

EAGLE TECHNICAL BULLETIN

REF. TCCA STC: SH14-47
REF. FAA STC: SR03496NY

Eagle Service Bulletin Number: **TB-E407-789-7**

Purpose: Alternate balancing procedure

Eligible Serial Numbers: All

Compliance: **At customer's option**

Description:

The Weight Empty vs Center of Gravity chart and balancing procedure in BHT-407-MM Chapter 8 are based on standard configuration helicopters only. A helicopter with nonstandard fuel system, seating arrangement, or certain customizing installations or operations may require an alternate procedure to adjust the weight empty CG in order to meet the loading requirements peculiar to that configuration.

The alternate balancing procedure may be utilized for any standard configuration helicopter at the operator's discretion. This allows the operator to load the helicopter as they choose, provided the CG is maintained within the Gross Weight vs. Center of Gravity Limits (ref. FMS-E407-789-1 Figure 1-1 and 1-2) throughout the flight.


The use of the alternate procedure can result in a significant reduction in ballast weight, increased payload capability, and greater flexibility in loading.

Weight and Balance:

The incorporation of this TB has a negligible effect on the aircraft weight and balance.

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APPROVED	
BY: 	
D. SHEPHERD (DE # 02)	
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Procedure:

1. Derive the weight empty and center of gravity of the helicopter as configured per the procedure in BHT-407-MM, Chapter 8.
2. Determine the combinations of useful load items (fuel, crew, passengers, baggage, other cargo) which will result in the most forward and most aft CG during flight.
3. Apply the most forward and most aft useful load weights and moments to the derived weight empty condition, and check the resultant gross weight cg's against the Gross Weight vs. Center of Gravity Limits chart in FMS-E407-789-1 Section 1.
4. If either the most forward or most aft gross weight CG is outside the gross weight CG limits, determine the ballast requirements.

NOTE: The longitudinal CG shifts as fuel is consumed. Reference Fuel Loading in FMS-E407-789-1 for critical fuel quantities when computing most forward and most aft useful loads.

5. If both most forward and most aft gross weight CG's are outside the gross weight limits, one of the useful load combinations must be restricted to move corresponding gross weight CG inside the limit. Required ballast may then be computed per step 4. The useful load restrictions must be listed on the Actual Weight Record form in Flight Manual Supplement FMS-E407-789-1.
6. If the required ballast exceeds the maximum allowable, the helicopter configuration must be revised to shift the weight empty CG toward the limit exceeded. In some cases, useful load restrictions can be used to reduce required ballast. These restrictions must be listed on the Actual Weight Record form in Flight Manual Supplement FMS-E407-789-1.

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