

TEMPORARY REVISION TR 10-01 Weight and Balance

This Temporary Revision TR 10-01 is approved and is valid in conjunction with the latest revision of the DA20-C1 Airplane Flight Manual until this temporary revision has been incorporated into the Airplane Flight Manual.

The limitations and information contained herein either supplement or, in the case of conflict, override those in the Airplane Flight Manual.

Doc. No.	Section	Affected Pages
DA202-C1, Rev. 24	Section 0	Page 0-10
DA202-C1, Rev. 24	Section 6	Pages 6-3 and 6-5
DA202-C1, Rev. 24	Section 9 Supplement 4	Page S4-14

Instruction

- Print this document on white paper (single-sided).
- Copy on yellow paper (single-sided) at a reduced size of 72% to get the correct size for the AFM.
- Cut the paper to 6" by 8.5" and punch the holes on the left side of each page.
- Insert this cover page as the first page of the AFM.
- Insert the other pages of this Temporary Revision in front of the corresponding AFM pages.

Reason for Issue

The Empty Weight CG Formula has been revised.

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RECORD OF REVISIONS (continued)

Rev. No	Affected Pages	Approved	
		Date	Name
TR-1	0-10, 2-5	October 2, 2007	W. Jupp Chief, Flight Test For Director, Aircraft Certification Transport Canada
Rev 22	0-4, 0-5, 0-6, 0-10, 2-4, 2-7, 2-17, 4-14, 4-20, 5-20, S4-4, S4-12, S4-13	November 2, 2007	W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada
Rev 23	0-4, 0-6, 0-10, 0-11, 2-1, 2-4, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 2-19, 4-14, 4-20, S4-1, S4-4, S4-5, S4-6, S4-7, S4-8, S4-9, S4-10, S4-11, S4-12, S4-13, S4-14, S4-15, S4-16	December 11, 2007	W. Jupp Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 08-01	0-10, 2-19, 4-5, 6-13, 6-14, 6-15, 6-16	25 August 2008	R. Walker A/Chief, Flight Test for Director, Aircraft Certification Transport Canada
Rev 24	All	30 April 2009	R. Walker A/Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 09-02	4-10, 4-11, 4-12	30 June 2009	R. Walker A/Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 09-03	0-9, 0-10, 6-13 thru 6-20, 9-1, 9-2 and 9-S13-1 thru 9-S13-24	12 November 2009	D. Stephen A/Chief, Flight Test for Director, Aircraft Certification Transport Canada
TR 10-01	0-10, 6-3, 6-5, and 9-S4-14	29 January 2010 <i>26 February 2010</i>	<i>Jim Martin for</i> Chief, Flight Test for Director, National Aircraft Certification

TRANSPORT CANADA

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6.2. AIRPLANE WEIGHING

Pre-weighing conditions:

- equipment must be in accordance with the airplane equipment list
- brake fluid, lubricant (6 US qt / 5.7 liters) and
- unusable fuel, included (2 liters unusable, 3.18 lbs/1.44 Kg)

To determine the empty weight and the empty weight CG position, the airplane must be positioned in the above mentioned pre-weighing condition, with the nose gear and each main gear on a scale. Ensure that the aircraft is level longitudinally and laterally as illustrated in Figures 6.1 and 6.2.

With the airplane correctly positioned, a plumb line is dropped from the leading edge of each wing at the root rib to the floor; join these two points to determine the reference datum (RD). From this line use a suspended plumb line aligned with each landing axle gear to measure the distances X_1 (nose gear), X_{2LH} (left main gear) and X_{2RH} (right main gear).

The following formulas apply:

Finding Empty - Center of Gravity (XCG)

Empty Weight: $G = G_1 + G_{2LH} + G_{2RH}$ lbs [kg]

Empty Weight CG Formula:

$$X_{CG} = \frac{(G_1 \times X_1) + (G_{2LH} \times X_{2LH}) + (G_{2RH} \times X_{2RH})}{G_1 + G_{2LH} + G_{2RH}}$$

Finding Empty - Weight Moment

Empty-weight Moment $M = \text{Empty Weight (G)} \times \text{Empty-weight CG (X}_{CG})$

CAUTION

ITEMS FORWARD OF THE REFERENCE DATUM ARE CONSIDERED TO HAVE A NEGATIVE LEVER ARM. ITEMS AFT OF THE REFERENCE DATUM ARE CONSIDERED TO HAVE A POSITIVE LEVER ARM.

Record the data in the Weighing Report included at the back of this manual. Figure 6.3, Sample Weighing Report is for reference only.

