

# LEVEL 3 MAINTENANCE RECORD SHEET (90 DAYS)

## LVR F 047 - 044



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 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					

Version No: 1.1

Approved By:

Directors

Version Date:

31/01/2021

Custodian:

Rail Safety Manager

Review Date:

30/04/2023

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Page 1 of 15

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## LVR F 047 - 044



Checklist		A	B	C	D	Comments/Remarks
	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.	<b>5.13 Cover hatches and seals</b>					
	examine					
	air box and crankcase inspection covers and sealing surfaces					
	car body doors hatches and sealing surfaces secure					
13.	<b>5.14 Cooling fan (where required)</b>					
	examine with engine shut down					
	cooling fan condition and operation					
	drive couplings on cooling fan motor					
	drive couplings on hydraulic pump					
14.	<b>5.16 Engine inspection</b>					
	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.	<b>5.17 Engine noise inspection</b>					
	examine operation with engine running at idle					
	engine compressor and engine accessories for unusual knocks odours sounds or vibration					
<b>5 Pre-inspection</b>						
<b>5.1 Defects examination</b>						
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.	<b>5.18 Fuel oil water and exhaust leak inspection</b>					
	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.	<b>5.20 Fuel injection lines</b>					
	examine operation and condition of equipment					
	leakage and vibration					
18.	<b>5.21 Fuel oil pressure</b>					
	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.	<b>5.22 Low tension earths</b>					
	examine operation with engine running at idle all equipment turned on test for low tension earths					
20.	<b>5.24 Muffler box and spark arrestor</b>					
	examine operation and condition of equipment					

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21.	<b>5.25 Turbo/supercharger</b>					
	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					
	<b>5.26 Generator room/control compartment</b>					
22.	<b>5.27 Assessment</b>					
	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					
	<b>5.28 Systems operation inspection</b>					
23.	<b>5.29 Support systems leakage inspection</b>					
	examine operation gen field switch off with engine running at throttle notch 3					
	<b>6 Drivers cab/generator room/control compartment</b>					
	<b>6.1 Log book report</b>					
	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					
	<b>6.2 Cab</b>					
24.	<b>6.3 Automatic and independent brake valve</b>					
	examine operation					
25.	<b>6.4 Brake pedestal isolating cock</b>					
	examine operation					
26.	<b>6.5 Cab accessories</b>					
	test operation and connections for tightness					
	cab fans heaters and hotplate					
27.	<b>6.6 Controller and control stand (both sides)</b>					
	remove covers and examine operation					
28.	<b>6.7 Doors and windows</b>					
	examine operation					
29.	<b>6.8 Emergency shutdown</b>					
	test operation					
30.	<b>6.9 Fire extinguisher</b>					
	examine condition					
	<b>fire extinguishers inspection/date</b>					
	fire extinguishers present and fully charged					
	stamp inspection tag to indicate <b>inspection/date</b> performed					
31.	<b>6.11 Hand brake operation</b>					
	remove covers and examine operation					
	lightly lubricate <b>specification lubricant</b>					
32.	<b>6.12 Hasler speed recorder</b>					
	remove covers and examine operation					
	set hands and wind clock					
	replace diagram roll if necessary					
33.	<b>6.13 Hasler speed recorder</b>					
	reduce brake pipe pressure to zero before closing instrument case after installing new diagram roll to ensure stylus is correctly positioned					
34.	<b>6.14 Horns</b>					

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Page 3 of 15

# LEVEL 3 MAINTENANCE RECORD SHEET (90 DAYS)

## LVR F 047 - 044



Checklist		A	B	C	D	Comments/Remarks
	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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Page 4 of 15

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## LVR F 047 - 044



Checklist		A	B	C	D	Comments/Remarks
48.	<b>6.30 Electro-magnetic contactors</b>					
	ensure battery switch is open when cleaning filing or operating electromagnetic contactors					
	remove covers and examine operation					
49.	<b>6.31 Electro-pneumatic contactors</b>					
	remove covers and examine operation					
50.	<b>6.32 Exciter and auxiliary generator drive shaft (main alternator and auxiliary alternator where required)</b>					
	examine					
	auxiliary generator drive shaft coupling bushings and bolts for evidence of fatigue					
51.	<b>6.33 Exciter and auxiliary generator coupling (main alternator and auxiliary alternator where required)</b>					
	examine					
	auxiliary generator coupling flexible coupling plate for evidence of fatigue					
52.	<b>6.34 Exciter and auxiliary generator (main alternator and auxiliary alternator where required)</b>					
	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					
	<b>6.23 Generator room/control compartment</b>					
53.	<b>6.35 Motors (auxiliary equipment where required)</b>					
	remove covers and examine condition					
	drive couplings for wear or other damage					
	replace any brushes which are broken or worn					
54.	<b>6.36 Miscellaneous</b>					
	examine					
	all magnet valves					
	all pressure switches					
55.	<b>6.37 Reverser switch</b>					
	remove covers and examine operation					
56.	<b>6.38 Traction generator</b>					
	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					
	<b>6.39 Systems operation inspection motors (and auxiliary equipment)</b>					
	<b>6.40 Systems operation inspection motors (and auxiliary equipment)</b>					
	<b>7 Engine and fan room</b>					
57.	<b>7.1 Assessment</b>					
	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.	<b>7.2 Air vane</b>					
	test operation with engine running at idle					
59.	<b>7.3 Air strainers</b>					
	remove clean and replace					
	air strainers in compressor governor control air vigilance control whistle valve and sanders					

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Checklist		A	B	C	D	Comments/Remarks
60.	<b>7.4 Batteries</b>					
	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)					
61.	<b>7.5 Body side air filters</b>					
	remove clean and replace/new filters if necessary					
62.	<b>7.6 Compressor</b>					
	remove covers and examine operation with engine shut down					
	drive couplings on compressor motor					
	lube oil level					
	add <b>specification lubricant</b> if necessary					
63.	<b>7.7 Compressor</b>					
	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.	<b>7.8 Compressor air intake filters</b>					
	remove clean and replace/new filters if necessary					
65.	<b>7.9 Compressor breather</b>					
	remove and replace					
	examine condition of diaphragm/ replace if necessary					
	<b>7.10 Compressor crankcase</b>					
66.	<b>7.11 Compressor drive</b>					
	examine operation and condition of equipment					
	compressor drive coupling for wear or other damage					
	<b>7 Engine and fan room</b>					
67.	<b>7.12 Compressor governor</b>					
	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.	<b>7.13 Compressor intercooler/intercooler safety valve</b>					
	examine operation and condition of equipment					
	drain condensate					
	operate intercooler safety valve ensure function/operation					
	<b>7.14 Compressor lube oil</b>					
69.	<b>7.15 Compressor lube oil pressure indicator</b>					
	remove covers and examine operation of indicator or gauge with engine running at idle compressor running					
	gauge reading					
	specification kpa (psi)					
	<b>7.16 Compressor orifice test</b>					
	<b>7.17 Compressor unloaders valves and safety valves</b>					
70.	<b>7.18 Cooling fan (where required)</b>					
	examine operation with engine shut down					

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Page 6 of 15

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## LVR F 047 - 044



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

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Page 7 of 15



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## LVR F 047 - 044



Checklist		A	B	C	D	Comments/Remarks
	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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Page 8 of 15



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Checklist		A	B	C	D	Comments/Remarks
	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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Page 9 of 15

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

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Page 10 of 15

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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					

Version No: 1.1

Approved By:

Directors

Version Date:

31/01/2021

Custodian:

Rail Safety Manager

Review Date:

30/04/2023

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Page 11 of 15

# LEVEL 3 MAINTENANCE RECORD SHEET (90 DAYS)

## LVR F 047 - 044



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					

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Page 12 of 15

# LEVEL 3 MAINTENANCE RECORD SHEET (90 DAYS)

## LVR F 047 - 044



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

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# LEVEL 3 MAINTENANCE RECORD SHEET (90 DAYS)

## LVR F 047 - 044



### Details of outstanding work

### 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

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



LOCOMOTIVE FIT FOR SERVICE		
NAME	SIGNATURE	DATE

REMARKS

REMARKS CONTINUOUS IMPROVEMENT (suggested changes to form/s)