

Notes

from the Training Desk

“Without prior weight and CG verification, the pilot risks instability problems, structural safety concerns and performance issues during the flight.”

*-Patrick McIntyre,
Director of Weight & Balance Training*

**REQUEST A QUOTE FOR
WEIGHT & BALANCE TRAINING**



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Requirements for Weight & Balance

An aircraft's accurate basic weight and its associated center of gravity (CG) must be calculated and known at all times to assure safe aircraft operation. Weight and balance (W&B) has a direct effect on the safety, stability and performance of all aircraft. Prior to each flight, the aircrew must verify the weight and CG of the aircraft to make certain the aircraft will not exceed any structural limits. Without prior weight and CG verification, the pilot risks instability problems, structural safety concerns and performance issues during the flight.



What are we actually doing when we weigh an aircraft? What does it all mean? When we weigh an aircraft, for whatever reason, we are looking to update its basic weight and associated center of gravity. The importance of Operating Empty Weight (OEW), Manufacturer's Empty Weight (MEW), and weight of Standard and Operator Items (SI & OI respectively) are clear with the following equation:
$$OEW = MEW + SI + OI$$

Having these items is critical for aircraft deliveries from the manufacturer and post-maintenance, and allows accurate calculations for any follow on flights. It gives us a mathematical starting point for our in-flight calculations for safety and performance.

You know that your privately owned aircraft is not required a periodic weigh.

However, repairs and modifications can cause major changes to the weight or CG of the aircraft. With updates to cabin interiors, cargo conversions, and maintenance which

are common procedures but increasingly prevalent in today's environment, accurate weights are more important than ever. As an FAA Certified A&P mechanic making repairs/modifications, you are responsible to provide the new empty weight CG data in the current approved aircraft flight manual/issued operating limits. Then verify the weight and CG limits have not been exceeded in the type certificate data sheet (TCDS).

[Find more information on Certified Weight & Balance Training](#)

[Find more information on Aircraft Scales & Load Cells](#)

Intercomp offers both Military and Civilian focused training for military staff, engineers, contractors, and FAA A&P licensed civilians. Courses are led by instructors benefitting from three decades of weighing experience in both military and commercial venues. Leveraging a background of weighing hundreds of aircraft, classroom attendees have access to a knowledge base in equipment and operations that is unmatched within the industry in quality, depth, and experience.