



EM-004-F01

73 Class Locomotive

28 Day Trip Mechanical Inspection

LOCO No.	Date		
Maintenance Technician (s)			
	Item	Action	Initials
Driver's Cab and Engine Room	Logbook	Check details recorded in the logbook by the Driver.	
	Sanders	Check for correct sander operation (Outside shop) pipe alignment, 35mm above rail level. Sand discharge per pipe approx. 500-750grams/minute	
	Driver's Cab *	Ensure whistle is serviceable and operable from both sides of cab	
		Ensure windscreen wipers, headlights, marker, instrument, and cab lights are serviceable	
General	Check that gauges and switches are serviceable		
Voith transmission Section	General	Visually check and a) Examine locomotive externally and internally for defects and fractures. b) Clean off oil and remove rags, papers or any other foreign material from cab, fan floor, engine-room, sumps, and bogies etc. c) Determine if there are engine oil and exhaust joint leaks. Report faults to the maintenance manager	
	Variable speed cooling fan*	Check the cooling fan operates when the emergency operating lever is placed in the emergency position. Return lever to normal position	
	Transmission cooling system	Visually check for Voith transmission oil leaks from the ten oil cooling radiators, rectify, as necessary. Pay particular attention to connections, hoses, flanges, gaskets, and 'O' rings.	
Engine Section	Transmission Filter	Turn filter T bar handle on top of transmission casing to clear filter	
	Diesel engine Cooling system*	Visually check level in radiator tank by removing filler cap. Visually check for coolant leaks and pay particular attention to clips, hoses, flanges, radiator gaskets and 'O' rings.	
	Checks	Check, with engine idling, for fuel, lube oil, exhaust, and coolant leaks, with particular attention to gaskets, clips, and hose condition	
Outside Loco	Engine Air filter	Engine Air Filter – Observe condition, change if dirty. Note – Before and after repairs, check around engine-room air and compressor for unusual knocks or odours.	
	General	Check transition links, D links & pins at both ends for serviceability, drain condensate from air & fuel tanks & clean sight glasses. Remove and store unused 'D' links from auto-couplers.	
		Bogies	Visually check axle-box guide lower keeper bar bolts are tab locked tight
Visually check for loose or worn axle box and horn guide liners			
		Visually check for split pins and locking devices in place & nuts tight.	



Engineering Management

Process Control

Lubrication	Engine*	Check engine crankcase lube oil level with engine idling. Engine oil Multigrade SAE 15w-40.	
	Voith transmission*	Check the oil level in the transmission before starting. Fill only with Voith Transmission Oil such as BP HL-XP32 (A zinc free, mineral based hydraulic oil.) or similar.	
	Radiator Fan Drive*	Check the level of oil in the cooling fan drive gearbox. Keep level between scribed window marks. Fill only with hydraulic oil	
	Air Compressor	Check the oil level (engine stopped). Compressor oil ISO viscosity 100	
Air Brake System	Vigilance Control Testing	Check that all seals are intact. Rectify and bring under notice of the maintenance manager any defects found during the test.	
	Brake Shoes*	Visually check that all brake shoes are not less than 10mm at thinnest point and tracking square on the wheel with no outer edge overhang.	
	Piston Travel*	Check that brake piston travel is within tolerance	
	Air Compressor	Ensure that the air compressor maintains the main reservoir air pressure between 650 to 800kpa (Nominal 650-750 kPa), and that the time to pump between the low and high settings does not exceed 45 seconds with the engine idling	
	Controls *	Test automatic and independent brake valves, gauges, and flow meters for correct functioning	
	Security	Ensure brake equipment and component parts are secured correctly	
	Air Leaks	Correct any audible air leaks	
	Drains	Ensure main reservoir and any compressor condensate drains are cleared	
	Handbrake	Check that the handbrake is operating correctly	
Electrical System 32VDC	Batteries	Check battery electrolyte levels. Top up as necessary with distilled water	
		Ensure battery terminal connections are tight and free from corrosion	
		Verify that battery is charging with engine running and main headlights on	
Loco Exterior	General	Ensure all hatches are closed & latched in position	
		Ensure steps/handrails/step lights are serviceable	
		Ensure loco has Reflective Side Tapes & AEI-Tags as specified	
COMMENTS/DEFECTS FOR RECTIFICATION			
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<u>LOCO FIT / NOT FIT TO RUN</u>			
		<u>Examiner</u>	

Note: The driver also checks items marked with an asterisk before the start of each trip,