

KMRL Rolling Stock Division Maintenance Job Card: Pneumatic & Hydraulic Brake System

Document ID: KMRL/RS/MJC/BRK-01

Revision: v4.2

Date of Issue: 15-Jan-2024

Section A: Asset Identification & Work Order Details

- **Train Set No.:** TS-18
- **Coach No.:** DMC-18A
- **Bogie No.:** B-35
- **Location:** Aluva Maintenance Depot
- **Date of Maintenance:** 25-Sep-2025
- **Work Order No.:** WO-20250925-105

Section B: Technician & Schedule Information

- **Lead Technician:** Rajesh Kumar (ID: 7845)
- **Assisting Staff:** S. Nair, F. George
- **Maintenance Type:** ☐ Preventive (Scheduled) ☒ Corrective (Unscheduled) ☐ Overhaul
- **Reported Issue:** Driver reported sluggish brake release and a slight drag on Coach DMC-18A during morning service run.

Section C: Maintenance Checklist & Readings:

Task ID	Task Description	Specification / Tolerance	Actual Value	Status (OK / Adj / Repl)
BRK-01	Inspect brake pads for wear	Thickness > 15mm	12mm	Repl
BRK-02	Check brake caliper mechanical movement	Full, smooth travel	OK	OK
BRK-03	Measure brake disc thickness	Thickness > 80mm	82.5mm	OK
BRK-04	Check hydraulic fluid level & condition	Level Full / Clear Amber	Level Full / Clear Amber	OK
BRK-05	Test pneumatic pressure lines for leaks	< 1 psi drop over 5 mins	4 psi drop	Adj
BRK-06	Verify Brake Control Unit (BCU) software	Version 3.1.4	Version 3.1.4	OK
BRK-07	Calibrate brake application pressure sensor	7 bar ± 0.1 bar	Calibrated to 7.0 bar	Adj

Section D: Parts & Consumables Used:

Part Number	Description	Quantity	Source (New/Refurb)
KMRL-BP-450	Brake Pad Set, Axle 1	8	New
KMRL-GS-012	Pneumatic Line Gasket Seal, 1/4"	1	New
HYD-FL-DOT4	Hydraulic Fluid, DOT4	250 ml	New

Section E: Detailed Observations & Actions Taken

A minor air leak was detected at the primary pneumatic line connector to the caliper assembly on Axle 1. The pressure test confirmed a 4 psi drop in 5 minutes, which is outside the acceptable tolerance.

Corrective Actions:

1. The affected pneumatic line was depressurized.
2. The connector was disassembled, and the existing gasket seal was found to be compressed and hardened.
3. Replaced the faulty gasket seal (Part No: KMRL-GS-012).
4. The connector was re-torqued to standard specifications.
5. Post-adjustment pressure test showed a 0.5 psi drop over 5 minutes, which is well within tolerance.
6. Brake pads on Axle 1 were below the minimum 15mm thickness and were fully replaced (Part No: KMRL-BP-450).
7. Conducted a static brake application/release test (5 cycles), which confirmed normal operation.

Section F: Supervisor Review & Sign-Off

- **Supervisor Name:** Anand Verma
- **Comments:** Work completed as per standard procedure. Leak test confirms successful repair. The coach is cleared for integration and operational testing.
- **Signature:** *Anand Verma*
- **Date:** 25-Sep-2025