



A Textron Company

ALERT SERVICE BULLETIN

505-22-31

27 September 2022

MODEL AFFECTED: 505

SUBJECT: AFT CENTER OF GRAVITY AIRSPEED
LIMITATION, INTRODUCTION OF.

HELICOPTERS AFFECTED: Serial numbers 65011 through 65426 and 65428
through 65436.

[Serial number 65427 and 65437 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

COMPLIANCE: Within 100 flight hours or 6 months, whichever comes first, following the release date of this bulletin.

DESCRIPTION:

This Alert Service Bulletin is introducing new airspeed limitations when in an aft center of gravity configuration. It was found that the pilot cyclic stop window limits main rotor swashplate travel necessary for safe operation at high speeds when configured with aft center of gravity. This bulletin mandates the installation of a new, additional, Vne placard SLS-020-600-109 (Figure 1) and changes the longitudinal center of gravity limitation in Section 1, Figure 1-2, of the applicable rotorcraft flight manual (Figure 2). This new airspeed limitation will be introduced in Revision 9 of the BHT-505-FM-1 and Revision 3 of the BHT-505-FM-2 Flight Manuals and incorporated in the Garmin software 006-B2472-24.

APPROVAL:

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) approved.

CONTACT INFO:

For any questions regarding this bulletin, please contact:

Bell Product Support Engineering
Tel: 1-450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

MANPOWER:

Approximately 1.0 man-hours are required to complete this bulletin. This estimate is based on hands-on time and may vary with personnel and facilities available.

WARRANTY:

There is no warranty credit applicable for parts or labor associated with this bulletin.

MATERIAL:

Required Material:

The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>
BHT-505-FM-1 Rev. 9	ROTORCRAFT FLIGHT MANUAL	1 (1, 3)
BHT-505-FM-2 Rev. 3	ROTORCRAFT FLIGHT MANUAL	1 (2, 3)
SLS-020-600-109	PLACARD	1

NOTES:

1. Applicable for model 505 serial numbers 65011 through 65169 and 65171 through 65300.
2. Applicable for model 505 serial numbers 65170 and 65301 and subsequent.
3. Paper copies of the BHT-505-FM-1 or BHT-505-FM-2 RFM may be acquired by contacting publications@bellflight.com or copies may be printed from the www.mybell.com portal from the "Latest Revisions" link under the 505 model (Figure 3).

Consumable Material:

The following material is required to accomplish this bulletin, but may not require ordering, depending on the operator's consumable material stock levels. This material may be obtained through your Bell Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
2010-06640-00	EDGE SEALER	8 OZ (1)	C-349
2110-00010-00	ALIPHATIC NAPHTHA	1 GAL (1)	C-305

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
CCCC440	CHEESECLOTH, COTTON	A/R (2)	C-486

* C-XXX numbers refer to the consumables list in the BHT-ALL-SPM, Standard Practices Manual

NOTES:

1. Quantity indicated is the format that the product is delivered in. Actual quantity required to accomplish the instructions in this bulletin may be less than what has been delivered.
2. Commercially available.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-ALL-SPM Standard Practice Manual, Chapter 8.
 BHT-505-FM-1 Rotorcraft Flight Manual, Revision 9.
 BHT-505-FM-2 Rotorcraft Flight Manual, Revision 3.

PUBLICATIONS AFFECTED:

BHT-505-FM-1 Rotorcraft Flight Manual, Section 1.
 BHT-505-FM-2 Rotorcraft Flight Manual, Section 1.
 505-MM Maintenance Manual, Chapter 11.

ACCOMPLISHMENT INSTRUCTIONS:

1. Prepare the helicopter for maintenance.
2. Gain access to the right side of the cockpit (Zone 220) ([DMC-505-A-06-30-00-00A-030A-A](#)). Identify location on top of pilot's windshield at the crew headliner where placard SLS-020-600-109 (Figure 4, Detail A) is to be installed.
 - a. Thoroughly wipe the surface with a clean cloth (C-486), or equivalent, dampened with aliphatic naphtha (C-305).

-NOTE-

There are other placards in this location, therefore select the most appropriate position for installation of the AFT CG airspeed limitations placard.

- b. Install placard SLS-020-600-109 as shown (BHT-ALL-SPM, Chapter 8) (Figure 4).

-NOTE-

Communicate to the model 505 pilots and maintenance personnel the contents of the newly inserted Rotorcraft Flight Manual revision that includes the new longitudinal center of gravity and airspeed limitations.

-NOTE-

The BHT-505-FM-1 Rotorcraft Flight Manual (RFM) is applicable to 505 serial numbers 65011 through 65169 and 65171 through 65300. The BHT-505-FM-2 Rotorcraft Flight Manual (RFM) is applicable to 505 serial numbers 65170 and 65301 and subsequent.

-NOTE-

Paper copies of the BHT-505-FM-1 or BHT-505-FM-2 RFM may be acquired by contacting publications@bellflight.com or copies may be printed from the www.mybell.com portal from the "Latest Revisions" link under the 505 model (Figure 3).

3. Verify the revision status of Figure 1-2 of Section 1, Limitations, of BHT-505-FM-1 or BHT-505-FM-2 RFM, as applicable.
 - a. For serial numbers 65011 through 65169 and 65171 through 65300 do the following:
 - (1) If Figure 1-2 of BHT-505-FM-1 **is** Revision 9 dated 20 JULY 2022 (Figure 5, sheet 1 of 2), go to step 4.
 - (2) If Figure 1-2 of BHT-505-FM-1 **is not** Revision 9, remove Figure 1-2 from the RFM and insert Revision 9 of the Figure 1-2 into the RFM, then go to step 4.
 - b. For serial numbers 65170, 65301 through 65426, and 65428 through 65436 do the following:

- (1) If Figure 1-2 of BHT-505-FM-2 **is** Revision 3 dated 20 JULY 2022 (Figure 5, sheet 2 of 2), go to step 4.
 - (2) If Figure 1-2 of BHT-505-FM-2 **is not** Revision 3, remove Figure 1-2 from the RFM and insert Revision 3 of the Figure 1-2 into the RFM, then go to step 4.
- c. For owner/operator convenience, a printable version of Figure 1-2 Revision 3 and Revision 9, as applicable, in the correct RFM size and format, is available in this bulletin (Figure 5).
4. Make an entry in the helicopter logbook and historical service records indicating compliance with this Alert Service Bulletin.

AFT CG - AIRSPEED LIMITATIONS - KIAS											
OAT °C	PRESSURE ALTITUDE FT x 1000										
	0	2	4	6	8	10	12	14	16	18	20
50	120	—	—	—	—	—	—	—	—	—	—
45	122	115	—	—	—	—	—	—	—	—	—
40	124	116	115	—	—	—	—	—	—	—	—
35	125	118	115	115	108	—	—	—	—	—	—
30	127	120	115	115	110	103	—	—	—	—	—
25	129	121	115	115	111	104	97	—	—	—	—
20	130	123	116	115	113	106	98	91	—	—	—
0	130	130	123	115	115	112	105	98	90	83	76
-25	130	130	130	125	117	115	114	106	99	92	84
-40	130	130	130	125	121	116	112	107	103	97	90

MAXIMUM AUTOROTATION VNE 100 KIAS

Figure 1 – Aft Center of Gravity Airspeed Limitations Placard (SLS-020-600-109)

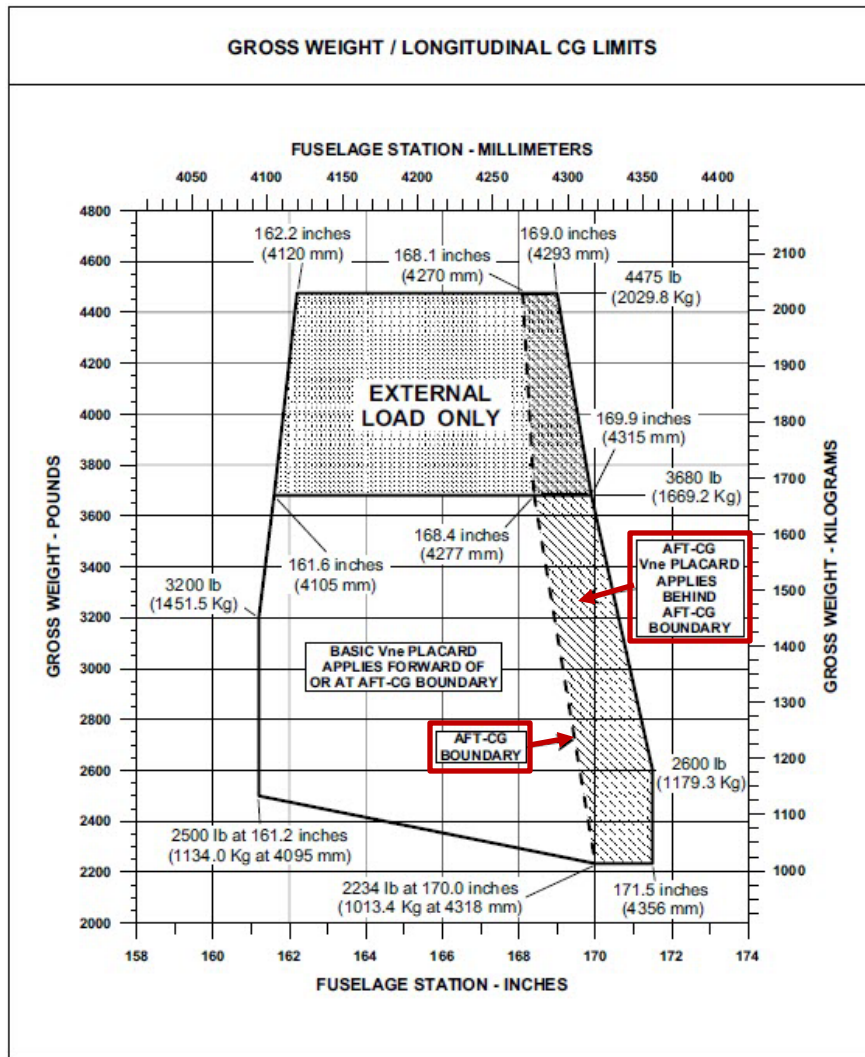
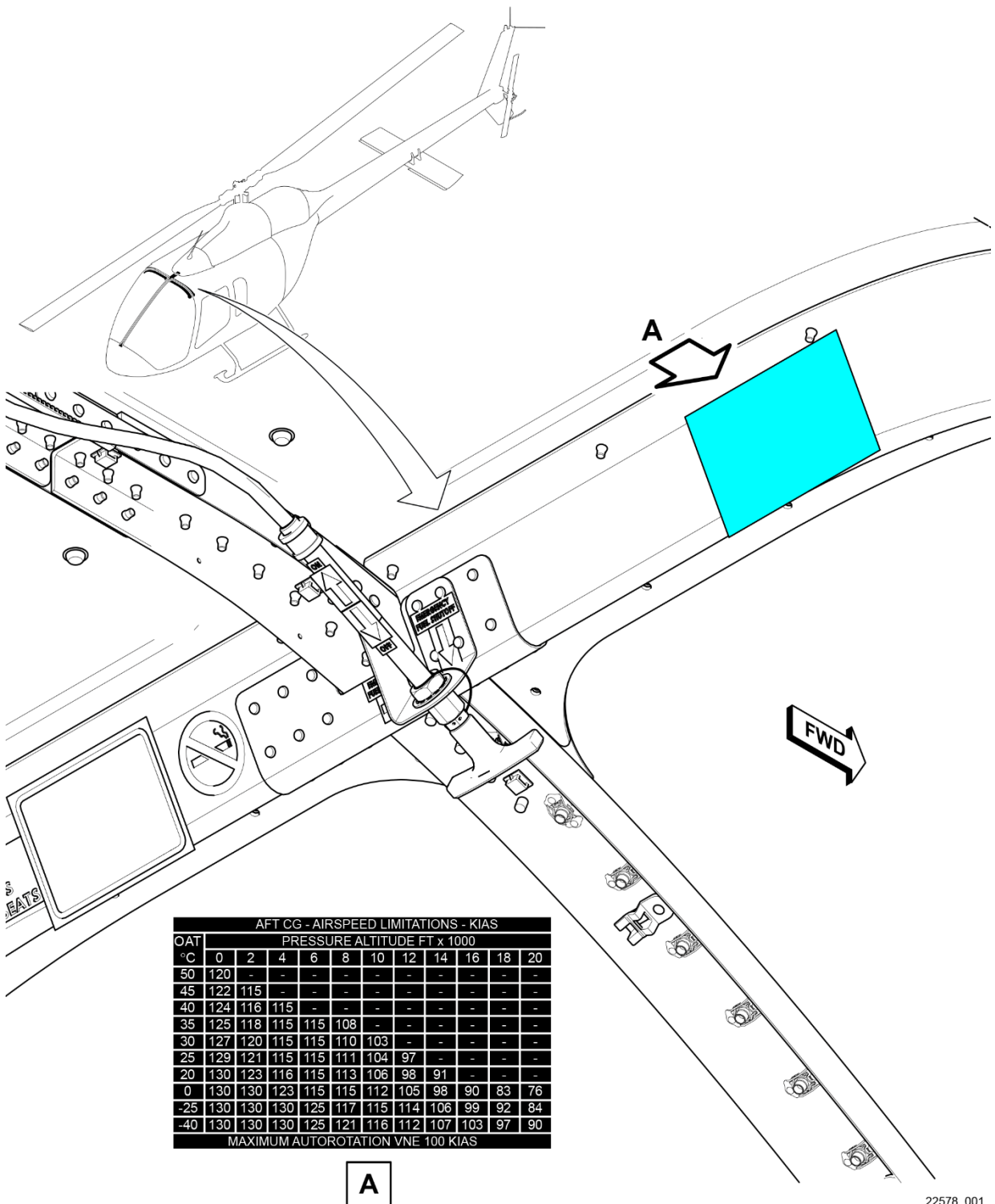


Figure 2 - Gross Weight Longitudinal Center of Gravity Limits

The screenshot shows the Bell Technical Publications website interface. At the top, there is a navigation bar with the Bell logo, 'MYBELL', 'TECHNICAL PUBLICATIONS', 'RESOURCES', and 'TRAINING'. Below this is a large banner with the text 'TECHNICAL PUBLICATIONS'. The main content area is titled '505 - Table of Contents' and includes a search bar and a 'Expires on December 31, 9999' notice. On the left, there are filters for 'Select your Model' (set to 505) and 'Select your Publication' (set to All). The main list of publications includes: Standard Numbering System, Latest Revisions (highlighted with a red arrow), Flight Manual, Manufacturer's Data, Garmin Pilot Guides, Maintenance Planning Information, Maintenance Manual, Illustrated Parts Catalog, Component Maintenance Manual, Component Maintenance Manual Vendor Data, Fault Isolation Manual, Wiring Diagram Manual, and Service Installation Instructions.

The screenshot shows the '505 - Revisions - Flight Manual' page. It lists several revisions of the flight manual, each with a download icon and a title. The revisions are: 505-FM-1-ANAC - Rev. 1 Only - Flight Manual Title Page for Helicopters Registered in Argentina (Rev. 1 - 13-May-2020), 505-FM-1 - Rev. 8 Only - Flight Manual (Rev. 8 - 21-Sep-2021), 505-FM-1 - Rev. 7 Only - Flight Manual (Rev. 7 - 25-Aug-2021), 505-FM-1 - Rev. 6 Only - Flight Manual (Rev. 6 - 16-Apr-2020), 505-FM-1 - Rev. 5 Only - Flight Manual (Basic Issue: 30-Oct-2019), 505-FM-2 - Rev. 2 Only - Flight Manual (Rev. 2 - 21-Sep-2021), 505-FM-1 - Rev. 4 Only - Flight Manual (Rev. 4 - 03-May-2019), 505-FM-2 - Rev. 1 Only - Flight Manual (Rev. 1 - 25-Aug-2021), 505-FM-1 - Rev. 3 Only - Flight Manual (Rev. 3 - 25-Jul-2018), 505-FM-1 - Rev. 2 Only - Flight Manual (Rev. 2 - 22-Mar-2018), and 505-FM-1 - Rev. 1 Only - Flight Manual (Rev. 1 - 22-Nov-2017). A large red watermark reading 'EXAMPLE ONLY' is overlaid on the right side of the page.

Figure 3 – Accessing 505 Technical Publication “Latest Revisions”



22578_001

Figure 4 – Installation of AFT Center of Gravity Airspeed Limitations Placard

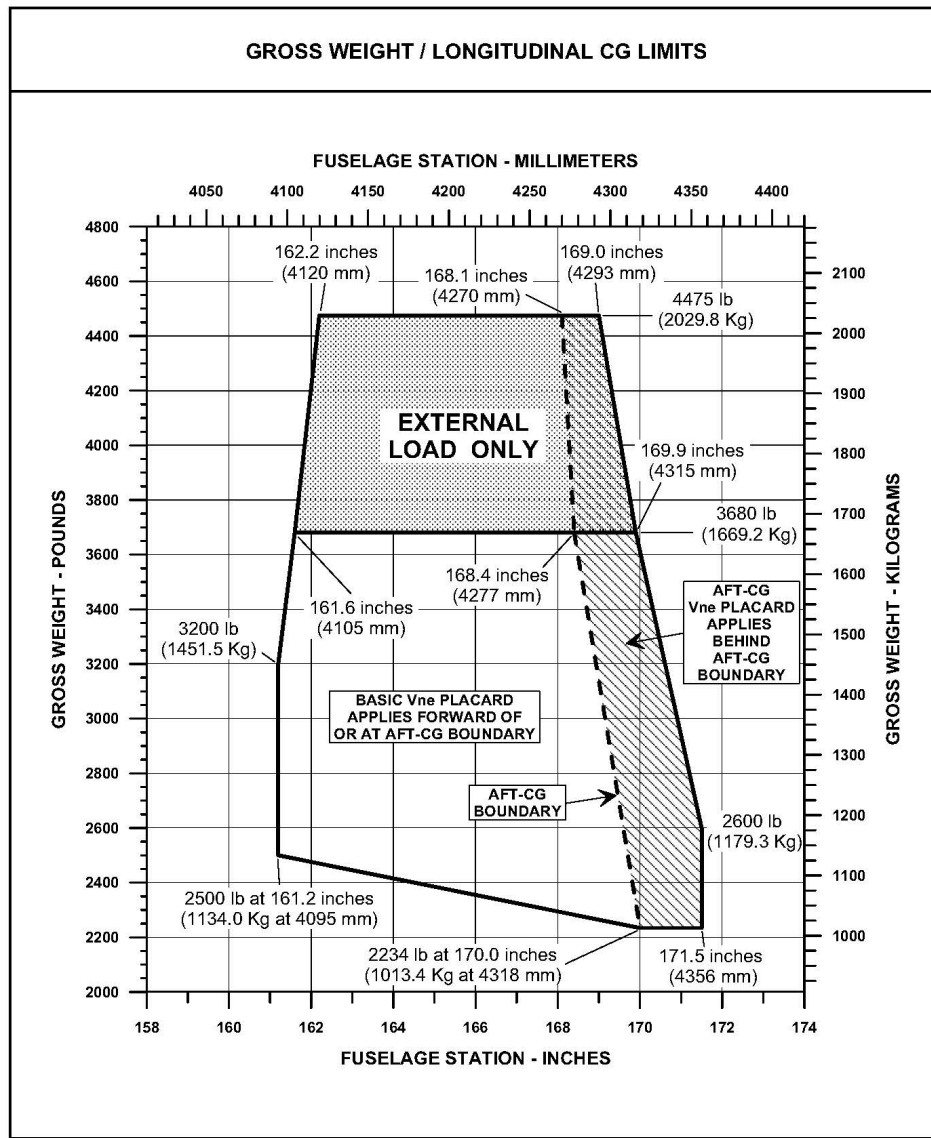


Figure 1-2. Gross weight longitudinal center of gravity limits

Figure 5 – Printable Figure 1-2 Gross Weight Longitudinal Center of Gravity Limits (sheet 1 of 2) (Print and cut on dotted lines and insert into RFM)

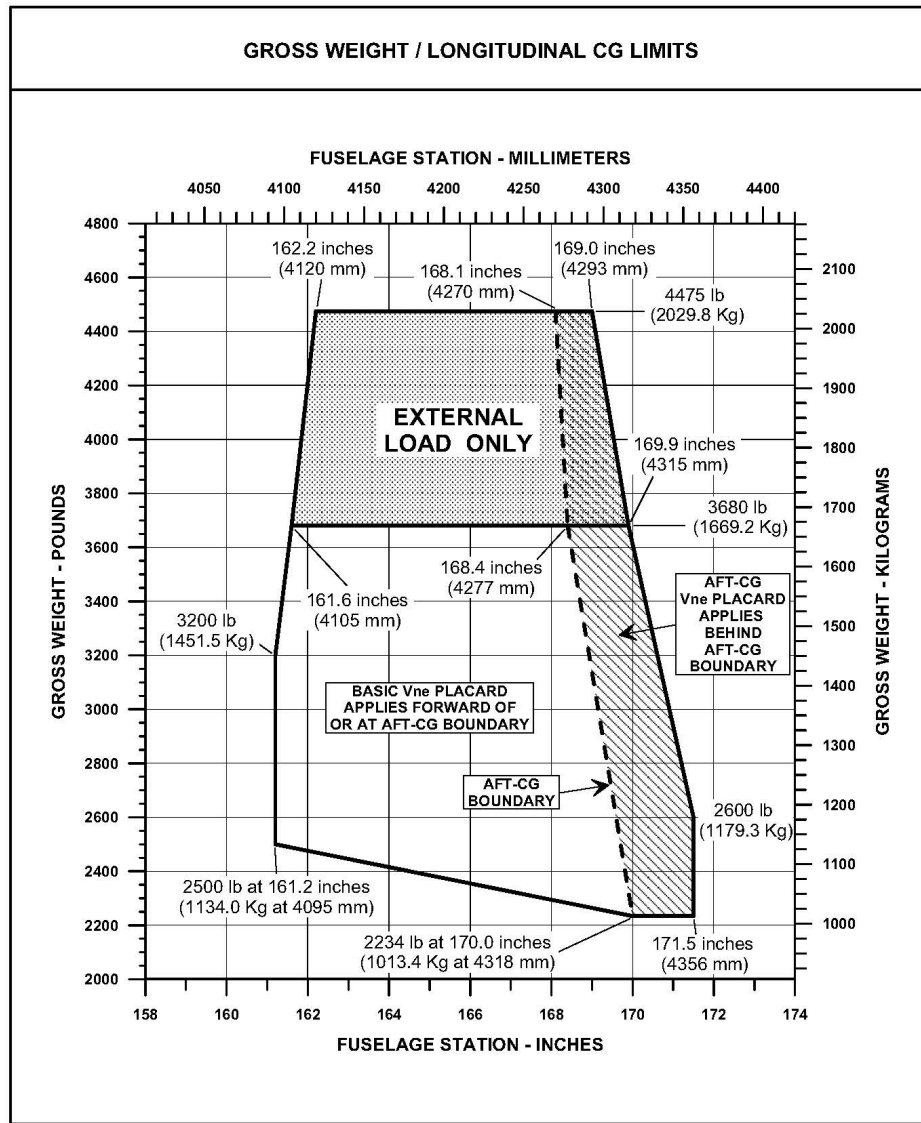


Figure 1-2. Gross weight longitudinal center of gravity limits

Figure 5 – Printable Figure 1-2 Gross Weight Longitudinal Center of Gravity Limits (sheet 2 of 2) (Print and cut on dotted lines and insert into RFM)