

16 - WEIGHT AND BALANCE

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WEIGHT AND BALANCE

INTRODUCTION

This section describes the proper procedures for determining the weight and balance of the S-19 Venterra.

Always check your weight and balance during your preflight planning. It is recommended to check the data for landing and take-off due to fuel burn weight change.

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

AIRCRAFT WEIGHING PROCEDURES

1. Preparation:
 - Inflate tires to recommended operating pressure
 - Drain all fuel
 - Service engine oil as required to obtain a normal indication
 - Service engine coolant as required to obtain a normal indication
 - Retract flaps
 - Place all control surfaces in neutral position

2. Leveling:
 - Shim scales to level Upper Longeron. Place scales under each wheel (400 lbs. minimum capacity)

3. Weighing:
 - With the aircraft level, record the weight shown on each scale.

CALCULATING CENTER OF GRAVITY

The following will enable you to determine the weight and balance of your aircraft and to operate it within the prescribed center of gravity limitations.

The S-19 Venterra is a simple aircraft, and so are the weight and balance calculations.

The aircraft is limited to 2 occupants.

For baggage storage a baggage compartment behind the seats is available. The compartment is rated for 70 lbs. Baggage should be secured in flight.

Enter the following data on the chart. Refer to **FIGURE 16-01**.

- Weight of Nose Gear.
- Weight of Main Gear – Left.
- Weight of Main Gear - Right.
- Weight of Pilot.
- Weight of Passenger.
- Usable Fuel (at 6 lbs. / gal).
- Weight of Baggage (Max 70 pounds).

Calculate the moments (Weight x Arm).

Add moments to obtain total moment.

Add weights to obtain total weight.

Calculate Center of Gravity. (**CG = Total Moment / Total Weight**)

Check that the Center of Gravity calculated for take-off falls inside of the acceptable Center of Gravity envelope.

Repeat for landing configuration.