



**HUMAN FACTORS ANALYSIS ON CESSNA 402B
(VISUAL DISPLAY TERMINAL AND COCKPIT
WORKPLACE DESIGN)**

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ABSTRACT

"Human factors is the application of scientific knowledge and principles to the design of products, systems, and/or environments. The goal of human factors is making the human interaction with systems one that can reduce error, increase productivity, enhance safety, and enhance comfort. Human Factors then involves the study of factors and development of tools that facilitate the achievement of these goals" (Wickens, Gordon, and Liu, 1998).

Human Factors is an integrative approach that focuses on the interaction between human and the environment, like systems, products, people, and procedures. Human Factors is a science that adds the human into the equation to make life easier, safer and more enjoyable by utilizing research, theory and thought applied toward factoring in the HUMAN and applying the knowledge of human behavior, capabilities, and limitations.

In this project work, human factors will be the main issue of the discussion and the object for this discussion is Cessna 402B. As pilots learn to fly and study the systems of an airplane, they also have to be aware of the situation, the controls, panels and displays all time. The human-machine interaction is the key issue to maintain safety and create situational awareness. The good coupling between human cognitive capabilities and the machine can help to defy problems. As an example, the amount of time the pilot's head is down to monitor displays could be reduced by improvements of the design. Besides that, the comfortable workplace design such as seats also will be discussed in this project work.

This project work tries to discuss human factors problem, and sensory perception in interaction with the cockpit displays terminal and the workplace. Therefore, the focus will be on display design, auditory signal support and the seats. This refers to the human-machine interface problem within the human factors

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CHAPTER I

INTRODUCTION

1.1 BRIEF INTRODUCTION TO HUMAN FACTORS

Working safely begins with looking at the physical arrangement of our workspace and the design of the tools we use. This draws from the science of human factors or so called ergonomics, which strives to fit the work to the body rather than forcing the body to conform to the work. As logical as this may sound, it's actually a pretty recent point of view.

Human factor focuses on human beings and their interaction with products, equipment, facilities, procedures, and environments used in work everyday living. The emphasis is on human being (as opposed to engineering, where the emphasis is more on strictly technical engineering considerations) and how the design on things influences people. Human factors then, seeks to change the things to better match the capabilities, limitations and needs of people.