

LEVEL 3 MAINTENANCE RECORD SHEET (90 DAYS)
LVR F 047 - 044



| | | | | | | | | | |
|-------------------|--|------|--|-------------------|--|-------------------|--|----------------|--|
| Locomotive Number | | Date | | last service klms | | this service klms | | klms travelled | |
|-------------------|--|------|--|-------------------|--|-------------------|--|----------------|--|

| | | | |
|---------------------|-------------------------|--------------------|-------------------|
| A=UNFIT FOR SERVICE | B= FOR FUTURE ATTENTION | C= FIT FOR SERVICE | D= NOT APPLICABLE |
|---------------------|-------------------------|--------------------|-------------------|

| Checklist | | A | B | C | D | Comments/Remarks |
|--|---|---|---|---|---|------------------|
| 1 Scope | | | | | | see procedure |
| 2 General | | | | | | see procedure |
| 3 Safety first | | | | | | see procedure |
| 4 Cleaning | | | | | | |
| It is the responsibility of maintenance personnel to ensure cleaning of locomotive is to an acceptable standard | | | | | | |
| 1. | 4.1 Cab | | | | | |
| | all foreign materials to be removed from locomotive | | | | | |
| | clean and remove dirt dust grease and oil from cab | | | | | |
| | floors control stands walls and windows | | | | | |
| 2. | 4.2 Toilet | | | | | |
| | clean using suitable brush | | | | | |
| | ensure floor drains are not blocked | | | | | |
| | fill service water | | | | | |
| 3. | 4.3 Engine and fan room | | | | | |
| | all foreign materials to be removed from locomotive | | | | | |
| | clean and remove excessive dirt dust grease and oil from engine block floors walls and walkways | | | | | |
| | all cables components devices and equipment are to be clearly visible | | | | | |
| | 4.4 Battery boxes | | | | | |
| 4. | 4.5 Equipment blow out | | | | | |
| | remove covers and examine operation gen field switch off with engine running at idle blow out the following equipment with compressed air | | | | | |
| | control stands | | | | | |
| | compressor intercooler | | | | | |
| | electrical cabinet | | | | | |
| | vigilance control equipment | | | | | |
| | 4.6 Radiators | | | | | |
| | 4.7 Underneath locomotive | | | | | |
| 5. | 4.8 Main reservoir drain cocks | | | | | |
| | drain condensate from all dirt collectors intercoolers and reservoirs | | | | | |
| 5 Pre-inspection | | | | | | |
| 5.1 Defects examination | | | | | | |
| this is a general examination of locomotive cab/s generator room control compartment engine and fan room underframe equipment bogies and brake equipment to locate any broken loose or defective equipment | | | | | | |
| | 5.2 Samples and testing | | | | | |
| 6. | 5.4 Compressor lube oil sample | | | | | |
| 7. | 5.5 Cooling fan hydraulic oil sample (where required) | | | | | |
| 8. | 5.6 Engine coolant sample coolant concentration and conductivity test | | | | | |
| 9. | 5.7 Engine lube oil sample | | | | | |
| 10. | 5.9 Governor lube oil sample | | | | | |
| | 5.11 Engine and fan room | | | | | |
| 11. | 5.12 Assessment | | | | | |
| | examine | | | | | |

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| | all clamps for defects and security | | | | | |
| | engine main generator compressor mounting areas | | | | | |
| | engine room internally for fractures or other damage | | | | | |
| | radiator access ceiling panels for cracks dents and alignment | | | | | |
| 12. | 5.13 Cover hatches and seals | | | | | |
| | examine | | | | | |
| | air box and crankcase inspection covers and sealing surfaces | | | | | |
| | car body doors hatches and sealing surfaces secure | | | | | |
| 13. | 5.14 Cooling fan (where required) | | | | | |
| | examine with engine shut down | | | | | |
| | cooling fan condition and operation | | | | | |
| | drive couplings on cooling fan motor | | | | | |
| | drive couplings on hydraulic pump | | | | | |
| 14. | 5.16 Engine inspection | | | | | |
| | examine with engine shut down | | | | | |
| | cylinder test valves open to test for liquid accumulations in cylinder prior to starting engine | | | | | |
| | evidence of external fuel oil or water leaks from cover seals filters pipe connections pipe work or water pump | | | | | |
| 15. | 5.17 Engine noise inspection | | | | | |
| | examine operation with engine running at idle | | | | | |
| | engine compressor and engine accessories for unusual knocks odours sounds or vibration | | | | | |
| 5 Pre-inspection | | | | | | |
| 5.1 Defects examination | | | | | | |
| this is a general examination of locomotive cab/s generator room control compartment engine and fan room underframe equipment bogies and brake equipment to locate any broken loose or defective equipment | | | | | | |
| 16. | 5.18 Fuel oil water and exhaust leak inspection | | | | | |
| | examine operation with engine running at idle | | | | | |
| | exhaust leakage from manifold to block joints manifold connector clamps cracked or faulty stacks exhaust boxes and bellows | | | | | |
| | leaks on in return sight glass or suction side of fuel pump | | | | | |
| | lube oil leaks from drain pipes engine blowers filters gaskets oil coolers oil system pipe work turbos | | | | | |
| | water leaks from coolant tank pipe joint gaskets pipe work and water pump | | | | | |
| 17. | 5.20 Fuel injection lines | | | | | |
| | examine operation and condition of equipment | | | | | |
| | leakage and vibration | | | | | |
| 18. | 5.21 Fuel oil pressure | | | | | |
| | if fuel oil pressure entered into log book is below specification kpa (psi) or shows a rapid decline of pressure over a short period record for further attention | | | | | |
| 19. | 5.22 Low tension earths | | | | | |
| | examine operation with engine running at idle all equipment turned on test for low tension earths | | | | | |
| 20. | 5.24 Muffler box and spark arrestor | | | | | |
| | examine operation and condition of equipment | | | | | |

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|-----------|--|---|---|---|---|------------------|
| 21. | 5.25 Turbo/supercharger | | | | | |
| | examine operation and condition of equipment | | | | | |
| | if turbo/supercharger-blower pressure entered in log book is consistently below specification kpa (psi) record for further attention | | | | | |
| | 5.26 Generator room/control compartment | | | | | |
| 22. | 5.27 Assessment | | | | | |
| | examine operation and condition of equipment | | | | | |
| | all ht connections for signs of overheating and general condition | | | | | |
| | all lt connections for signs of overheating and general condition | | | | | |
| | all resistors for signs of overheating and general condition | | | | | |
| | condition and security of hasler current apparatus | | | | | |
| | condition of compartment door seals and locks | | | | | |
| | 5.28 Systems operation inspection | | | | | |
| 23. | 5.29 Support systems leakage inspection | | | | | |
| | examine operation gen field switch off with engine running at throttle notch 3 | | | | | |
| | 6 Drivers cab/generator room/control compartment | | | | | |
| | 6.1 Log book report | | | | | |
| | record any defects reported by the driver and entered in the locomotive log book for further attention | | | | | |
| | defects should be repaired prior to locomotive being released to service | | | | | |
| | 6.2 Cab | | | | | |
| 24. | 6.3 Automatic and independent brake valve | | | | | |
| | examine operation | | | | | |
| 25. | 6.4 Brake pedestal isolating cock | | | | | |
| | examine operation | | | | | |
| 26. | 6.5 Cab accessories | | | | | |
| | test operation and connections for tightness | | | | | |
| | cab fans heaters and hotplate | | | | | |
| 27. | 6.6 Controller and control stand (both sides) | | | | | |
| | remove covers and examine operation | | | | | |
| 28. | 6.7 Doors and windows | | | | | |
| | examine operation | | | | | |
| 29. | 6.8 Emergency shutdown | | | | | |
| | test operation | | | | | |
| 30. | 6.9 Fire extinguisher | | | | | |
| | examine condition | | | | | |
| | fire extinguishers inspection/date | | | | | |
| | fire extinguishers present and fully charged | | | | | |
| | stamp inspection tag to indicate inspection/date performed | | | | | |
| 31. | 6.11 Hand brake operation | | | | | |
| | remove covers and examine operation | | | | | |
| | lightly lubricate specification lubricant | | | | | |
| 32. | 6.12 Hasler speed recorder | | | | | |
| | remove covers and examine operation | | | | | |
| | set hands and wind clock | | | | | |
| | replace diagram roll if necessary | | | | | |
| 33. | 6.13 Hasler speed recorder | | | | | |
| | reduce brake pipe pressure to zero before closing instrument case after installing new diagram roll to ensure stylus is correctly positioned | | | | | |
| 34. | 6.14 Horns | | | | | |

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| | test operation and condition of equipment | | | | | |
| 35. | 6.15 Lights | | | | | |
| | test operation and condition of equipment | | | | | |
| | cab lights gauge lights | | | | | |
| | coupler lights headlights (high & low beam) marker lights number lights step lights | | | | | |
| 36. | 6.16 Miscellaneous controls | | | | | |
| | remove covers and examine operation | | | | | |
| | battery charging ammeter | | | | | |
| | engine control switch | | | | | |
| | start and stop buttons | | | | | |
| 37. | 6.17 Pressure gauges | | | | | |
| | examine operation and pressures | | | | | |
| | cross reference readings between two control stands | | | | | |
| 6 Drivers cab/generator room/control compartment | | | | | | |
| 6.1 Log book report | | | | | | |
| | record any defects reported by the driver and entered in the locomotive log book for further attention | | | | | |
| | defects should be repaired prior to locomotive being released to service | | | | | |
| 38. | 6.19 Sanders/de-sanders operation and sandpipe heights | | | | | |
| | test operation and condition of equipment each direction | | | | | |
| | service sand level | | | | | |
| 39. | 6.20 Train radio | | | | | |
| | test operation and condition of equipment | | | | | |
| 40. | 6.21 Vigilance control equipment | | | | | |
| | test operation and condition of equipment | | | | | |
| 41. | 6.22 Windscreen wipers | | | | | |
| | test operation and condition of equipment | | | | | |
| 6.23 Generator room/control compartment | | | | | | |
| 42. | 6.24 Assessment | | | | | |
| | examine | | | | | |
| | all ht connections for signs of overheating and general condition | | | | | |
| | all lt connections for signs of overheating and general condition | | | | | |
| | all resistors for signs of overheating and general condition | | | | | |
| | condition and security of hasler current apparatus | | | | | |
| | condition of compartment door seals and locks | | | | | |
| 43. | 6.25 Auxiliary contactors and relays | | | | | |
| | remove covers and examine operation | | | | | |
| | condition and cleanliness of equipment and all connections | | | | | |
| 44. | 6.26 Body side air filters | | | | | |
| | remove clean and replace/new filters if necessary | | | | | |
| 45. | 6.27 Charging rate | | | | | |
| | test operation and condition of equipment | | | | | |
| | auxiliary generator charging rate | | | | | |
| 46. | 6.28 Control air reservoir | | | | | |
| | examine operation full main reservoir air maintained | | | | | |
| | open drain cock on control air reservoir and blow any condensate from system | | | | | |
| 47. | 6.29 Electrical cabinet doors and seals | | | | | |
| | examine operation | | | | | |

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| 48. | 6.30 Electro-magnetic contactors | | | | | |
| | ensure battery switch is open when cleaning filing or operating electromagnetic contactors | | | | | |
| | remove covers and examine operation | | | | | |
| 49. | 6.31 Electro-pneumatic contactors | | | | | |
| | remove covers and examine operation | | | | | |
| 50. | 6.32 Exciter and auxiliary generator drive shaft (main alternator and auxiliary alternator where required) | | | | | |
| | examine | | | | | |
| | auxiliary generator drive shaft coupling bushings and bolts for evidence of fatigue | | | | | |
| 51. | 6.33 Exciter and auxiliary generator coupling (main alternator and auxiliary alternator where required) | | | | | |
| | examine | | | | | |
| | auxiliary generator coupling flexible coupling plate for evidence of fatigue | | | | | |
| 52. | 6.34 Exciter and auxiliary generator (main alternator and auxiliary alternator where required) | | | | | |
| | remove machine covers and examine operation | | | | | |
| | replace any brushes which are broken or worn | | | | | |
| | examine waste sump and remove any foreign matter which may result in a blockage of drain pipe | | | | | |
| | 6.23 Generator room/control compartment | | | | | |
| 53. | 6.35 Motors (auxiliary equipment where required) | | | | | |
| | remove covers and examine condition | | | | | |
| | drive couplings for wear or other damage | | | | | |
| | replace any brushes which are broken or worn | | | | | |
| 54. | 6.36 Miscellaneous | | | | | |
| | examine | | | | | |
| | all magnet valves | | | | | |
| | all pressure switches | | | | | |
| 55. | 6.37 Reverser switch | | | | | |
| | remove covers and examine operation | | | | | |
| 56. | 6.38 Traction generator | | | | | |
| | remove machine covers and examine operation | | | | | |
| | replace any brushes which are broken or worn | | | | | |
| | examine waste sump and remove any foreign matter which may result in a blockage of drain pipe | | | | | |
| | 6.39 Systems operation inspection motors (and auxiliary equipment) | | | | | |
| | 6.40 Systems operation inspection motors (and auxiliary equipment) | | | | | |
| 7 Engine and fan room | | | | | | |
| 57. | 7.1 Assessment | | | | | |
| | examine | | | | | |
| | all clamps for defects and security | | | | | |
| | engine main generator compressor mounting areas | | | | | |
| | engine room internally for fractures or other damage | | | | | |
| | radiator access ceiling panels for cracks dents and alignment | | | | | |
| 58. | 7.2 Air vane | | | | | |
| | test operation with engine running at idle | | | | | |
| 59. | 7.3 Air strainers | | | | | |
| | remove clean and replace | | | | | |
| | air strainers in compressor governor control air vigilance control whistle valve and sanders | | | | | |

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|-----------|---|---|---|---|---|------------------|
| 60. | 7.4 Batteries | | | | | |
| | examine operation and condition of equipment | | | | | |
| | battery box assembly mounting for security | | | | | |
| | examine leads and clean terminals | | | | | |
| | conduct battery condition discharge test | | | | | |
| | maintain water level above splash barrier 1/2" (12mm) | | | | | |
| 61. | 7.5 Body side air filters | | | | | |
| | remove clean and replace/new filters if necessary | | | | | |
| 62. | 7.6 Compressor | | | | | |
| | remove covers and examine operation with engine shut down | | | | | |
| | drive couplings on compressor motor | | | | | |
| | lube oil level | | | | | |
| | add specification lubricant if necessary | | | | | |
| 63. | 7.7 Compressor | | | | | |
| | remove covers and examine operation with engine running at idle compressor running | | | | | |
| | airlines and safety valves for damage or indications of air or oil leaks | | | | | |
| | compressor intercooler gauge specification kpa | | | | | |
| 64. | 7.8 Compressor air intake filters | | | | | |
| | remove clean and replace/new filters if necessary | | | | | |
| 65. | 7.9 Compressor breather | | | | | |
| | remove and replace | | | | | |
| | examine condition of diaphragm/ replace if necessary | | | | | |
| | 7.10 Compressor crankcase | | | | | |
| 66. | 7.11 Compressor drive | | | | | |
| | examine operation and condition of equipment | | | | | |
| | compressor drive coupling for wear or other damage | | | | | |
| | 7 Engine and fan room | | | | | |
| 67. | 7.12 Compressor governor | | | | | |
| | examine operation and condition of equipment | | | | | |
| | clean and drain compressor governor | | | | | |
| | adjust pressure settings | | | | | |
| | drain compressor governor and adjust pressure setting to regulate between specification kpa (psi) 115-125psi (800-860kpa) | | | | | |
| 68. | 7.13 Compressor intercooler/intercooler safety valve | | | | | |
| | examine operation and condition of equipment | | | | | |
| | drain condensate | | | | | |
| | operate intercooler safety valve ensure function/operation | | | | | |
| | 7.14 Compressor lube oil | | | | | |
| 69. | 7.15 Compressor lube oil pressure indicator | | | | | |
| | remove covers and examine operation of indicator or gauge with engine running at idle compressor running | | | | | |
| | gauge reading specification kpa (psi) | | | | | |
| | 7.16 Compressor orifice test | | | | | |
| | 7.17 Compressor unloaders valves and safety valves | | | | | |
| 70. | 7.18 Cooling fan (where required) | | | | | |
| | examine operation with engine shut down | | | | | |

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|-----------|--|---|---|---|---|------------------|
| | lubricate bearings if necessary specification lubricant | | | | | |
| | hydraulic oil level | | | | | |
| | add specification hydraulic oil if necessary | | | | | |
| | 7.25 Cooling fan hydraulic oil by-pass filter (where required) | | | | | |
| | 7.26 Cooling fan hydraulic oil full-flow filter (where required) | | | | | |
| 71. | 7.27 Crankcase crankshaft and lube oil level inspection | | | | | |
| | examine operation and condition of equipment | | | | | |
| | lube oil level | | | | | |
| | add specification lubricant if necessary | | | | | |
| 72. | 7.28 Crankcase breather | | | | | |
| | remove clean and replace | | | | | |
| | 7 Engine and fan room | | | | | |
| 73. | 7.35 Engine air filters and filter minder | | | | | |
| | examine operation and condition of equipment | | | | | |
| | replace filters if necessary | | | | | |
| 74. | 7.36 Engine air filters and filter minder filter indicator | | | | | |
| | examine operation and condition of equipment | | | | | |
| | filter minder for indication of engine air filter service indicator | | | | | |
| | 7.38 Engine valve rotators | | | | | |
| | 7.39 Engine valve settings | | | | | |
| 75. | 7.42 Exhaust stack/spark arrestor | | | | | |
| | examine operation and condition of equipment | | | | | |
| 76. | 7.43 Fuel oil filters primary and secondary | | | | | |
| | remove clean and replace | | | | | |
| | clean strainer with suitable cleaning agent | | | | | |
| | examine for leaks and fuel pressure is in correct range | | | | | |
| 77. | 7.44 Fuel oil filters primary and secondary | | | | | |
| | remove clean and replace | | | | | |
| | replace filters | | | | | |
| | examine for leaks and fuel pressure is in correct range | | | | | |
| 78. | 7.46 Fuel oil pump drive coupling (where required) | | | | | |
| | examine operation and condition of equipment | | | | | |
| | fuel oil pump drive coupling for wear or other damage | | | | | |
| 79. | 7.47 Fuel oil pump crankcase exhaustor and starter motors | | | | | |
| | remove covers and examine condition | | | | | |
| | replace any brushes which are broken or worn | | | | | |
| | 7 Engine and fan room | | | | | |
| | 7.50 Governor | | | | | |
| 80. | 7.51 Governor | | | | | |
| | remove covers and examine operation with engine running at idle | | | | | |
| | lube oil level | | | | | |
| | add specification lubricant if necessary | | | | | |
| 81. | 7.53 Holding down bolts | | | | | |
| | examine mountings for broken damaged or loose bolts and dowels tightness | | | | | |
| 82. | 7.54 Hoses | | | | | |
| | examine operation and condition of equipment | | | | | |

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| | replace if necessary | | | | | |
| 83. | 7.55 Hydraulic system (where required) | | | | | |
| | examine operation and condition of equipment | | | | | |
| | hydraulic system for leaks | | | | | |
| 84. | 7.58 Lube oil filters | | | | | |
| | remove covers and examine operation | | | | | |
| | replace lube oil filters | | | | | |
| | examine for leaks and lube pressure is in correct range | | | | | |
| 85. | 7.59 Lube oil filter separator screen | | | | | |
| | remove clean and replace lube oil filter separator screen | | | | | |
| | examine for leaks and lube pressure is in correct range | | | | | |
| 86. | 7.60 Lube oil pressure | | | | | |
| | examine operation with engine running at idle | | | | | |
| | reading is above 30Psi (207kPa) | | | | | |
| | gauge reading idle | | | | | |
| | specification kpa (psi) | | | | | |
| | gauge reading throttle notch 8 | | | | | |
| | specification kpa (psi) | | | | | |
| 87. | 7.61 Lube oil strainer | | | | | |
| | remove clean and replace lube oil strainer | | | | | |
| | 7 Engine and fan room | | | | | |
| 88. | 7.62 Miscellaneous | | | | | |
| | remove covers and examine operation | | | | | |
| | all magnet valves in engine room and fan room including de-sanding magnet valves | | | | | |
| | all temperature thermometer and thermostatic switches in engine room | | | | | |
| | low water cut out switch and float switch | | | | | |
| | pressure switch in engine room | | | | | |
| 89. | 7.63 Muffler box and spark arrestor | | | | | |
| | examine operation and condition of equipment | | | | | |
| 90. | 7.64 Muffler box drains | | | | | |
| | examine operation and condition of equipment | | | | | |
| | remove muffler box drain pipe | | | | | |
| | ensure pipe and connection are clear | | | | | |
| | drain residue | | | | | |
| | 7.65 Piston connecting rod and cylinder liner inspection | | | | | |
| | 7.66 Piston cooling pipes | | | | | |
| 91. | 7.67 Traction motor blower rotor/impeller | | | | | |
| | remove covers and examine operation | | | | | |
| | remove any deposits from rotor/impeller with clean lint free cloth | | | | | |
| 92. | 7.68 Traction motor blower rotor/impeller bearings belt condition and tension | | | | | |
| | remove covers and examine operation | | | | | |
| | traction motor blower rotor/impeller condition and operation | | | | | |
| | idler/jockey pulley bearings add specification lubricant if necessary | | | | | |
| | shaft bearing housing add specification lubricant if necessary | | | | | |
| | traction motor blower belts | | | | | |
| | depress belts one at a time in center | | | | | |
| | correct belts tension | | | | | |

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| | 7.69 Traction motor blower Spicer shaft | | | | | |
| 93. | 7.70 Traction motor cooling duct air flow | | | | | |
| | examine operation with engine running at idle | | | | | |
| | traction motor cooling duct positive air flow | | | | | |
| 94. | 7.73 Waste removal and waste sumps | | | | | |
| | ensure all waste sumps (bilge) are clear and drained | | | | | |
| 8 Underneath locomotive | | | | | | |
| 95. | 8.4 Air reservoir drain cocks | | | | | |
| | examine operation and condition of equipment | | | | | |
| | drain condensate from all dirt collectors intercoolers and reservoirs | | | | | |
| 96. | 8.5 Automatic couplers and draft gear | | | | | |
| | examine condition adjustment and operation | | | | | |
| 97. | 8.6 Axle box pedestal liner clearance | | | | | |
| | examine operation and condition of equipment | | | | | |
| | longitudinal clearances specification clearances | | | | | |
| 98. | 8.7 Axle box roller bearing | | | | | |
| | examine operation and condition of equipment | | | | | |
| | axle box bearing lubricate date bearing package unit installation date | | | | | |
| | housings for external cracks lubricant leakage or other damage | | | | | |
| | wear liners for cracks broken or cracked welds or wear | | | | | |
| 99. | 8.8 Bogie assembly | | | | | |
| | examine operation and condition of equipment | | | | | |
| | bogie code number and lift due date clearly painted on side frames | | | | | |
| | all bogie assembly components side frames stop plates transoms and buffer plates brake cylinder mounting pads for defects or fractures freedom of movement security and wear | | | | | |
| | bolster assembly buffer plates side bearers spring pockets for defects or fractures security and wear | | | | | |
| | equalising beams pins bushes and split pins for defects or fractures security and wear | | | | | |
| 100. | 8.9 Bogie centre bearing plates and loading pads | | | | | |
| | examine operation and condition of equipment | | | | | |
| | loading pads wear ring thrust plate dust guards and drain | | | | | |
| | centre bearing castings and drain | | | | | |
| | add specification lubricant if necessary to filler aperture | | | | | |
| 101. | 8.10 Bogie mounted shock absorbers/vibration dampers | | | | | |
| | examine operation and condition of equipment | | | | | |
| | assembly mounting for security | | | | | |
| | vertical transom dampers clevis rods for condition and leakage | | | | | |
| | lateral bolster dampers for condition and leakage | | | | | |
| | all rubbers security and wear | | | | | |
| 8 Underneath locomotive | | | | | | |
| 102. | 8.11 Brake block condition | | | | | |
| | examine operation and condition of equipment | | | | | |
| 103. | 8.12 Brake cylinders/slack adjusters-hand slack adjusters | | | | | |
| | examine operation and condition of equipment | | | | | |

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|-----------|--|---|---|---|---|------------------|
| | assembly mounting for security | | | | | |
| | lubricate all brake cylinders/slack adjusters-hand slack adjusters with grease gun specification lubricant (or into each end gland) | | | | | |
| 104. | 8.13 Brake cylinder piston travel | | | | | |
| | examine operation and condition of equipment | | | | | |
| | set brake piston travel | | | | | |
| 105. | 8.14 Brake rigging | | | | | |
| | examine operation and condition of equipment | | | | | |
| 106. | 8.16 Distributing valve | | | | | |
| | examine operation | | | | | |
| | distributor valve/triple valve 'tv' due date | | | | | |
| | distributor valve/triple valve assembly mounting for security | | | | | |
| | clean and lubricate specification lubricant | | | | | |
| | centrifugal dirt collector/dust strainer | | | | | |
| | clean collector/ strainer new gasket if required | | | | | |
| | operation and release | | | | | |
| 107. | 8.17 Fuel tank examination | | | | | |
| | examine operation and condition of equipment | | | | | |
| | drain condensation from fuel tank | | | | | |
| | record fuel level | | | | | |
| | ltrs | | | | | |
| 108. | 8.18 Hasler speed recorder transmitter | | | | | |
| | remove covers and examine condition | | | | | |
| | replace any brushes which are broken or worn | | | | | |
| | lubricate transmitter cable and drive specification lubricant | | | | | |
| 109. | 8.19 Holding down bolts | | | | | |
| | examine mountings for broken damaged or loose bolts and dowels tightness | | | | | |
| | air reservoir tank/s | | | | | |
| | fuel tank | | | | | |
| 110. | 8.20 Jumpers and jumper receptacles | | | | | |
| | examine operation and condition of equipment | | | | | |
| 111. | 8.24 Traction motors | | | | | |
| | remove machine covers and examine operation | | | | | |
| | replace any brushes which are broken or worn | | | | | |
| 112. | 8.25 Traction motor axle journal dust shields | | | | | |
| | examine condition | | | | | |
| 113. | 8.26 Traction motor cooling air bellows | | | | | |
| | examine condition | | | | | |
| 114. | 8.27 Traction motor gear case and seal | | | | | |
| | examine condition | | | | | |
| 115. | 8.28 Traction motor gear case lubricant drain | | | | | |
| | examine | | | | | |
| | 8 Underneath locomotive | | | | | |
| 116. | 8.29 Traction motor gear case lubricant levels | | | | | |
| | examine | | | | | |
| | add specification lubricant if necessary maintain heavy film on gear teeth | | | | | |
| 117. | 8.30 Traction motor nose suspension | | | | | |
| | examine condition | | | | | |
| 118. | 8.32 Traction motor suspension bearing oil level | | | | | |
| | examine | | | | | |
| | drain condensation from suspension bearing wells | | | | | |
| | fill sump to correct level specification lubricant | | | | | |
| 119. | 8.36 Under frame | | | | | |

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LEVEL 3 MAINTENANCE RECORD SHEET (90 DAYS)
LVR F 047 - 044



| Checklist | | A | B | C | D | Comments/Remarks |
|-----------|--|---|---|---|---|------------------|
| | examine condition | | | | | |
| 120. | 8.37 Wheel examination | | | | | Form |
| | examine condition | | | | | |
| | 9 General with engine shutdown | | | | | |
| | 9.1 Engine and fan room | | | | | |
| 121. | 9.2 Governor low lube alarm | | | | | |
| | test operation | | | | | |
| 122. | 9.3 Low tension earth | | | | | |
| | test operation | | | | | |
| | battery switch closed all circuit breakers and switches closed | | | | | |
| | test both sides of switch for low tension earth fault | | | | | |
| 123. | 9.4 Megger test | | | | | |
| | test operation | | | | | |
| | open and inspect ground relay cut out knife switch | | | | | |
| | test high tension system | | | | | |
| 124. | 9.5 Propulsion control test | | | | | |
| | test operation | | | | | |
| 125. | 9.6 Manual transition test | | | | | |
| | test operation | | | | | |
| | manually operate relay/s | | | | | |
| | 10 General with engine running | | | | | |
| 126. | 10.1 Assessment | | | | | |
| | examine operation with engine running at idle | | | | | |
| | all fuel line assemblies for fuel leaks | | | | | |
| | any obvious fuel oil or water leaks | | | | | |
| | lubrication oil is being supplied to camshaft bearings valve assemblies and rocker gear | | | | | |
| | mechanical components are receiving lubrication | | | | | |
| | obvious unusual knocks odours sounds or vibration from compressor engine or generator | | | | | |
| | 10.2 Assessment | | | | | |
| 127. | 10.3 Cover hatches and seals | | | | | |
| | examine operation with engine running at throttle notch eight | | | | | |
| | air box and crankcase inspection covers and sealing surfaces | | | | | |
| | car body doors hatches and sealing surfaces secure | | | | | |
| | 10.4 Assessment | | | | | |
| 128. | 10.5 Engine inspection | | | | | |
| | examine operation with engine running at idle | | | | | |
| | evidence of external fuel oil or water leaks from cover seals filters pipe connections pipe work or water pump | | | | | |
| 129. | 10.6 Engine noise inspection | | | | | |
| | examine operation with engine running at idle | | | | | |
| | engine compressor and engine accessories for unusual knocks odours sounds or vibration | | | | | |
| 130. | 10.7 Fuel oil water and exhaust leak inspection | | | | | |
| | examine operation with engine running at throttle notch eight | | | | | |
| | exhaust leakage from manifold to block joints manifold connector clamps cracked or faulty stacks exhaust boxes and bellows | | | | | |
| | leaks on in return sight glass or suction side of fuel pump | | | | | |
| | lube oil leaks from drain pipes engine blowers filters | | | | | |

LEVEL 3 MAINTENANCE RECORD SHEET (90 DAYS)
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| Checklist | | A | B | C | D | Comments/Remarks |
|-----------|---|---|---|---|---|------------------|
| | gaskets oil coolers oil system pipe work turbos | | | | | |
| | water leaks from coolant tank pipe joint gaskets pipe work and water pump | | | | | |
| 131. | 10.8 Brake cylinder pressure switch | | | | | |
| | test operation | | | | | |
| 132. | 10.9 Compressor operation | | | | | |
| | examine operation with engine running at idle main reservoir pressure stable between 110-120psi (750- 850kpa) | | | | | |
| | ensure it takes no longer than 40 seconds to pump between pressures | | | | | |
| 133. | 10.10 Engine coolant | | | | | |
| | examine coolant level in tank | | | | | |
| | add or drain specification coolant if necessary | | | | | |
| | maintain level to full engine dead or full engine running mark on sight glass | | | | | |
| | gauge reading green band specification temperature | | | | | |
| 134. | 10.13 Engine coolant temperature regulators | | | | | |
| | examine coolant level in tank | | | | | |
| | examine coolant temperature at specification temperature | | | | | |
| | 10 General with engine running | | | | | |
| 135. | 10.14 Engine lube oil level | | | | | |
| | examine operation with engine running at idle at temperature | | | | | |
| | maintain level to high mark on bayonet gauge add or drain specification lubricant if necessary | | | | | |
| 136. | 10.15 Engine lube oil pressure | | | | | |
| | examine operation with engine running at idle reading is above 30Psi (207kPa) | | | | | |
| 137. | 10.16 Engine speeds | | | | | |
| | test operation with engine running at idle | | | | | |
| 138. | 10.17 Engine over-speed trip | | | | | |
| | test operation with engine running at idle | | | | | |
| 139. | 10.18 Fuel oil pressure | | | | | |
| | gauge reading green band specification kpa (psi) | | | | | |
| 140. | 10.19 Governor | | | | | |
| | remove covers and examine operation with engine running at idle | | | | | |
| | examine lube oil level add specification lubricant if necessary | | | | | |
| 141. | 10.20 Ground relay | | | | | |
| | test operation with engine running at idle | | | | | |
| 142. | 10.21 Hot engine alarm and fan controls | | | | | |
| | test operation with engine running at idle | | | | | |
| 143. | 10.22 Low lube oil shutdown | | | | | |
| | test operation with engine running at idle | | | | | |
| 144. | 10.23 Low water alarm | | | | | |
| | test operation with engine running at idle | | | | | |
| 145. | 10.24 Low tension voltage | | | | | |
| | test operation with engine running at idle | | | | | |
| 146. | 10.25 Wheel slip | | | | | |
| | test operation with engine running at idle air brakes and hand brake applied | | | | | |
| | 11 Operation check | | | | | |
| | observing all safety requirements examine operation of | | | | | |

LEVEL 3 MAINTENANCE RECORD SHEET (90 DAYS)
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| Checklist | | A | B | C | D | Comments/Remarks |
|------------------------|--|---|---|---|---|------------------|
| locomotive controls | | | | | | |
| | 11.1 Cab | | | | | |
| 147. | 11.4 Vigilance control equipment | | | | | |
| | test operation | | | | | |
| | 11.5 Engine and fan room | | | | | |
| 148. | 11.6 Ground relay test | | | | | |
| | test operation | | | | | |
| 149. | 11.7 Seals | | | | | |
| | remove and replace | | | | | |
| | open and inspect ground relay cut out knife switch | | | | | |
| | close and seal ground relay cut out knife switch | | | | | |
| | standard lead seal and sealing pliers | | | | | |
| | seal vigilance control box | | | | | |
| 150. | 11.8 Transition test | | | | | |
| | test operation | | | | | |
| 151. | 11.9 Wheel slip test | | | | | |
| | test operation | | | | | |
| | 11.10 Underneath locomotive | | | | | |
| 152. | 11.11 Air brake operation | | | | | Form |
| | test operation | | | | | |
| | perform air brake system operation test (safety air brake test) | | | | | |
| 153. | 11.12 Emergency kit | | | | | |
| | ensure complete | | | | | |
| 12 Final running check | | | | | | |
| 154. | examine operation of locomotive | | | | | |
| 155. | ensure all replaced brushes are bedded in (noted on maintenance record sheets) | | | | | |
| 156. | all foreign materials to be removed from locomotive (e.g. paper rags tools) | | | | | |
| 157. | all covers correctly positioned | | | | | |
| 158. | all locomotive doors closed | | | | | |
| 159. | emergency kit complete | | | | | |
| 160. | relevant documentation completed | | | | | |
| 161. | 12.1 Inspections/maintenance due date/s | | | | | |
| | axle box bearing lubricate date bearing package unit installation date | | | | | Record date |
| | bogie code number and lift due date clearly painted on side frames | | | | | Record date |
| | brake cylinder lubricate date 'bc' due date | | | | | Record date |
| | distributor valve/triple valve 'tv' due date | | | | | Record date |
| | fire extinguishers inspection/date | | | | | Record date |

Details of other repairs carried out
