Documentation Sheet

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Title A DESCRIPTION OF SUB-SYSTEMS AND CALIBRATION FORMULATIONS OF THE NAL AUTOMATIC BALANCE CALIBRATION SYSTEM (ABCS)	
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Abstract

A description of Automatic Balance Calibration System (ABCS) recently installed and commissioned at NAL is presented. The description includes details of the major subsystems, viz, loading system, measuring system and data acquisition and processing system.

Details of the various calibration formulations (or the mathematical models) adopted in the ABCS to generate different types of calibration matrices are presented. Methods used for determining the calibration co-efficients and the balance loads using the outputs are briefly described.

A general description based on a brief review of the calibration methods of balances is included for a better understanding of the methods adopted in ABCS and facilitate effective utilization of the system.

Balance calibration procedure is briefly described and details of various data and setup files that are required to be created are noted. Calibration results of a typical 6-component balance, consisting of the set of 6 X 84 calibration co-efficients, plots of load measurement errors and overall measurement accuracy are included.

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