

# **KIS4 Cruiser**

**BUILDERS MANUAL**

**S/N 4052**

# **WEIGHT & BALANCE**

# WEIGHT AND BALANCE

## GENERAL

Weighing and balancing your aircraft is a most important step in preparing for testing. The process discussed here is not just a government requirement. It is a critical step in assuring the safety of flight. During this process the builder establishes estimated safe loads that are to be verified or modified during the flight test operations.

You must know exactly where the center of gravity is when operating your aircraft. Operation of the aircraft beyond the established forward or aft limits may result in a crash, injury, and possible death.

## LIMITATIONS

The designer's original unproven limits were used as guidelines during testing of the prototype. After tests the design limits were modified to reflect test results. The revised design limits are shown below.

Design Forward Limit ..... Station 38.25  
Design Aft Limit ..... Station 45.56  
Design Max Gross Weight ..... 2400 lbs.

11.16%  
24.2 1/2

**WARNING:** NEVER OPERATE YOUR AIRCRAFT OUTSIDE THE DESIGN LIMITS. During the flight test phase always move the CG aft or forward in small increments. Your aircraft may act differently than the prototype and require more restrictive weight and balance limitations than the above.

## WEIGHING

Prior to this operation you should read a text on the subject. Toy Bingelis' "Weighing Homebuilts" in July 1991 Sport Aviation is recommended.

It is best to use approved aircraft scales or commercial balance platform scales. Bathroom scales are usually unacceptable.

