THRUST TEST STAND FOR PULSE JET ENGINE

NOR AZWAN BIN SARBANI
(2000127585)

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Universiti Teknologi MARA (UiTM)

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ABSTRACT

One of the important performance parameters of a pulse jet engine is the thrust produced. Hence, for any new design, the measurement of the thrust produced is necessary. A test stand was successfully designed and fabricated from scratch using facilities available in the FKM's workshop. The test stand was designed for a pulse jet engine with maximum thrust of 25N.

The design concept was based on balancing the moment due to the thrust of the pulse jet engine with a dead weight which is movable so as to provide a counter-moment.

Calibration was performed by applying a known force (known weight) at the line of retain of the thrust. The movement of one centimeter movable portion of the minor scale is equivalent to an increment of 0.0294 N of the produced thrust.

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CHAPTER I

INTRODUCTION

Instrumentation is a subject, which is of fundamental importance to engineering and to almost all of applied science. In general, an instrumentation system may fall into one of two categories. First, there is the laboratory or experimental measurement techniques used for research and development. This classification includes the instrument used to study the performance of an engineering prototype and the laboratory devices used where, high precision is required. The second sort of measurement system is that which forms part of a well understood device.

The project that we talk about is thrust test stand for pulse jet engine. This project covers an initial step of the fabrication a thrust measurement set. In order to measure the pulse jet engine it is very necessary to have a test stand for it. This equipment simply can be used in workshop and also at the outside. In this project purpose, the test stand is designed to measure the thrust of the pulse jet engine.