

Chapter 1

Weight and Balance Control

Introduction

There are many factors in the safe and efficient operation of aircraft, including proper weight and balance control. The weight and balance system commonly employed among aircraft consists of three equally important elements: the weighing of the aircraft, the maintaining of the weight and balance records, and the proper loading of the aircraft. An inaccuracy in any one of these elements defeats the purpose of the system. The final loading calculations are meaningless if either the aircraft has been improperly weighed or the records contain an error.

Improper loading decreases the efficiency and performance of an aircraft from the standpoint of altitude, maneuverability, rate of climb, and speed. It may even be the cause of failure to complete the flight or, for that matter, failure to start the flight. Because of abnormal stresses placed upon the structure of an improperly loaded aircraft, or because of changed flying characteristics of the aircraft, loss of life and destruction of valuable equipment may result.

