

LEVEL 4 MAINTENANCE RECORD SHEET (180 DAYS)

LVR F 047 – 045



Locomotive Number		Date		last service klms		this service klms		klms travelled	
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A=UNFIT FOR SERVICE	B= FOR FUTURE ATTENTION	C= FIT FOR SERVICE	D= NOT APPLICABLE
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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.	4.4 Battery boxes					
	wash out using soda and hot water					
5.	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					
	motors (fuel oil pump crankcase exhaustor and					
	starter)					
	motors (auxiliary equipment)					
	auxiliary alternators/generators					
	alternator slip rings examine for sparking					
	traction generator					
	traction motors					

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Checklist		A	B	C	D	Comments/Remarks
4 Cleaning						
it is the responsibility of maintenance personnel to ensure cleaning of locomotive is to an acceptable standard						
6.	4.6 Radiators					
	outside with engine shutdown					
	blow out air passages in reverse air flow direction with compressed air					
	4.7 Underneath locomotive					
7.	4.8 Main reservoir drain cocks					
	drain condensate from all dirt collectors intercoolers and reservoirs					

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Checklist		A	B	C	D	Comments/Remarks
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					
8.	5.3 Crankcase lube oil sample					
9.	5.4 Compressor lube oil sample					
10.	5.5 Cooling fan hydraulic oil sample (where required)					
11.	5.6 Engine coolant sample coolant concentration and conductivity test					
12.	5.7 Engine lube oil sample					
13.	5.8 Engine lube oil sample fuel oil dilution test					
14.	5.9 Governor lube oil sample					
15.	5.10 Traction motor suspension bearing lube oil sample					
	5.11 Engine and fan room					
16.	5.12 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					
17.	5.13 Cover hatches and seals					
	examine					
	air box and crankcase inspection covers and sealing surfaces					
	car body doors hatches and sealing surfaces secure					
18.	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					
19.	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					
20.	5.17 Engine noise inspection					
	examine operation with engine running at idle					
	engine compressor and engine accessories for unusual knocks odours sounds or vibration					

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Checklist		A	B	C	D	Comments/Remarks
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						
21.	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					
22.	5.20 Fuel injection lines					
	examine operation and condition of equipment					
	leakage and vibration					
23.	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					
24.	5.22 Low tension earths					
	examine operation with engine running at idle all equipment turned on test for low tension earths					
25.	5.24 Muffler box and spark arrestor					
	examine operation and condition of equipment					
26.	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					
27.	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					
	examine operation gen field switch off with engine running at throttle notch 3					
28.	5.28.1 Air system					
29.	5.28.2 Cooling system					
30.	5.28.3 Engine fuel oil system					
31.	5.28.4 Engine lube oil system/s					

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32.	5.28.5 Governor and speed control					
33.	5.29 Support systems leakage inspection					

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Checklist		A	B	C	D	Comments/Remarks
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						
34.	6.3 Automatic and independent brake valve					
	examine operation					
35.	6.4 Brake pedestal isolating cock					
	examine operation					
36.	6.5 Cab accessories					
	test operation and connections for tightness					
	cab fans heaters and hotplate					
37.	6.6 Controller and control stand (both sides)					
	remove covers and examine operation					
38.	6.7 Doors and windows					
	examine operation					
39.	6.8 Emergency shutdown					
	test operation					
40.	6.9 Fire extinguisher					
	examine condition					
	fire extinguishers inspection/date					
	fire extinguishers present and fully charged					
	stamp inspection tag to indicate inspection/date performed					
41.	6.11 Hand brake operation					
	remove covers and examine operation					
	lightly lubricate specification lubricant					
42.	6.12 Hasler speed recorder					
	remove covers and examine operation					
	set hands and wind clock					
	replace diagram roll if necessary					
43.	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					
44.	6.14 Horns					
	test operation and condition of equipment					
45.	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					
46.	6.16 Miscellaneous controls					
	remove covers and examine operation					
	battery charging ammeter					
	engine control switch					
	start and stop buttons					
47.	6.17 Pressure gauges					
	examine operation and pressures					
	cross reference readings between two control					

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	stands					

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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						
48.	6.19 Sanders/de-sanders operation and sandpipe heights					Form
	test operation and condition of equipment each direction					
	service sand level					
49.	6.20 Train radio					
	test operation and condition of equipment					
50.	6.21 Vigilance control equipment					
	test operation and condition of equipment					
51.	6.22 Windscreen wipers					
	test operation and condition of equipment					

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Checklist		A	B	C	D	Comments/Remarks
	6.23 Generator room/control compartment					
52.	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					
53.	6.25 Auxiliary contactors and relays					
	remove covers and examine operation					
	condition and cleanliness of equipment and all connections					
54.	6.26 Body side air filters					
	remove clean and replace/new filters if necessary					
55.	6.27 Charging rate					
	test operation and condition of equipment					
	auxiliary generator charging rate					
56.	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					
57.	6.29 Electrical cabinet doors and seals					
	examine operation					
58.	6.30 Electro-magnetic contactors					
	ensure battery switch is open when cleaning filing or operating electromagnetic contactors					
	remove covers and examine operation					
59.	6.31 Electro-pneumatic contactors					
	remove covers and examine operation					
60.	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					
61.	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					
62.	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					

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	6.23 Generator room/control compartment					
63.	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					
64.	6.36 Miscellaneous					
	examine					
	all magnet valves					
	all pressure switches					
65.	6.37 Reverser switch					
	remove covers and examine operation					
66.	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)					
67.	6.39.1 Visual inspection					
68.	6.39.2 Brush and commutator inspection					
69.	6.39.3 Bearings inspection					
70.	6.39.4 Vibration test					
71.	6.39.5 Infrared thermography camera					
	6.40 Systems operation inspection motors (and auxiliary equipment)					
72.	6.40.1 Cleaning					
73.	6.40.2 Integrity					
74.	6.40.3 Lubrication					
75.	6.40.4 Noise and vibration					
76.	6.40.5 Supply voltage					
77.	6.40.6 Identification					

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Checklist		A	B	C	D	Comments/Remarks
7 Engine and fan room						
78.	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					
79.	7.2 Air vane					
	test operation with engine running at idle					
80.	7.3 Air strainers					
	remove clean and replace					
	air strainers in compressor governor control air vigilance control whistle valve and sanders					
81.	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 ½" (12mm)					
82.	7.5 Body side air filters					
	remove clean and replace/new filters if necessary					
83.	7.6 Compressor					
	remove covers and examine operation with engine shut down					
	drive couplings on compressor motor					
84.	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					
85.	7.8 Compressor air intake filters					
	remove clean and replace/new filters if necessary					
86.	7.9 Compressor breather					
	remove and replace					
	examine condition of diaphragm/ replace if necessary					
87.	7.10 Compressor crankcase					
	remove clean and replace					
	with compressor lube oil drained clean crankcase interior					
88.	7.11 Compressor drive					
	examine operation and condition of equipment					
	compressor drive coupling for wear or other damage					

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Checklist		A	B	C	D	Comments/Remarks
7 Engine and fan room						
89.	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)					
90.	7.13 Compressor intercooler/intercooler safety valve					
	examine operation and condition of equipment					
	drain condensate					
	operate intercooler safety valve ensure function/operation					
91.	7.14 Compressor lube oil					
	remove clean and replace change lube oil					
92.	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)					
93.	7.16 Compressor orifice test					
	test operation					
94.	7.17 Compressor unloaders valves and safety valves					
	examine operation and condition of equipment					
	examine operation all safety valves specification kpa (psi)					
	specification kpa (psi)					
	lubricate safety valves if necessary specification lubricant					
95.	7.18 Cooling fan (where required)					
	examine operation with engine shut down					
	lubricate bearings if necessary specification lubricant					
	hydraulic oil level					
	add specification hydraulic oil if necessary					
96.	7.25 Cooling fan hydraulic oil by-pass filter (where required)					
	remove clean and replace					
	replace filter					
97.	7.26 Cooling fan hydraulic oil full-flow filter (where required)					
	remove and replace					
	replace filter inside tank					
98.	7.27 Crankcase crankshaft and lube oil level inspection					
	examine operation and condition of equipment					
	lube oil level					
	add specification lubricant if necessary					
99.	7.28 Crankcase breather					

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	remove clean and replace					

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Checklist		A	B	C	D	Comments/Remarks
7 Engine and fan room						
100.	7.35 Engine air filters and filter minder					
	examine operation and condition of equipment					
	replace filters if necessary					
101.	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					
102.	7.38 Engine valve rotators					
	examine with engine running at idle					
103.	7.39 Engine valve settings					
	examine with engine cold					
	exhaust valve specification clearance 0.035" (0.9mm)					
	inlet valve specification clearance 0.015" (0.38mm)					
104.	7.42 Exhaust stack/spark arrestor					
	examine operation and condition of equipment					
105.	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					
106.	7.44 Fuel oil filters primary and secondary					
	remove clean and replace					
	replace filters					
	examine for leaks and fuel pressure is in correct range					
107.	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					
108.	7.47 Fuel oil pump crankcase exhauster and starter motors					
	remove covers and examine condition					
	replace any brushes which are broken or worn					

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Checklist		A	B	C	D	Comments/Remarks
7 Engine and fan room						
109.	7.50 Governor					
	remove covers and examine operation					
	plug wash plug and receptacle					
110.	7.51 Governor					
	remove covers and examine operation with engine running at idle					
	lube oil level					
	add specification lubricant if necessary					
111.	7.53 Holding down bolts					
	examine mountings for broken damaged or loose bolts and dowels tightness					
112.	7.54 Hoses					
	examine operation and condition of equipment					
	replace if necessary					
113.	7.55 Hydraulic system (where required)					
	examine operation and condition of equipment					
	hydraulic system for leaks					
114.	7.58 Lube oil filters					
	remove covers and examine operation					
	replace lube oil filters					
	examine for leaks and lube pressure is in correct range					
115.	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					
116.	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)					
117.	7.61 Lube oil strainer					
	remove clean and replace lube oil strainer					

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Checklist		A	B	C	D	Comments/Remarks
7 Engine and fan room						
118.	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					
119.	7.63 Muffler box and spark arrestor					
	examine operation and condition of equipment					
120.	7.64 Muffler box drains					
	examine operation and condition of equipment					
	remove muffler box drain pipe					
	ensure pipe and connection are clear					
	drain residue					
121.	7.65 Piston connecting rod and cylinder liner inspection					
	examine operation and condition of equipment					
122.	7.66 Piston cooling pipes					
	examine operation and condition of equipment					
	piston cooling oil pipes for breaks cracks or misalignment					
123.	7.67 Traction motor blower rotor/impeller					
	remove covers and examine operation					
	remove any deposits from rotor/impeller with clean lint free cloth					
124.	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					
125.	7.69 Traction motor blower spicer shaft					
	remove covers and examine operation					
	spicer shaft coupling traction motor blower					
	lubricate if necessary specification lubricant					
126.	7.70 Traction motor cooling duct air flow					
	examine operation with engine running at idle					
	traction motor cooling duct positive air flow					
127.	7.73 Waste removal and waste sumps					
	ensure all waste sumps (bilge) are clear and drained					

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Checklist		A	B	C	D	Comments/Remarks
8 Underneath locomotive						
128.	8.4 Air reservoir drain cocks					
	examine operation and condition of equipment					
	drain condensate from all dirt collectors intercoolers and reservoirs					
129.	8.5 Automatic couplers and draft gear					
	examine condition adjustment and operation					
130.	8.6 Axle box pedestal liner clearance					
	examine operation and condition of equipment					
	longitudinal clearances specification clearances					
131.	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					
132.	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					
133.	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					
134.	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					

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8 Underneath locomotive						
135.	8.11 Brake block condition					
	examine operation and condition of equipment					
136.	8.12 Brake cylinders/slack adjusters-hand slack adjusters					
	examine operation and condition of equipment					
	assembly mounting for security					
	lubricate all brake cylinders/slack adjusters-hand slack adjusters with grease gun specification lubricant (or into each end gland)					
137.	8.13 Brake cylinder piston travel					
	examine operation and condition of equipment					
	set brake piston travel					
138.	8.14 Brake rigging					
	examine operation and condition of equipment					
139.	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					
140.	8.17 Fuel tank examination					
	examine operation and condition of equipment					
	drain condensation from fuel tank					
	record fuel level ltrs					
141.	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					
142.	8.19 Holding down bolts					
	examine mountings for broken damaged or loose bolts and dowels tightness					
	air reservoir tank/s					
	fuel tank					
143.	8.20 Jumpers and jumper receptacles					
	examine operation and condition of equipment					
144.	8.24 Traction motors					
	remove machine covers and examine operation					
	replace any brushes which are broken or worn					
145.	8.25 Traction motor axle journal dust shields					
	examine condition					
146.	8.26 Traction motor cooling air bellows					
	examine condition					
147.	8.27 Traction motor gear case and seal					
	examine condition					
148.	8.28 Traction motor gear case lubricant drain					
	examine					

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LEVEL 4 MAINTENANCE RECORD SHEET (180 DAYS)

LVR F 047 – 045



A=UNFIT FOR SERVICE	B= FOR FUTURE ATTENTION	C= FIT FOR SERVICE	D= NOT APPLICABLE
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Checklist		A	B	C	D	Comments/Remarks
8 Underneath locomotive						
149.	8.29 Traction motor gear case lubricant levels					
	examine					
	add specification lubricant if necessary maintain heavy film on gear teeth					
150.	8.30 Traction motor nose suspension					
	examine condition					
151.	8.32 Traction motor suspension bearing oil level					
	examine					
	drain condensation from suspension bearing wells					
	fill sump to correct level specification lubricant					
152.	8.36 Under frame					
	examine condition					
153.	8.37 Wheel examination					Form
	examine condition					



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Checklist		A	B	C	D	Comments/Remarks
9	General with engine shutdown					
	9.1 Engine and fan room					
154.	9.2 Governor low lube alarm					
	test operation					
155.	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					
156.	9.4 Megger test					
	test operation					
	open and inspect ground relay cut out knife switch					
	test high tension system					
157.	9.5 Propulsion control test					
	test operation					
158.	9.6 Manual transition test					
	test operation					
	manually operate relay/s					



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Checklist		A	B	C	D	Comments/Remarks
10 General with engine running						
159.	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					
160.	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					
161.	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					
162.	10.6 Engine noise inspection					
	examine operation with engine running at idle					
	engine compressor and engine accessories for unusual knocks odours sounds or vibration					
163.	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 gaskets oil coolers oil system pipe work turbos					
	water leaks from coolant tank pipe joint gaskets pipe work and water pump					
164.	10.8 Brake cylinder pressure switch					
	test operation					
165.	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					
166.	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					

Version No: 1.0

Approved By:

Directors

Version Date:

30/04/2020

Custodian:

Rail Safety Manager

Review Date:

30/04/2023

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	specification temperature					
167.	10.13 Engine coolant temperature regulators					
	examine coolant level in tank					
	examine coolant temperature at specification temperature					

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Checklist		A	B	C	D	Comments/Remarks
10 General with engine running						
168.	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					
169.	10.15 Engine lube oil pressure					
	examine operation with engine running at idle					
	reading is above 30Psi (207kPa)					
170.	10.16 Engine speeds					
	test operation with engine running at idle					
171.	10.17 Engine over-speed trip					
	test operation with engine running at idle					
172.	10.18 Fuel oil pressure					
	gauge reading green band					
	specification kpa (psi)					
173.	10.19 Governor					
	remove covers and examine operation with engine running at idle					
	examine lube oil level					
	add specification lubricant if necessary					
174.	10.20 Ground relay					
	test operation with engine running at idle					
175.	10.21 Hot engine alarm and fan controls					
	test operation with engine running at idle					
176.	10.22 Low lube oil shutdown					
	test operation with engine running at idle					
177.	10.23 Low water alarm					
	test operation with engine running at idle					
178.	10.24 Low tension voltage					
	test operation with engine running at idle					
179.	10.25 Wheel slip					
	test operation with engine running at idle air brakes and hand brake applied					

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Checklist		A	B	C	D	Comments/Remarks
11 Operation check						
observing all safety requirements examine operation of locomotive controls						
	11.1 Cab					
180.	11.4 Vigilance control equipment					
	test operation					
	11.5 Engine and fan room					
181.	11.6 Ground relay test					
	test operation					
182.	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					
183.	11.8 Transition test					
	test operation					
184.	11.9 Wheel slip test					
	test operation					
	11.10 Underneath locomotive					
185.	11.11 Air brake operation					Form
	test operation					
	perform air brake system operation test (safety air brake test)					
186.	11.12 Emergency kit					
	ensure complete					
12 Final running check						
187.	examine operation of locomotive					
188.	ensure all replaced brushes are bedded in (noted on maintenance record sheets)					
189.	all foreign materials to be removed from locomotive (e.g. paper rags tools)					
190.	all covers correctly positioned					
191.	all locomotive doors closed					
192.	emergency kit complete					
193.	relevant documentation completed					
194.	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

LEVEL 4 MAINTENANCE RECORD SHEET (180 DAYS)

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Locomotive Number		Date	
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Details of other repairs carried out

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Details of outstanding work

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LEVEL 4 MAINTENANCE RECORD SHEET (180 DAYS)
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Locomotive Number		Date	
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Materials used

Material	Unit	Quantity
Compressor Oil	Litres	
Engine Oil	Litres	
Governor Oil	Millilitres	
Cooling Water	Litres	
Hydraulic Oil	Litres	
Journaltex	Litres	
Globes	74V 10W	
	74V 40W	
	Headlights	
	Hasler Globes	
Hasler Tapes		
Brake Shoes	Cast/Composite	
Sand Bags	15kg	
Crater Grease		

Other materials used

[illegible]

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LOCOMOTIVE FIT FOR SERVICE		
NAME	SIGNATURE	DATE

REMARKS

REMARKS CONTINUOUS IMPROVEMENT (suggested changes to form/s)