carry out guard van valve test to ensure proper functioning of guard van valve. | | | | |
| 5.1.9 | Examine slack adjuster for damage and mal functioning and subsequent replacement | | | | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|------------|---|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 5.2 | <i>Vacuum brake System</i> | | | | |
| 5.2.1 | Clean, grease and test alarm chain apparatus under full vacuum with spring balance and cleaning/checking of clappet valve for leakage | minimum 3 coaches | | | |
| 5.2.2 | Test entire vacuum brake system including slack adjuster and DA valve in a prescribed manner for leakage and proper functioning to ensure full brake power. | | | | |
| 5.2.3 | Conduct balance vacuum test for whole rake. | - | | | |
| 5.2.4 | Inspect train pipe and hose pipe including their cages, vacuum cylinders, siphon pipes for leakage | | | | |
| 5.2.5 | Attention to DA valve | - | | | |
| 5.2.6 | a) Testing of alarm chain apparatus | | | | |
| | b) Overhauling of alarm chain apparatus | - | - | | |
| 5.2.7 | Overhaul release valve, replace its diaphragm and sealing washer if necessary | - | - | | |
| 5.2.8 | Examine neck ring and replace if necessary | - | - | | |
| 5.2.9 | Test vacuum gauges with master gauges | - | - | - | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|------------|--|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 5.2.10 | Testing of cylinder and train pipe joints with exhauster under 510 mm of vacuum | - | | | |
| 6.0 | Draw gear | | | | |
| 6.1 | Check and replace damage/missing split pins/cotters/rivets | | | | |
| 6.2 | Examine draw hook, draw bars, rubber pads for damages | | | | |
| 6.3 | Check condition of the screw coupling and its components and replace if required. | | | | |
| 6.4 | Ensure that wear on screw coupling shackle pins, trunion pins, shackle/link holes and draw hook holes should not exceed 3mm. | - | - | - | |
| 6.5 | Ensure that wear at any section on draw hook should not exceed 10 mm. | - | - | - | |
| 6.6 | Check condition of draw beam and locating pins on it | | | | |
| 6.7 | Examine visually draft key locking pins | | | | |
| 7.0 | Buffing gear | | | | |
| 7.1a | Visually examine buffer plungers for damage/drooping/stroke length. | | | | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|---------|--|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 7.1b | Ensure the length is within 584-635 mm | - | - | - | |
| 7.2 | Inspect buffer plunger false plate for wear and profile | - | - | - | |
| 7.3 | Examine buffer mounting bolts and attend if necessary | | | | |
| 7.4 | Examine visually buffer casing for cracks/damages | | | | |
| 8.0 | Running gear | | | | |
| 8.1 | Examine visually axle box for grease oozing out, warm box if any | | | | |
| 8.2 | Visually examine wheel tyre profile and thickness of tyre and check with tyre profile gauge if they appear to be near condemning limit | | | | |
| 8.3 | Visually inspect axle box covers. | | | | |
| 8.4 | Check with wheel distance gauge for loose or tight wheel (IOH) | - | - | - | |
| 8.5 | Inspect wheel tread for shattered rim, spread rim, shelled tread, thermal cracks, heat checks | | | | |
| 8.6 | Examine axle pulleys on the wheels | - | - | - | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|-------------|---|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 9.0 | Seats and berths | | | | |
| 9.1 | Examine middle and upper berth chains | | | | |
| 9.2 | Examine the holding/securing brackets for seats and berths and attend if necessary | | | | |
| 9.3 | Examine snack tables for damages and rectify if necessary | | | | |
| 9.4 | Examine and repair damaged upholstery cushions and curtains | | | | |
| 9.5 | Examine reclining mechanism on chair cars for proper functioning and attend if necessary | - | | | |
| 9.6a | Wooden seats and frames should be cleaned | | | | |
| 9.6b | Disinfect the seats and frames. | - | | | |
| 9.7 | Cushion should be cleaned with duster. Oil or head stain and dirty spots if any should be cleaned with mild soap solutions and wipe dry | | | | |
| 10.0 | Doors | | | | |
| 10.1 | Examine doors for proper functioning and securing with hinge pivots. Doors should not graze with floor or door sill plates | | | | |

| Sr. No. | Particulars | | Schedule | | |
|-------------|--|---------------------------------------|--|--|---|
| | | Primary / Secondary examination | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 10.2 | Examine door locks, latches firmly secured with correct sized screws and properly/smoothly engaging in their slot. The tongue of gravity type latch should be in proper alignment with its slot plate. | | | | |
| 10.3 | Visually examine window shutters for smooth working and proper locking | | | | |
| 10.4 | Examine visually rolling shutters/sliding doors of vestibule for smooth working | | | | |
| 10.5 | Examine compartment sliding doors in AC first and ordinary first class coaches for smooth function | | | | |
| 10.6 | Thorough inspection and repair sliding doors in SLR coaches for easy and smooth operation. | | | | |
| 11.0 | Windows | | | | |
| 11.1 | Examine window shutters of non AC coaches for smooth movement in railing to prevent rattling and disengaging of catches on run | | | | |
| 11.2 | Window frame on non AC coaches should not be broken and its glass, gauze wire and venetian louver should be in proper condition | | | | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|-------------|--|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 11.3 | Check window balancing mechanism on non AC coaches for proper function | | | | |
| 11.4 | Examine window safety catches for proper engagement in their slots | | | | |
| 11.5 | Check lavatory banjo shutters for damage/missing | | | | |
| 11.6 | Examine window frame and rubber profile of sealed windows in AC coaches for damages and attend if needed | | | | |
| 11.7 | Window bars should be provided and fixed in prescribed manner and replaced if damaged | | | | |
| 11.8 | Examine sealed windows of AC coaches, replace broken/damaged glasses | | | | |
| 11.9 | Check the availability of emergency exits in AC and Non AC coaches. Examine and attend if necessary. | | | | |
| 12.0 | Flooring | | | | |
| 12.1 | Inspect and attend torn/damaged/cracked PVC flooring | - | - | - | |
| 12.2 | Examine and attend opened PVC joints | - | - | - | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|----------------------------|--|---------------------------------------|--|--|---|
| | | | 'A' | 'B' | 'C' |
| Frequency of Examination | | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| Maintenance to be done at: | | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 12.3 | Examine Drain holes in trough floor for accumulation of water due to clogging if noticed, inspect affected area for corrosion. | - | - | - | |
| 13.0 | Interior fittings | | | | |
| 13.1 | Examine laminated panels and mouldings for damage /cracks. | | | | |
| 13.2 | Visually inspect passenger amenity fittings, replace if found damaged/deficient | | | | |
| 13.3 | Examine door closer in AC coaches for proper function | | | | |
| 13.4 | Examine tower bolts of back rests in sleeper coaches for proper working | | | | |
| 13.5 | Examine visually curtain clothes in AC coaches attend if necessary | | | | |
| 13.6 | Examine ventilation grills for damages | | | | |
| 13.7 | Examine luggage racks/bunks for breakage | | | | |

| Sr. No. | Particulars | Primary / Secondary examination | Schedule | | |
|-------------|---|---------------------------------------|--|--|---|
| | | | ‘A’ | ‘B’ | ‘C’ |
| | Frequency of Examination | Primary / Secondary Maintenance | 1 month \pm 3 days | 3 months \pm 7 days | 6 months \pm 15 days |
| | Maintenance to be done at: | On rake | On rake at nominated primary depot | On rake at nominated primary depot | Sick line at nominated primary depot |
| 14.0 | Lavatory and lavatory fittings | | | | |
| 14.1 | Check lavatory hinge door for proper function | | | | |
| 14.2 | Examine lavatory door latches/ tower bolts for proper function | | | | |
| 14.3 | Examine push cock, flush valve for proper functioning. | | | | |
| 14.4 | Check and attend leakage in pipes, fittings and shower roses in lavatory | | | | |
| 14.5 | Clean drain grills and drain holes in bath room and wash basin if found choked. | | | | |
| 14.6 | Check and replace damaged/ missing mirrors/shelves/ soap dishes | | | | |
| 14.7 | Examine squatting pans and foot rest for damages | | | | |
| 14.8 | Intensive cleaning of lavatory pans and commode with cleaning agent. | - | | | |
| 14.9 | Thorough flushing of water tanks | - | - | | |

Appendix G

IOH FORMAT

COACH NUMBER

BASE STATION

TYPE

SERVICE

YEAR BUILT

MANUFACTURED BY

LAST POH

SCHEDULE-A

RETURN DATE

SCHEDULE-B

BOGIE DETAILS

| | ICV end | NICV end |
|------------------|---------|----------|
| Bogie No: | | |
| Year Built: | | |
| Manufactured By: | | |

DATE OF IOH

DATE OF RELEASE

SSE/IOH

SE/ JE/ IOH

BOGIE DETAILS

| DESCRIPTION | ICV END | NICV END | REMARKS |
|--|---|---|---------|
| Bogie frame condition | Cracked/ Worn out/ good | Cracked/ worn out / good | |
| Bolster | Cracked/ bent/ good/ renewed | Cracked/ bent/ good/ renewed | |
| Bolster suspension bracket | Cracked/corroded/good/renewed | Cracked/ corroded/good/renewed | |
| Lower spring seat | Cracked/ worn out/good/renewed | Cracked/ worn out/good/renewed | |
| Axle guide | Worn/misalign/good | Worn/misalign/good | |
| Axle guide cap/ modified/unmodified | Dropped /good/replaced/modified | Dropped/good/replaced/modified | |
| Axle guide assembly | Worn out/damaged/good/renewed | Worn out/damaged/good/renewed | |
| Guide bush | Worn out/good/renewed | Worn out/ good/renewed | |
| Packing rings rubber | Damaged/good/renewed | Damaged/good/renewed | |
| Protective tubes | Cracked/good/renewed | Cracked/good/renewed | |
| Equalizing stay | Bent/corooded/good/renewed/13/16 tonnes | Bent/corooded/good/renewed/13/16 tonnes | |
| Anchor links | Damaged/good/renewed | Damaged/good/renewed | |
| Bolster suspension hanger block | Gauged/good/renewed | Gauged/good/renewed | |
| Bolster suspension hanger pin | Gauged/good/renewed | Gauged/good/renewed | |
| Center pivot | Bolt loose/worn/good/renewed | Bolt loose/worn/good/renewed | |
| Center pivot silent block | Silent block damaged/renewed/good | Silent block damaged/renewed/good | |
| Side bearer | Damaged/good | Damaged/good | |
| Side wearing piece | Gauged/good/worn out/renewed | Gauged/good/worn out/renewed | |
| Side wearing plate | Gauged/good/worn out/renewed | Gauged/good/worn out/renewed | |
| Side bearer oil cup | Leaking/good/oil topped up | Leaking/good/oil topped up | |
| Vertical shock absorber | Damaged/good/renewed | Damaged/good/renewed | |
| Axle box safety strap | Missing/good/renewed | Missing /good/renewed | |
| Bolster safety strap | Missing /good/renewed | Missing /good/renewed | |
| Brake beam safety slings/wire ropes | Missing/worn out/good/renewed | Missing worn out/good/renewed | |
| Equalising stay safety bracket | Missing/bent/good/renewed | Missing/bent/good/ renewed | |

BOGIE ASSEMBLY-BRAKE GEAR

| DESCRIPTION | ICV END BOGIE | NICV END BOGIE | REMARKS |
|--------------------------------|---|---|---------|
| Brake beam | Damaged / bent / good / renewed / 13 tonnes / 16 tonnes | Damaged / bent / good / renewed / 13 tonnes / 16 tonnes | |
| Brake head | Damaged / good / renewed | Damaged / good / renewed | |
| Brake hanger | Damaged / good / renewed | Damaged / good / renewed | |
| Brake blocks | Good / Renewed / Ordinary / composite | Good / Renewed / Ordinary / composite | |
| Equalizing lever long | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Equalizing lever short | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Equalizing lever hanger | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Connecting rod | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Actuating rod | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Adjusting link | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Hanger bracket bushes | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Hanger bush | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Brake head bushes | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Collar bushes | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Sleeve bushes | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Equalizing lever bushes | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Pin No: 1 | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Pin No: 2 | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Pin No: 3 | Good / Damaged / worn out / renewed | Good / Damaged / worn out / renewed | |
| Hand brake | Good / Jammed / Eased | Good / Jammed / Eased | |

VACUUM BRAKE

VACUUM CYLINDER

| Position | Barrel serrations | Piston head serrations | Piston rod | Piston rod guide bush | Rolling ring | Neck ring | Joint ring | Balance vac. Brake test |
|-----------------|-----------------------|------------------------|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|
| ICV end | Good/worn out/renewed | Good/worn out/renewed | Good/bent/renewed | Good/worn out/renewed | Damaged/Good /renewed | Damaged/Good /renewed | Damaged/Good /renewed | Done/ Not done |
| NICV end | Good/worn out/renewed | Good/worn out/renewed | Good/bent/renewed | Good/worn out/renewed | Damaged/Good /renewed | Damaged/Good /renewed | Damaged/Good /renewed | Done / Not done |

DA VALVES

| Position | O.Ring | K.Ring | Diaphragm | Air admission valve | Non return valve | Filter | Body | Bench testing |
|----------|----------------|----------------|----------------|---------------------|------------------|-------------------|-------------------|-----------------|
| ICV end | Good / Renewed | Good / Renewed | Good / Renewed | Good / Renewed | Good / Renewed | Cleaned / Renewed | Damaged / Renewed | Done / Not done |
| NICV end | Good / Renewed | Good / Renewed | Good / Renewed | Good / Renewed | Good / Renewed | Cleaned / Renewed | Damaged / Renewed | Done / Not done |

RELEASE VALVE

| Position | R/Valve diaphragm | Seating washer | Release valve body | Release valve lever & pin | Triangular washer | Vacuum testing |
|-----------------|-------------------------|-------------------------|-------------------------|---------------------------|-------------------------|-----------------|
| ICV end | Good / Reused / Renewed | Good / Reused / Renewed | Good / Reused / Renewed | Good / Reused / Renewed | Good / Reused / Renewed | Done / Not done |
| NICV end | Good / Reused / Renewed | Good / Reused / Renewed | Good / Reused / Renewed | Good / Reused / Renewed | Good / Reused / Renewed | Done / Not done |

IC VALVE

| | |
|--------------------|--------------------------------|
| Spring | Broken / Weak / Good / Renewed |
| Lid | Missing / Good / Renewed |
| Washer | Damaged/ Good / Renewed |
| Step screw | Bent/ Weak / Good / Renewed |
| Bronze bush | Good / Renewed |

| BRAKE FITTINGS | ICV END | NICV END |
|----------------------------------|--------------------------------------|--------------------------------------|
| SAB | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Hose pipes & clips | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Siphon Pipes & clips | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Vacuum reservoir | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Train pipes | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Van Valves | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| SAB antivibration bracket | Missing / good / defective / renewed | Missing / good / defective / renewed |

**AIR BRAKE FITTINGS :
END**

| | ICV END | NICV END |
|--------------------------------------|-------------------------------------|-------------------------------------|
| Angle cocks | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Isolating cocks | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Dirt collectors | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| P.E.A.V. | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| P.E.A.S.D. | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Guard emergency valve | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Drain cocks | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Brake cylinders | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Bogie mounted brake cylinder | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Flexible hoses of BMBC | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Air reservoir | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Distributor valves | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Hose B.P. with palm end | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Hose F.P. with palm end | Defective / good / Renewed / tested | Defective / good / Renewed / tested |
| Train pipes – B.P. & F.P. | Defective / good / Renewed / tested | Defective / good / Renewed / tested |

BUFFING GEAR / DRAW GEAR

| Description | ICV END | NICV END |
|---------------------------------------|------------------------------------|------------------------------------|
| Buffer assembly | Examined / good / renewed | Examined / good / renewed |
| Buffer bolts | Examined / good / renewed | Examined / good / renewed |
| Buffer plunger | Examined / good / renewed | Examined / good / renewed |
| Buffer casing | Examined / good / renewed | Examined / good / renewed |
| Buffer spindle plug | Missing / good / renewed | Missing / good / renewed |
| Destruction tube | Damaged / corroded / good | Damaged / good |
| Draw bar assembly | Examined / good / renewed | Examined / good / renewed |
| Screw coupling | Damaged / missing / good / renewed | Damaged / missing / good / renewed |
| Screw coupling suspension hook | Examined / good / renewed | Examined / good / renewed |
| Draw bar guide | Worn out / good / renewed | Worn out / good / renewed |

UNDER FRAME

| | | |
|---------------------------------------|---------------------------|---------------------------|
| Head stock | Corroded / cracked / good | Corroded / cracked / good |
| Trough floor | Corroded / good | Corroded / good |
| Sole bar | Corroded / good | Corroded / good |
| Cross members | Corroded / good | Corroded / good |
| Diagonals | Corroded / good | Corroded / good |
| Main transom | Corroded / good | Corroded / good |
| Inner headstock | Corroded / good | Corroded / good |
| Train pipe and joints | Corroded / good | Corroded / good |
| Dummy carrier & dummy plug | Missing / good / Renewed | Missing / good / renewed |

CONDITION OF BOLSTER SPRINGS - ARRIVAL

| Bolster springs | 1 | 2 | 3 | 4 |
|------------------------|---------------|---------------|---------------|---------------|
| Left | Broken / good | Broken / good | Broken / good | Broken / good |
| Right | Broken / good | Broken / good | Broken / good | Broken / good |

CONDITION OF BOLSTER SPRINGS – AFTER IOH

| Bolster spring height | 1 | 2 | 3 | 4 |
|------------------------------|----------|----------|----------|----------|
| Left | | | | |
| Right | | | | |

AMENITY FITTINGS

| Items | | Remarks |
|----------------------------------|------------------------------------|---------|
| Mirrors | Missing / damaged / good / renewed | |
| Mirror shelves | Missing / damaged / good / renewed | |
| Commodes | Missing / damaged / good / renewed | |
| Squatting pans | Missing / damaged / good / renewed | |
| Commode seat & lid | Missing / damaged / good / renewed | |
| Commode chute | Missing / damaged / good / renewed | |
| Push cocks | Missing / damaged / good / renewed | |
| Flushing valves | Missing / damaged / good / renewed | |
| Turn over latches | Missing / damaged / good / renewed | |
| Tower bolts | Missing / damaged / good / renewed | |
| Shower rose | Missing / damaged / good / renewed | |
| Coat hooks | Missing / damaged / good / renewed | |
| Glass shutters | Missing / damaged / good / renewed | |
| Louver shutters | Missing / damaged / good / renewed | |
| Banjo shutter | Missing / damaged / good / renewed | |
| Safety latches | Missing / damaged / good / renewed | |
| Window bars | Missing / damaged / good / renewed | |
| Main door handles & latches | Missing / damaged / good / renewed | |
| Berths / back rest / seats | Missing / damaged / good / renewed | |
| Cushions | Missing / damaged / good / renewed | |
| Rexene | Missing / damaged / good / renewed | |
| Vestibules-UIC / conventional | Missing / damaged / good / renewed | |
| Vestibule fall plates | Missing / damaged / good / renewed | |
| Vestibule Door locking / latches | Missing / damaged / good / renewed | |
| Condition of exterior paint | Good / Shabby / Washed / Repainted | |
| Condition of interior painting | Good / Shabby / Washed / Repainted | |
| End body & roof painting | Good / Shabby / Washed / Repainted | |
| Emergency exit window | Not available/Available/Good | |

PROFORMA FOR SINGLE CAR TEST

COACH NO.

TYPE OF DV AND SL.NO:

BP PRESSURE:

FP PRESSURE:

| S.No. | Check | Specified | Actual |
|-------|---|---|--------|
| 1. | Leakage rate | | |
| | a) Brake pipe | 0.2 Kg/cm ² per minute (max.) | |
| | b) Feed pipe | 0.2 Kg/cm ² per minute (max.) | |
| 2. | a) Brake cylinder filling time (from 0 to 3.6 kg/cm ²) | 3 to 5 seconds | |
| | b) Maximum Brake cylinder pressure | 3.8 ± 0.1 Kg/cm ² | |
| 3. | Brake cylinder release time (3.8 to 0.4 Kg/cm ²) | 15 to 20 seconds | |
| 4. | Sensitivity & Insensitivity | | |
| | a) Brake application when brake pressure is reduced at the rate of 0.6 Kg/cm ² in 6 seconds | Brake should apply | |
| | b) Brake application when brake pressure is reduced at the rate of 0.3 Kg/cm ² in 60 seconds | Brake should not apply | |
| 5. | Emergency brake application and release | | |
| | a) Maximum brake cylinder pressure | 3.8 ± 0.1Kg/cm ² | |
| | b) Manual release of brake cylinder after emergency application | Brake cylinder should get fully released | |
| 6. | Graduated application and release | | |
| | a) Application | Brake pipe pressure decreases in steps and Brake cylinder pressure builds up in steps | |
| | b) Leakage in Brake cylinder pressure in 5 minutes after emergency application | 0.1 Kg/cm ² within 5 minutes | |
| | c) Release | Brake pipe pressure increases in steps and Brake cylinder pressure reduces in steps | |
| 7. | Piston stroke | 90+10mm | |

| S.No. | Check | Specified | Actual |
|-------|---|---|--------|
| 8. | Passenger alarm system | | |
| | a) Pull handle | (1) Air to exhaust from PEAV. (2) Brake should apply (3) Coach indication light should glow | |
| | b) Reset PEASD | Exhaust of air should stop and indication light should extinguish | |
| 9. | Guard's emergency valve test | | |
| | a) Pull valve handle | (1) Brake pipe air to exhaust. (2) Brake should apply | |
| | b) Normalise the handle | Air exhaust to stop | |
| | c) Testing of Brake pipe and Feed pipe in guard's compartment | Gauges should register variation in Brake pipe and Feed pipe. | |
| 10. | Dirt collector | Cleaned / Renewed | |