

## **Development of a prototype knowledge based system for troubleshooting of aircraft engine and parts- A case study of Cessna Caravan**

### **ABSTRACT**

Malfunction and breakdown are ordinary causes of aircraft engine failure. Repair of malfunction of engine is not an easy task to perform. Generally, experts with multitude of experiences and knowledge are needed for this purpose. In the absence of these experts a knowledge-based system can be used to partly solve this problem. This paper presents the development of a prototype knowledge-based system in monitoring, diagnosis, detection and rectification of a Cessna Caravan aircraft engine to assist engineers, mechanics and technicians in their routine works. Troubleshooting of aircraft engine and parts employed knowledge-based knowledge system to act in a way similar to that of human experts in an aircraft maintenance field by using If-Then-Else rule based system. The defaults of the engine are classified into four modules namely start module, operating module, operation and performance module and lubrication problem module and more discussion is given on lubrication problem module.

**Keyword:** Knowledge-based system, Lubrication system troubleshooting, Aircraft maintenance, Expert system