

# **Section 6**

## **Weight and Balance**

### **Table of Contents**

|                                     |      |
|-------------------------------------|------|
| Introduction .....                  | 6-3  |
| Airplane Weighing Form .....        | 6-6  |
| Airplane Weighing Procedures .....  | 6-7  |
| Weight & Balance Record .....       | 6-10 |
| Loading Instructions .....          | 6-12 |
| Center of Gravity Limits .....      | 6-14 |
| Weight & Balance Loading Form ..... | 6-15 |
| Loading Data.....                   | 6-16 |
| Moment Limits.....                  | 6-17 |
| Equipment List .....                | 6-18 |

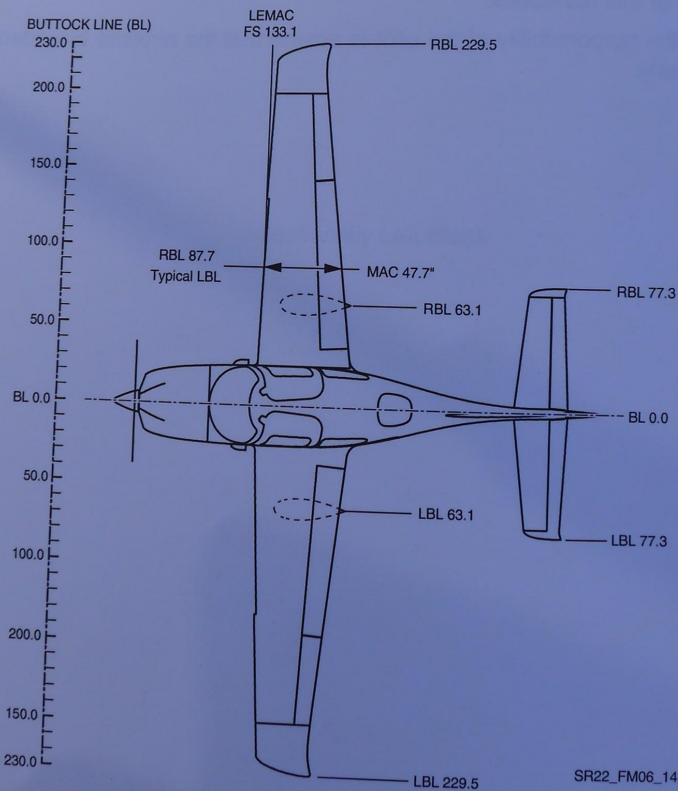
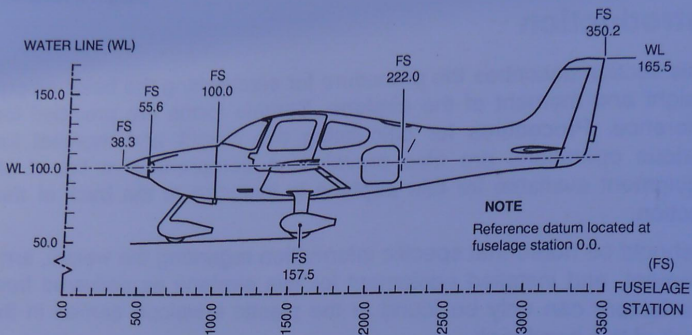
## Introduction

This section describes the procedure for establishing the basic empty weight and moment of the airplane. Sample forms are provided for reference. Procedures for calculating the weight and moment for various operations are also provided. A comprehensive list of all equipment available for this airplane is included at the back of this section.

It should be noted that specific information regarding the weight, arm, moment, and installed equipment for this airplane as delivered from the factory can only be found in the plastic envelope carried in the back of this handbook.

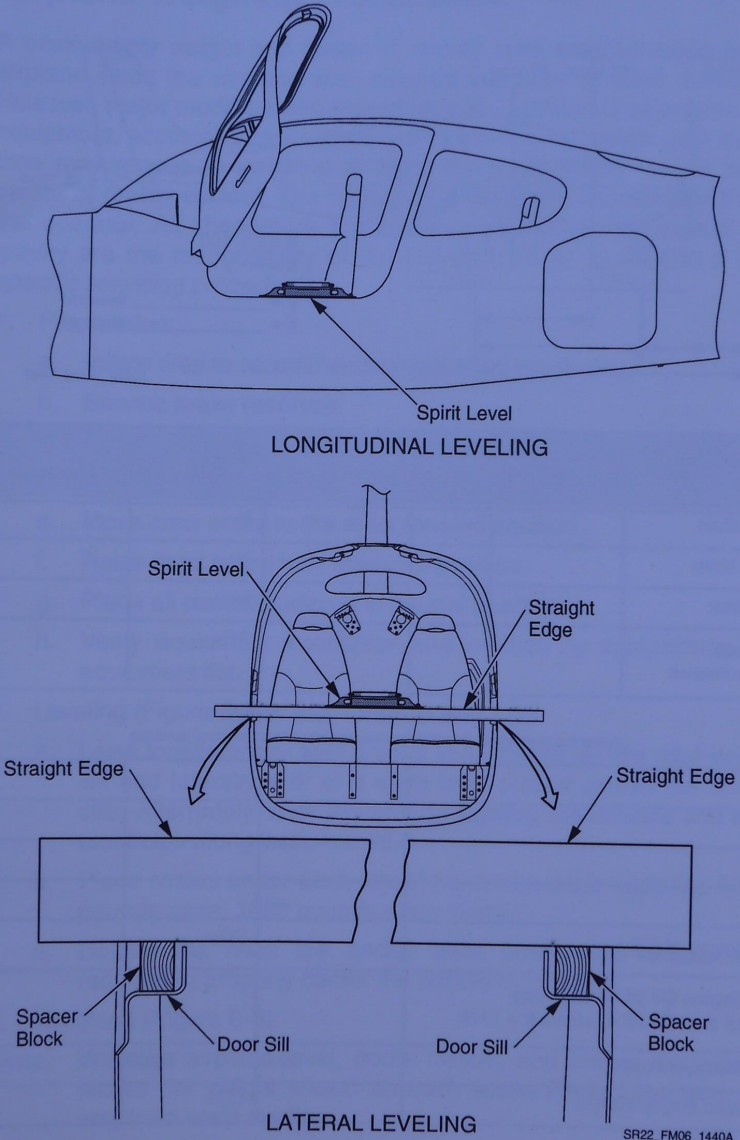
It is the responsibility of the pilot to ensure that the airplane is loaded properly.

Section 6  
Weight & Balance



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Figure 6-1  
Airplane Dimensional Data

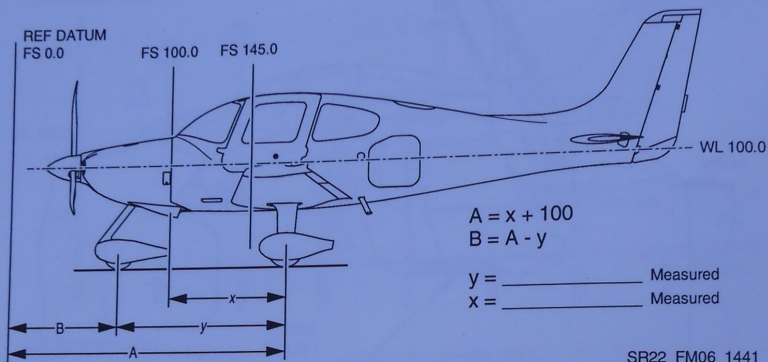


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Figure 6-2  
Airplane Leveling

Section 6  
Weight & Balance

# Airplane Weighing Form



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| Weighing Point  | Scale Reading | - Tare | = Net Weight | X Arm | = Moment |
|---|---------------|--------|--------------|-------|----------|
| L Main  |               |        |              | A=    |          |
| R Main  |               |        |              | A=    |          |
| Nose  |               |        |              | B=    |          |
| <b>Total</b><br>As Weighed  |               |        |              | CG=   |          |
| <b>CG = Total Moment ÷ Total Weight</b>   |               |        |              |       |          |
| <i>Space below provided for additions or subtractions to as weighed condition</i> |               |        |              |       |          |
|   |               |        |              |       |          |
|   |               |        |              |       |          |
|   |               |        |              |       |          |
|   |               |        |              |       |          |
| <b>Empty Weight</b>   |               |        |              | CG=   |          |
| <b>Engine Oil (if oil drained)</b><br>15 lb at FS 78.4, moment = 1176             |               |        |              |       |          |
| Unusable Fuel   |               |        | 18.0         | 154.9 | 2788     |
| Basic Empty Weight  |               |        |              | CG=   |          |

**Figure 6-3**  
**Airplane Weighing Form**

## Airplane Weighing Procedures

A basic empty weight and center of gravity were established for this airplane when the airplane was weighed just prior to initial delivery. However, major modifications, loss of records, addition or relocation of equipment, accomplishment of service bulletins, and weight gain over time may require re-weighing to keep the basic empty weight and center of gravity current. The frequency of weighing is determined by the operator. All changes to the basic empty weight and center of gravity are the responsibility of the operator. *Refer to Section 8 for specific servicing procedures.*

### 1. Preparation:

- a. Inflate tires to recommended operating pressures.
- b. Service brake reservoir.
- c. Drain fuel system.
- d. Service engine oil.
- e. Move crew seats to the most forward position.
- f. Raise flaps to the fully retracted position.
- g. Place all control surfaces in neutral position.
- h. Verify equipment installation and location by comparison to equipment list.

### 2. Leveling (Figure 6-2):

- a. Level longitudinally with a spirit level placed on the pilot door sill and laterally with of a spirit level placed across the door sills. Alternately, level airplane by sighting the forward and aft tool holes along waterline 95.9.
- b. Place scales under each wheel (minimum scale capacity, 500 pounds nose, 1000 pounds each main).
- c. Deflate the nose tire and/or shim underneath scales as required to properly center the bubble in the level.

### 3. Weighing (Figure 6-3):

- a. With the airplane level, doors closed, and brakes released, record the weight shown on each scale. Deduct the tare, if any, from each reading.

Section 6  
Weight & Balance

## 4. Measuring (Figure 6-3):

- a. Obtain measurement 'x' by measuring horizontally along the airplane center line (BL 0) from a line stretched between the main wheel centers to a plumb bob dropped from the forward side of the firewall (FS 100). Add 100 to this measurement to obtain left and right weighing point arm (dimension 'A'). Typically, dimension 'A' will be in the neighborhood of 157.5.
  - b. Obtain measurement 'y' by measuring horizontally and parallel to the airplane centerline (BL 0), from center of nosewheel axle, left side, to a plumb bob dropped from the line stretched between the main wheel centers. Repeat on right side and average the measurements. Subtract this measurement from dimension 'A' to obtain the nosewheel weighing point arm (dimension 'B').
5. Determine and record the moment for each of the main and nose gear weighing points using the following formula:

$$\text{Moment} = \text{Net Weight} \times \text{Arm}$$

6. Calculate and record the as-weighed weight and moment by totaling the appropriate columns.
7. Determine and record the as-weighed C.G. in inches aft of datum using the following formula:

$$\text{C.G.} = \text{Total Moment} \div \text{Total Weight}$$

8. Add or subtract any items not included in the as-weighed condition to determine the empty condition. Application of the above C.G. formula will determine the C.G. for this condition.
9. Add the correction for engine oil (15 lb at FS 78.4), if the airplane was weighed with oil drained. Add the correction for unusable fuel (18.0 lb at FS 154.9) to determine the Basic Empty Weight and Moment. Calculate and record the Basic Empty Weight C.G. by applying the above C.G. formula.
10. Record the new weight and C.G. values on the Weight and Balance Record (Figure 6-4).

The above procedure determines the airplane Basic Empty Weight, moment, and center of gravity in inches aft of datum. C.G. can also be expressed in terms of its location as a percentage of the airplane Mean Aerodynamic Cord (MAC) using the following formula:

$$C.G. \% MAC = 100 \times (C.G. \text{ Inches} - LEMAC) / MAC$$

Where:

$$LEMAC = 133.1$$

$$MAC = 47.7$$





Cirrus Design  
SR22

Section 6  
Weight & Balance

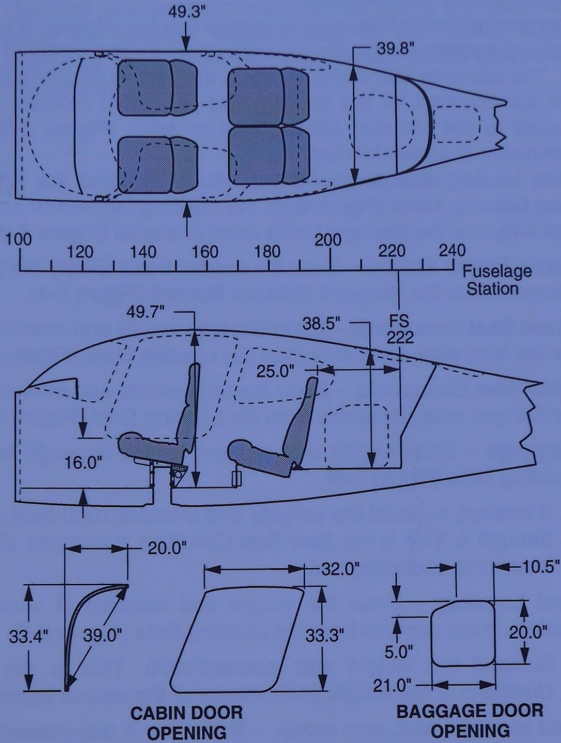
The above procedure determines the airplane Basic Empty Weight, moment, and center of gravity in inches aft of datum. C.G. can also be expressed in terms of its location as a percentage of the airplane Mean Aerodynamic Cord (MAC) using the following formula:

$$C.G. \% MAC = 100 \times (C.G. \text{ Inches} - LEMAC) / MAC$$

Where:

$$LEMAC = 133.1$$

$$MAC = 47.7$$



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| Location            | Length | Width | Height | Volume    |
|---------------------|--------|-------|--------|-----------|
| Cabin               | 122"   | 49.3" | 49.7   | 137 cu ft |
| Baggage Compartment | 36"    | 39.8" | 38.5"  | 32 cu ft  |

Figure 6-5  
Airplane Interior Dimensions

## Loading Instructions

It is the responsibility of the pilot to ensure that the airplane is properly loaded and operated within the prescribed weight and center of gravity limits. The following information enables the pilot to calculate the total weight and moment for the loading. The calculated moment is then compared to the Moment Limits chart or table (Figure 6-9) for a determination of proper loading.

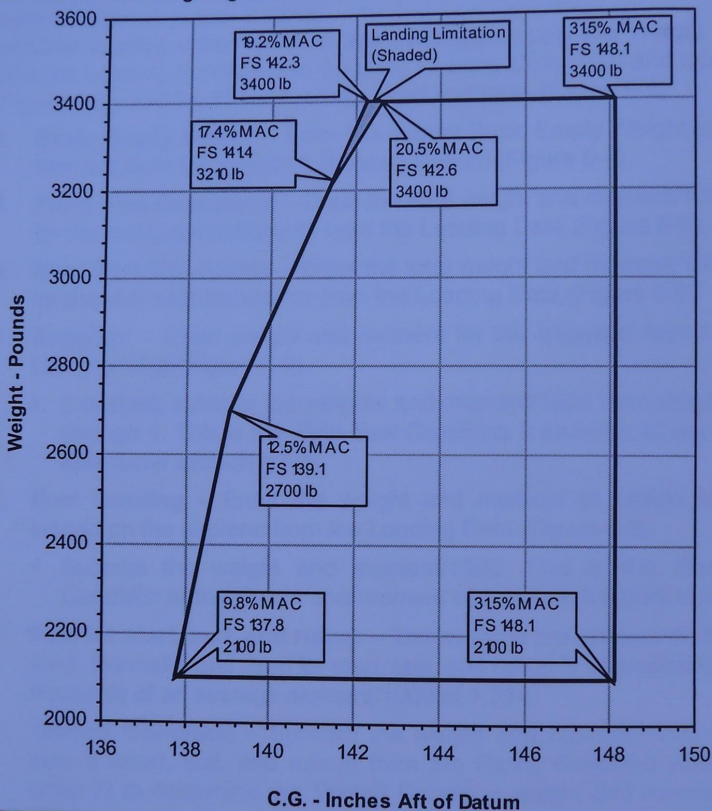
Airplane loading determinations are calculated using the Weight & Balance Loading Form (Figure 6-7), the Loading Data chart and table (Figure 6-8), and the Moment Limits chart and table (Figure 6-9).

1. **Basic Empty Weight** – Enter the current Basic Empty Weight and Moment from the Weight & Balance Record (Figure 6-4).
2. **Front Seat Occupants** – Enter the total weight and moment/1000 for the front seat occupants from the Loading Data (Figure 6-8).
3. **Rear Seat Occupants** – Enter the total weight and moment/1000 for the rear seat occupants from the Loading Data (Figure 6-8).
4. **Baggage** – Enter weight and moment for the baggage from the Loading Data (Figure 6-8).
  - If desired, subtotal the weights and moment/1000 from steps 1 through 4. This is the *Zero Fuel Condition*. It includes all useful load items excluding fuel.
5. **Fuel Loading** – Enter the weight and moment of usable fuel loaded on the airplane from the Loading Data (Figure 6-8).
  - Subtotal the weight and moment/1000. This is the *Ramp Condition* or the weight and moment of the aircraft before taxi.
6. **Fuel for start, taxi, and runup** – This value is pre-entered on the form. Normally, fuel used for start, taxi, and runup is approximately 9 pounds at an average moment/1000 of 1.394.
7. **Takeoff Condition** – Subtract the weight and moment/1000 for step 8 (start, taxi, and runup) from the Ramp Condition values (step 7) to determine the Takeoff Condition weight and moment/1000.
  - The total weight at takeoff must not exceed the maximum weight limit of 3400 pounds.

- The total moment/1000 must not be above the maximum or below the minimum moment/1000 for the *Takeoff Condition Weight* as determined from the Moment Limits chart or table (Figure 6-9).

## Center of Gravity Limits

The charts below depict the airplane center-of-gravity envelope in terms of inches aft of the reference datum and as a percentage of the Mean Aerodynamic Cord (MAC). The relationship between the two is detailed in the weighing instructions.



**FORWARD LIMIT** - The forward limit is FS 137.8 (9.8% MAC) at 2100 lb, with straight line taper to FS 139.1 (12.5% MAC) at 2700 lb, to FS 142.3 (19.2% MAC) at 3400 lb.  
**AFT LIMIT** - The aft limit is FS 148.1 (31.5% MAC) at all weights from 2100 lb to 3400 lb.  
**LANDING LIMITATION** - The Landing Limitation is FS 141.4 (17.4% MAC) at 3210 lb, to FS 142.3 (19.2% MAC) at 3400 lb, to FS 142.6 (20.5% MAC) at 3400 lb, to FS 141.4 (17.4% MAC) at 3210 lb. **CAUTION:** Before landing, verify aircraft Center of Gravity does not fall in the Landing Limitation Zone. Allow flight time for fuel burn so the landing C.G. falls outside of this zone.

**Figure 6-6**  
Center of Gravity Limits

# Weight & Balance Loading Form

Serial Num: \_\_\_\_\_ Date: \_\_\_\_\_

Reg. Num: \_\_\_\_\_ Initials: \_\_\_\_\_

| Item | Description  | Weight<br>LB | Moment/<br>1000 |
|------|--|--------------|-----------------|
| 1.   | <b>Basic Empty Weight</b><br><i>Includes unusable fuel &amp; full oil</i>          |              |                 |
| 2.   | Front Seat Occupants<br><i>Pilot &amp; Passenger (total)</i>                       |              |                 |
| 3.   | Rear Seat Occupants  |              |                 |
| 4.   | Baggage Area<br><i>130 lb maximum</i>  |              |                 |
| 5.   | <b>Zero Fuel Condition Weight</b><br><i>Sub total item 1 thru 4</i>                |              |                 |
| 6.   | Fuel Loading<br><i>81 Gallon @ 6.0 lb/gal. Maximum</i>                             |              |                 |
| 7.   | <b>Ramp Condition Weight</b><br><i>Sub total item 5 and 6</i>                      |              |                 |
| 8.   | Fuel for start, taxi, and runup<br><i>Normally 9 lb at average moment of 1394.</i> | -            | -               |
| 9.   | <b>Takeoff Condition Weight</b><br><i>Subtract item 8 from item 7</i>              |              |                 |

• Note •

The Takeoff Condition Weight must not exceed 3400 lb.

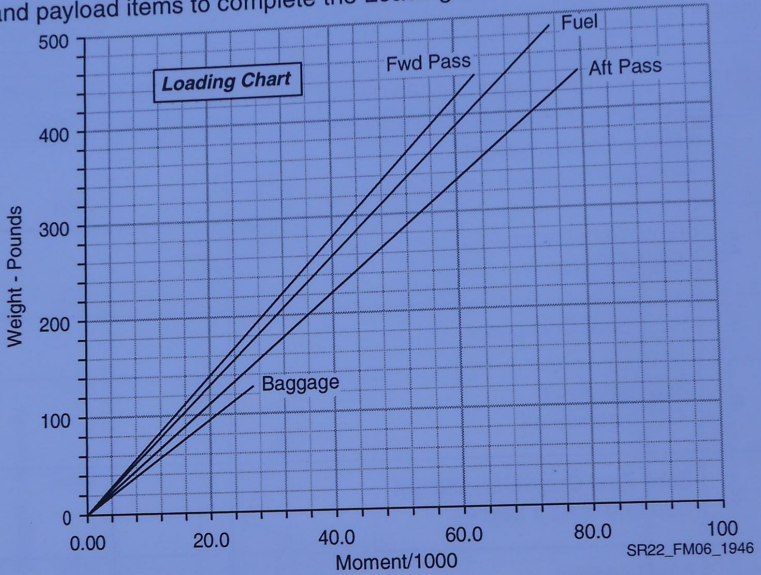
The Takeoff Condition Moment must be within the Minimum Moment to Maximum Moment range at the Takeoff Condition Weight. (Refer to Figure 6-9, Moment Limits).

**Figure 6-7**  
**Weight and Balance Loading Form**

Section 6  
Weight & Balance

# Loading Data

Use the following chart or table to determine the moment/1000 for fuel and payload items to complete the Loading Form (Figure 6-7).



| Weight<br>LB | Fwd Pass<br>FS 143.5 | Aft Pass<br>FS 180.0 | Baggage<br>FS 208.0 | Fuel<br>FS 154.9 | Weight<br>LB | Fwd Pass<br>FS 143.5 | Aft Pass<br>FS 180.0 | Fuel<br>FS 154.9 |
|--------------|----------------------|----------------------|---------------------|------------------|--------------|----------------------|----------------------|------------------|
| 20           | 2.87                 | 3.60                 | 4.16                | 3.10             | 260          | 37.31                | 46.80                | 40.27            |
| 40           | 5.74                 | 7.20                 | 8.32                | 6.20             | 280          | 40.18                | 50.40                | 43.37            |
| 60           | 8.61                 | 10.80                | 12.48               | 9.29             | 300          | 43.05                | 54.00                | 46.47            |
| 80           | 11.48                | 14.40                | 16.64               | 12.39            | 320          | 45.92                | 57.60                | 49.57            |
| 100          | 14.35                | 18.00                | 20.80               | 15.49            | 340          | 48.79                | 61.20                | 52.67            |
| 120          | 17.22                | 21.60                | 24.96               | 18.59            | 360          | 51.66                | 64.80                | 55.76            |
| 140          | 20.09                | 25.20                | (27.04)*            | 21.69            | 380          | 54.53                | 68.40                | 58.86            |
| 160          | 22.96                | 28.80                |                     | 24.78            | 400          | 57.40                | 72.00                | 61.96            |
| 180          | 25.83                | 32.40                |                     | 27.88            | 420          | 60.27                | 75.60                | 65.06            |
| 200          | 28.70                | 36.00                |                     | 30.98            | 440          | 63.14                | 79.20                | 68.16            |
| 220          | 31.57                | 39.60                |                     | 34.08            | 460          |                      |                      | 71.25            |
| 240          | 34.44                | 43.20                |                     | 37.18            | 486**        |                      |                      | 75.28            |

\*130 lb Maximum

\*\*81 U.S. Gallons Usable

**Figure 6-8**  
**Loading Data**

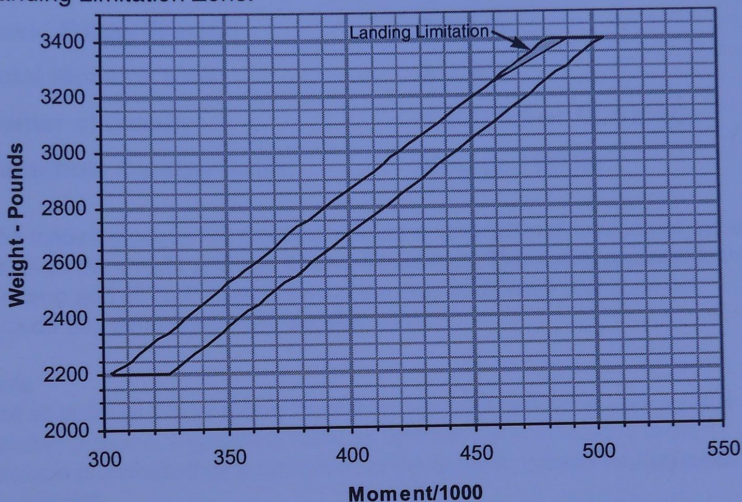


## Moment Limits

Use the following chart or table to determine if the weight and moment from the completed Weight and Balance Loading Form are within limits.

• **Caution** •

Before landing, verify aircraft weight and moment do not fall in the Landing Limitation Zone.



| Weight<br>LB | Moment/1000 |         | Weight<br>LB | Moment/1000 |         |
|--------------|-------------|---------|--------------|-------------|---------|
|              | Minimum     | Maximum |              | Minimum     | Maximum |
| 2200         | 304         | 326     | 2850         | 398         | 422     |
| 2250         | 311         | 333     | 2900         | 406         | 430     |
| 2300         | 318         | 341     | 2950         | 414         | 437     |
| 2350         | 326         | 348     | 3000         | 421         | 444     |
| 2400         | 333         | 355     | 3050         | 429         | 452     |
| 2450         | 340         | 363     | 3100         | 437         | 459     |
| 2500         | 347         | 370     | 3150         | 444         | 467     |
| 2550         | 354         | 378     | 3200         | 452         | 474     |
| 2600         | 362         | 385     | 3250         | 460         | 481     |
| 2650         | 369         | 392     | 3300         | 467         | 489     |
| 2700         | 375         | 400     | 3350         | 475         | 496     |
| 2750         | 383         | 407     | 3400         | 483         | 504     |
| 2800         | 390         | 415     |              |             |         |

Figure 6-9  
Moment Limits

## Delivered Weight Data & Equipment List

### Model SR22

|                                |                              |
|--------------------------------|------------------------------|
| <b>Serial Number:</b>          | <b>2902</b>                  |
| <b>Registration Number:</b>    | <b>N254CC</b>                |
| <b>Basic Empty Weight:</b>     | <b>2466 lb</b>               |
| <b>Total Moment/1000:</b>      | <b>342.839</b>               |
| <b>Center of Gravity:</b>      | <b>F.S.139.0 or 12.4 MAC</b> |
| <b>Parachute Canopy Color:</b> | <b>Orange / White</b>        |

The following pages list required, standard, and optional equipment, as well as gives the weight and arm of each listed item. This listing represents the airplane and all options available at the time of delivery and does not include any equipment installed after delivery.

#### Note:

Not all optional equipment in this listing was installed in the above serial number airplane. Equipment listed as optional but not installed in the airplane is indicated by a hyphen (-) in the quantity column for that piece of equipment.

#### ATA - Item:

Each item in the listing is provided a unique number. The first two digits of the number represent the ATA or GAMA Chapter reference number. These numbers are used industry wide and in the Cirrus Design SR22 Maintenance Documentation to locate items in the Maintenance Manuals and or Parts Catalogs. The two digits following the hyphen are sequence numbers for each item in that chapter.

#### Description:

This is the component, assembly, or installation name.

Cirrus Design  
SR22

**Sym:**

Items in this listing are coded by a symbol indicating the status of the item.

These codes are:

**C** Required item for FAA Certification.

**S** Standard equipment. Most standard equipment is applicable to all airplanes. Some equipment may be replaced by optional equipment.

**O** Optional equipment. Optional equipment may be installed in addition to or to replace standard equipment.

**Qty:**

The quantity of the listed item in the airplane. A hyphen (-) in this column indicates that the equipment was not installed

**Part Number**

This is the Cirrus Design Part Number for the component, assembly, or installation

**Unit Wt**

The weight, in pounds, of one each of the listed item.

**Arm**

The arm, in inches, of the listed item.

| ATA / Item | Description                 | Sym | Qty | Part Number | Unit Wt | Arm   |
|------------|-----------------------------|-----|-----|-------------|---------|-------|
| <b>21</b>  | <b>Air Conditioning</b>     |     |     |             |         |       |
| 21-01      | Blower Fan Only             | O   | -   | 20970-001   | 7.3     | 133.0 |
| 21-02      | Compressor                  | O   | 1   | 21119-003   | 15.0    | 93.1  |
| 21-03      | Condenser Assembly          | O   | 1   | 21209-001   | 17.0    | 132.8 |
| 21-04      | Evaporator Assembly         | O   | 1   | 21114-005   | 17.5    | 199.5 |
| <b>22</b>  | <b>AutoFlight</b>           |     |     |             |         |       |
| 22-01      | Sys 55X Autopilot Prgrmmr   | S   | 1   | 14779-002   | 3.0     | 123.3 |
| 22-02      | Altitude Transducer         | S   | 1   | 12722-001   | 0.2     | 112.4 |
| <b>23</b>  | <b>Communications</b>       |     |     |             |         |       |
| 23-01      | Radios, See 34 – Navigation | -   | -   | -           | -       | -     |
| 23-02      | Com 1 Antenna               | C   | 1   | 12740-001   | 0.5     | 178.5 |
| 23-03      | Com 2 Antenna               | S   | 1   | 12741-001   | 0.5     | 204.6 |

| ATA / Item | Description   | Sym | Qty | Part Number    | Unit Wt | Arm   |
|------------|---|-----|-----|----------------|---------|-------|
| <b>24</b>  | <b>Electrical Power</b>                               |     |     |                |         |       |
| 24-01      | Alternator 1  | C   | 1   | 646843         | 12.3    | 61.8  |
| 24-02      | Alternator 2  | C   | 1   | 13565-001      | 5.7     | 91.0  |
| 24-03      | MCU   | C   | 1   | 19910-001      | 9.8     | 98.0  |
| 24-04      | Volt / Ammeter  | C   | 1   | 11240-001      | 0.8     | 119.7 |
| 24-05      | Battery 1   | C   | 1   | 50366-001      | 28.0    | 96.0  |
| 24-06      | Battery 2   | C   | 1   | 50979-011      | 11.5    | 230.0 |
| <b>25</b>  | <b>Equipment &amp; Furnishings</b>                    |     |     |                |         |       |
| 25-01      | Emergency Locator Transmitter & Batteries (121.5 MHz) | O   | -   | 20220-001      | 3.6     | 228.8 |
| 25-02      | Emergency Locator Transmitter & Batteries (406 MHz)   | C   | 1   | 17190-100      | 3.4     | 229.5 |
| 25-03      | Fwd Seat & Restraint Inst. (Leather: add 0.4 lb each) | C   | 2   | 20907-003/-004 | 27.0    | 149.3 |
| 25-04      | Rear Seat Installation (Leather: add 0.4 lb each)     | C   | 2   | 12053-002      | 21.8    | 180.0 |
| 25-05      | Rear Seat Restraint                                   | C   | 2   | 12491-001      | 2.3     | 180.0 |
| <b>26</b>  | <b>Fire Protection</b>                                |     |     |                |         |       |
| 26-01      | Portable Fire Extinguisher                            | C   | 1   | 12533-003      | 1.5     | 118.4 |
| <b>27</b>  | <b>Flight Controls</b>                                |     |     |                |         |       |
| 27-01      | Flap Actuator, Modified                               | C   | 1   | 11787-002      | 4.4     | 173.9 |
| 27-02      | Roll Trim Cartridge Assy                              | C   | 1   | 15660-001      | 0.4     | 161.8 |
| 27-03      | Roll Trim Motor Assembly                              | C   | 1   | 12546-001      | 1.3     | 159.8 |
| 27-04      | Pitch Trim Cartridge Assy                             | C   | 1   | 15560-002      | 0.4     | 310.9 |
| 27-05      | Pitch Tim Motor Assy                                  | C   | 1   | 11794-004      | 1.3     | 303.5 |
| 27-06      | Yaw Trim Cartridge Assy                               | C   | 1   | 11898-002      | 0.4     | 106.2 |
| <b>28</b>  | <b>Fuel</b>   |     |     |                |         |       |
| 28-01      | Fuel Quantity Indicator                               | C   | 1   | 13557-002      | 0.8     | 138.0 |
| 28-02      | Fuel Selector Valve                                   | C   | 1   | 11627-001      | 1.8     | 140.8 |
| 28-03      | Gascolator  | C   | 1   | 14069-001      | 1.0     | 98.5  |
| 28-04      | Fuel Cap Assy   | S   | 2   | 18051-001      | 0.4     | 154.0 |
| 28-05      | Fuel Level Sender (OTBD)                              | C   | 2   | 18484-001      | 0.3     | 151.7 |
| 28-06      | Fuel Level Sender (INBD)                              | C   | 2   | 18483-001      | 0.3     | 155.7 |
| <b>30</b>  | <b>Ice &amp; Rain Protection</b>                      |     |     |                |         |       |

| ATA / Item | Description                            | Sym | Qty | Part Number      | Unit Wt | Arm   |
|------------|--|-----|-----|------------------|---------|-------|
| 30-01      | Propeller Slinger Ring                 | O   | 1   | 15321-001        | 1.5     | 55.0  |
| 30-02      | De-Icing Fluid Reservoir               | O   | 1   | Integral to Wing | 9.2     | 148.4 |
| 30-03      | Metering Pump                          | O   | 1   | 17351-001        | 5.0     | 181.3 |
| <b>31</b>  | <b>Indicating &amp; Recording</b>      |     |     |                  |         |       |
| 31-01      | Annunciator Panel                      | C   | 1   | 15262-001        | 0.3     | 117.2 |
| 31-02      | Hourmeter                              | S   | 1   | 12135-001        | 0.1     | 142.3 |
| <b>32</b>  | <b>Landing Gear</b>                    |     |     |                  |         |       |
| 32-01      | Main Landing Gear Installation         | C   | 2   | 18560-001/ 002   | 34.0    | 157.5 |
| 32-02      | Main Landing Gear Fairing Installation | S   | 2   | 18143-001/002    | 14.3    | 157.5 |
| 32-03      | Brake Assembly                         | C   | 2   | 17122-103        | 3.2     | 157.5 |
| 32-04      | Main Wheels                            | C   | 2   | 17122-101        | 7.8     | 157.5 |
| 32-05      | Main Tire                              | C   | 2   | 14075-006        | 6.3     | 157.5 |
| 32-06      | Main Tube                              | C   | 2   | 14076-002        | 1.0     | 157.5 |
| 32-07      | Nose Landing Gear Installation         | C   | 1   | 18100-001        | 35.0    | 77.0  |
| 32-08      | Nose Wheel                             | C   | 1   | 12798-001        | 4.5     | 71.8  |
| 32-09      | Nose Tire 5.00 x 5                     | C   | 1   | 14075-003        | 4.3     | 71.8  |
| 32-10      | Nose Tire Tube                         | C   | 1   | 14076-001        | 1.0     | 71.8  |
| 32-11      | Nose Gear Fairing & Pant               | S   | 1   | 18303-001        | 5.2     | 78.0  |
| 32-12      | Brake Master Cylinder                  | C   | 4   | 14269-001        | 0.6     | 104.5 |
| 32-13      | Brake Fluid Reservoir                  | C   | 1   | 12006-001        | 0.4     | 98.1  |
| <b>33</b>  | <b>Lights</b>                          |     |     |                  |         |       |
| 33-01      | L/R Strobe/Nav Lights                  | C   | 2   | 17140-001/002    | 0.6     | 161.8 |
| 33-02      | Strobe Power Supply (2)                | C   | 2   | 14286-002        | 1.7     | 147.8 |
| 33-03      | Landing Light Installation             | S   | 1   | 20248-004        | 1.9     | 80.0  |
| 33-03      | Recognition Light Installation         | S   | 1   | 18285-001/002    | 0.4     | 138.5 |
| <b>34</b>  | <b>Navigation &amp; Pitot Static</b>   |     |     |                  |         |       |
| 34-01      | Avidyne FlightMax MFD                  | O   | 1   | 14751-001        | 6.4     | 121.8 |
| 34-02      | Avidyne FlightMax PFD                  | O   | 1   | 15222-001        | 12.0    | 115.5 |
| 34-03      | Altimeter                              | C   | 1   | 12102-001        | 1.1     | 116.1 |
| 34-04      | TAS Indicator                          | C   | 1   | 13568-002        | 0.7     | 116.9 |
| 34-05      | Magnetic Compass                       | C   | 1   | 12451-002        | 0.3     | 132.7 |
| 34-06      | Attitude Gyro                          | C   | 1   | 13459-002        | 2.2     | 114.5 |
| 34-07      | Marker Beacon Antenna                  | S   | 1   | 12743-001        | 0.6     | 200.0 |
| 34-08      | GPS 1 Antenna                          | C   | 1   | 12744-001        | 0.4     | 136.2 |
| 34-09      | GPS 2 Antenna                          | S   | 1   | 12744-001        | 0.4     | 110.3 |
| 34-10      | Transponder Antenna                    | C   | 1   | 12739-001        | 0.1     | 105.0 |

| ATA / Item | Description                               | Sym | Qty | Part Number | Unit Wt | Arm   |
|------------|---|-----|-----|-------------|---------|-------|
| 34-11      | VOR/LOC Antenna                           | C   | 1   | 12742-001   | 0.4     | 331.0 |
| 34-12      | Turn Coordinator, Modified                | C   | 1   | 11891-001   | 1.8     | 118.0 |
| 34-13      | GMA 340 Audio Panel                       | S   | 1   | 12717-050   | 1.5     | 121.5 |
| 34-14      | GNS 420 (GPS/COM/NAV)                     | O   | -   | 12718-004   | 5.0     | 121.0 |
| 34-15      | GNS 430 (GPS/COM/NAV)                     | C   | 1   | 12718-051   | 5.0     | 121.0 |
| 34-16      | GNS 430 (GPS/COM/NAV)                     | O   | 1   | 12718-051   | 5.0     | 122.4 |
|            | <b>EMax Engine Monitoring</b>             |     |     |             |         |       |
| 34-17      | • Data Acquisition Unit                   | O   | 1   | 16692-001   | 2.0     | 118.0 |
| 34-18      | • Monitor Cabin Harness                   | O   | 1   | 16695-005   | 2.0     | 108.0 |
|            | <b>Sky Watch Option</b>                   |     |     |             |         |       |
| 34-19      | • Sky Watch Inverter                      | O   | 1   | 14484-001   | 0.5     | 118.0 |
| 34-20      | • Sky Watch Antenna nstl                  | O   | 1   | 14480-001   | 2.3     | 150.5 |
| 34-21      | • Sky Watch Track Box                     | O   | 1   | 14477-050   | 10.0    | 140.0 |
|            | <b>Stormscope Option</b>                  |     |     |             |         |       |
| 34-22      | • Processor                               | O   | 1   | 12745-050   | 1.7     | 199.0 |
| 34-23      | • Antenna                                 | O   | 1   | 12745-070   | 0.9     | 191.0 |
|            | <b>Transponder Option</b>                 |     |     |             |         |       |
| 34-24      | • Mode A/C Transponder                    | C   | 1   | 13587-001   | 1.6     | 124.9 |
| 34-25      | • Mode S Transponder                      | O   | -   | 15966-050   | 2.6     | 121.0 |
|            | <b>TAWS Option</b>                        |     |     |             |         |       |
| 34-26      | • KGP 560 Processor                       | O   | 1   | 15963-001   | 1.3     | 117.0 |
|            | <b>XM Satellite Options</b>               |     |     |             |         |       |
| 34-27      | • XM WX / Radio Receiver                  | O   | 1   | 16121-001   | 1.7     | 114.0 |
| 34-28      | • XM Radio Remote Control                 | O   | 1   | 16665-501   | 0.2     | 149.3 |
| <b>35</b>  | <b>Oxygen</b>                             |     |     |             |         |       |
| 35-01      | Bottle Assembly - Empty                   | O   | 1   | 100N0020-4  | 17.4    | 262.3 |
|            | Full                                      |     |     |             | 23.8    | 265.3 |
| <b>61</b>  | <b>Propeller</b>                          |     |     |             |         |       |
| 61-01      | Hartzell Propeller Installation           | C   | -   | 15319-00X   | 79.8    | 48.0  |
| 61-02      | Hartzell Composite Propeller Installation | O   | 1   | 18974-001   | 67.2    | 48.0  |
| 61-02      | McCauley Propeller Installation           | O   | -   | 15825-00X   | 78.0    | 50.0  |
| 61-03      | MT Propeller                              | O   | -   | 18606-00X   | 56.2    | 48.6  |
| 61-03      | Propeller Governor                        | C   | 1   | 15524-001   | 3.2     | 61.7  |
| <b>71</b>  | <b>Power Plant</b>                        |     |     |             |         |       |
| 71-01      | Upper Cowl                                | C   | 1   | 20181-003   | 10.5    | 78.4  |
| 71-02      | Lower Cowl LH                             | C   | 1   | 20182-006   | 5.4     | 78.4  |
| 71-03      | Lower Cowl RH                             | C   | 1   | 18396-001   | 5.4     | 78.4  |

| ATA / Item | Description                               | Sym | Qty | Part Number     | Unit Wt | Arm   |
|------------|---|-----|-----|-----------------|---------|-------|
| 71-03      | Engine Baffling Installation              | C   | 1   | 15460-001       | 10.7    | 78.4  |
| <b>72</b>  | <b>Engine</b>                             |     |     |                 |         |       |
| 72-01      | Engine                                    | C   | 1   | 14057-00X       | 414.5   | 76.5  |
| 72-02      | Engine Mount Assembly                     | C   | 1   | 16546-001       | 22.0    | 76.5  |
| 72-03      | Induction Filter                          | C   | -   | 50207-001       | 0.4     | 62.9  |
| 72-04      | Reiff Heater                              | O   | -   | L-6             | 1.9     | 76.0  |
| <b>73</b>  | <b>Engine Fuel</b>                        |     |     |                 |         |       |
| 73-01      | Engine Driven Fuel Pump                   | C   | 1   | ETI-SR22-2-11   | 3.32    | 93.7  |
| 73-02      | Electric Fuel Pump Assy.                  | C   | 1   | 11839-001       | 2.3     | 97.7  |
| 73-03      | Fuel Pressure Switch Assy.                | C   | 1   | 13598-001       | 0.4     | 67.8  |
| <b>74</b>  | <b>Engine Ignition</b>                    |     |     |                 |         |       |
| 74-01      | Spark Plugs                               | C   | 12  | RHB32E          | 0.3     | 78.4  |
| 74-02      | Magnetos (L & R)                          | C   | 2   | 10-500556-101   | 11.6    | 74.5  |
| 74-03      | Ignition Switch Installation              | C   | 1   | 11915-003       | 0.5     | 123.0 |
| <b>78</b>  | <b>Engine Exhaust</b>                     |     |     |                 |         |       |
| 78-01      | Heater Muffler                            | S   | 1   | ETI-SR22-100-1  | 13.2    | 87.0  |
| 78-02      | LH Muffler                                | S   | 1   | ETI-SR22-103-1  | 8.5     | 86.0  |
| 78-03      | Tailpipe                                  | S   | 2   | ETI-G2-110-L-1/ | 12      | 99.0  |
| <b>79</b>  | <b>Oil</b>                                |     |     |                 |         |       |
| 79-01      | Engine Oil Cooler                         | S   | 1   | 10281A          | 7.8     | 90.0  |
| 79-02      | Oil Filter                                | S   | 1   | CH48108         | 1.5     | 93.4  |
| <b>80</b>  | <b>Starting</b>                           |     |     |                 |         |       |
| 80-01      | 24-volt Starter                           | S   | 1   | ES-646275-1     | 15.0    | 93.0  |
| <b>81</b>  | <b>Turbines-SA10588SC &amp; SE10589SC</b> |     |     |                 |         |       |
| 81-01      | LH Turbocharger                           | C   | 1   | ETI-SR22-2000   | 15.0    | 84.0  |
| 81-02      | RH Turbocharger                           | C   | 1   | ETI-SR22-1300   | 15.0    | 84.0  |
| 81-03      | LH Intercooler                            | C   | 1   | ETI-G2-500-1    | 5.0     | 83.0  |
| 81-04      | RH Intercooler                            | C   | 1   | ETI-G2-500-2    | 5.0     | 83.0  |
| 81-05      | Lower Cowl Modification                   | C   | 1   | NA              | 0.8     | 81.0  |
| 81-06      | Air Filter Box and Retainer               | C   | 1   | NA              | 1.5     | 63.0  |
| <b>95</b>  | <b>Special Equipment</b>                  |     |     |                 |         |       |
| 95-01      | Packed Parachute (CAPS)                   | C   | 1   | 20331-001       | 54.0    | 235.5 |
| 95-02      | Airplane Flight Manual                    | C   | 1   | 13772-001       | 1.2     | -     |