# **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) [X] 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