



Weight and Balance

Cirrus SR-20 Transition Training

12/23/03

The system information, procedures and guidelines found in this presentation are for Reference Only.

The information & procedures in this presentation have been taken from the FAA Approved Airplane Flight Manual and Pilot's Operating Handbook (POH). The Information & Procedures in this presentation DO NOT SUPERSEDE the Information & Procedures in the POH. In the event of conflict, the POH shall take precedence.



General

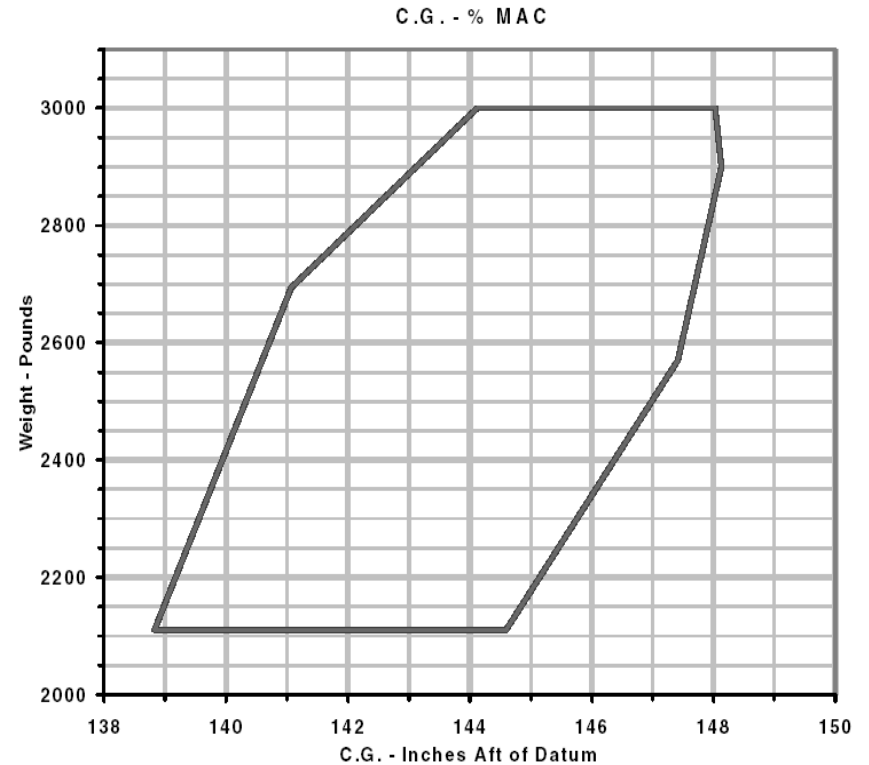
- ▶ **Weight and balance effects...**
 - **Stability**
 - **Stall Characteristics**
 - **Cruise Performance**
 - **Takeoff and Landing Distances**

- ▶ **Calculation of the aircraft weight and balance prior to each flight is critical to ensuring the aircraft is within operational limits**



Limitations

- ▶ **Maximum Gross Weight:
3000 pounds**
- ▶ **Center of Gravity Limits**



Calculation

- ▶ **The Pilots Operating Handbook provides for three methods of weight and balance calculation**
 - **Calculation Method**
 - **Chart Method**
 - **Table Method**



Calculation Method

- ▶ This method relies on basic arithmetic to determine the loaded condition
- ▶ Formulas:
 - Individual Moment:
 - $\text{Weight} \times \text{Flight Station} = \text{Moment}$
 - Aircraft CG:
 - $\text{Total Moment} \div \text{Total Weight} = \text{Center of Gravity}$



Calculation Method

- ▶ **Loading Data – Flight Stations (FS)**
 - **Forward Passengers: FS 143.5**
 - **Aft Passengers: FS 180.0**
 - **Baggage: FS 208.0**
 - **Fuel: FS 154.9**
- ▶ **Complete the Loading Form**
- ▶ **Verify Takeoff Condition is within limitations**



Chart Method

- ▶ **Complete the Loading Form using the chart provided in the POH**



Chart Method

- ▶ **Verify the Takeoff Condition falls within the limitations of the Moment Limits chart**



Table Method

- ▶ Complete the loading form using the table provided in the POH
- ▶ Interpolation may be necessary



Table Method

- ▶ **Verify the Takeoff Condition falls within the Moment Limits table provided**

