

INNOVATION BY CARRIAGE WORKS/PER, SOUTHERN RAILWAY

Semi Automated Test Benches for LHB Air-brake system

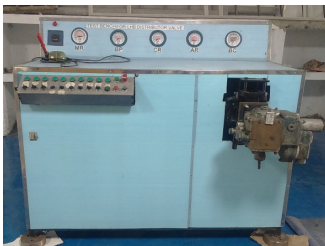
Brief Description : Overhauling of all the Air Brake Components of ICF type coaches are done in-house. But, for LHB Coaches, Carriage & Wagon Workshops, Perambur was depending on OEM M/s.Knorr Bremse & M/s.Faively. To overcome the dependence, Shops has developed Test Benches for DV, Dump valve, Air strainer & Cut Out Cock of LHB coaches. These test benches are extremely useful in ensuring the reliability of Overhauled DV, Dump valve, Air strainer & Cut Out Cock of LHB coaches.

DISTRIBUTOR VALVE TEST BENCH: The DV needs testing 11 types of test after POH. An electronically operated Test bench has been developed with Endurance test facilities, Trials were conducted successfully now the whole operation including all required tests could be carried out easily.

DUMP VALVE TEST BENCH: In the WSP system of the LHB coach dump valve plays a major role of maintaining uniform speed of the wheel sets. This dump valve vents the brake cylinder air pressure according to the command received from the WSP system in case of wheel sliding The Dump valve is basically electromagnetic operated dual coil operated solenoid type valve. This valve has two independent coils which work on 24V DC. This Dump valve Works in three stages. The test Bench developed/simulates all three stages and gives the output as pass or fail based on the feedback/output of the dump valve.

CUT OUT COCK TEST BENCH: Cut out cock is provided in brake panel on feed pipe line that is branching to supply distributor valve and other auxiliaries. This facilitates closing and opening of the air pipeline as and when required for servicing purposed/maintenance or fault attention. The test bench developed to test the cut out cock functionality, leakage test and gives the output as pass or fail based on the feedback/output of the cut out cock.

AIR STRAINER TEST BENCH: The centrifugal Air strainer is used for removing of dirt and other foreign matter from the air supply on the feed pipe line. The test bench developed with electronic devices solenoid valve selector switch digital timer and pressure transducer and tests Air Strainer Body leakage and gives the output as pass or fail based on the feedback/output of the Air Strainer.



Distributor valve test rig



Dump valve test rig



Centrifugal air strainer test rig

This is being used at Carriage Works/Perambur and is working successfully.