



Van Horn Aviation, L.L.C.

*1510 W. Drake Drive
Tempe, Arizona 85283*

FAA APPROVED

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

For

VHA 2062200-101/-301/-501 TAIL ROTOR BLADES

Installed On

MODEL 206L1 HELICOPTERS

REGISTRATION No. _____

SERIAL No. _____

This supplement must be attached to Model 206L1 Flight Manual when Van Horn Aviation **2062200-101/-301/-501 Tail Rotor Blades** have been installed in accordance with STC No. SR02249LA.

The information contained herein supplements or supersedes information of basic Flight Manual only in those areas listed herein. For limitations, procedures, and performance data not contained in this supplement, consult basic Flight Manual and applicable Flight Manual Supplements.

FAA Approved _____
Manager, West Flight Test Section, AIR-716
Federal Aviation Administration
Los Angeles, CA

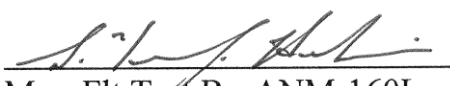
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RFM Supplement to the
 Basic Rotorcraft Flight Manual
 BHT-206L1-FM-1 and Applicable
 Flight Manual Supplements
 STC No. SR02249LA

LOG OF PAGES

Rev. No.	Page No.	Page Rev.	Description	FAA Approval
0	1 2 3 4 5 6 7 8	0 0 0 0 0 0 0 0	Original issue of complete supplement.	<u>/s/ Seyed-Youssef Hashemi</u> Mgr, Flt Test Br, ANM-160L FAA, Los Angeles ACO Transport Airplane Directorate Date: <u>12/01/2011</u>
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2	1* 2* 3 4* 5* 6 7 8	2 2 1 2 2 1 1 1	Added reference to -501 configuration.	 Manager, West Flight Test Section, AIR-716 Federal Aviation Administration Los Angeles, CA Date: _____

Revised pages marked with "*" symbol.

NOTE

Revised text is indicated by a black vertical line.
 Insert latest revision pages; dispose of superceded pages.



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INTRODUCTION

The VHA 2062200-101/-301/-501 tail rotor blade is a composite and metallic structure incorporating the NASA-developed RC (4)-10 (10% thick) rotor blade airfoil. The VHA blade radius is approximately .10 inches shorter than the existing production tail rotor blade. Blade chord length is the same as the existing blade at 5.25 inches. The tip of the blade is rounded to reduce noise and tip drag. An electroformed nickel abrasion strip is added for erosion protection.

SECTION 1

OPERATING LIMITATIONS

No Change

SECTION 2

NORMAL PROCEDURES

No change

SECTION 3

EMERGENCY PROCEDURES

No change

SECTION 4

MALFUNCTION PROCEDURES

No change



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SECTION 5

PERFORMANCE DATA

IGE AND OGE HOVER CEILING CHARTS

The advanced airfoil used on the VHA 2062200-101/-301/-501 tail rotor blade results in increased stall margin, thereby improving high altitude performance. Satisfactory stability and control has been demonstrated in relative winds of 30 MPH (26 knots) sideward and rearward at all loading conditions within an expanded Area A of Hover Ceiling Charts. The expanded Area A includes the following increases in allowable weight through Area B only and up to the allowable maximum gross weight:

IGE – 170 lbs
OGE – 75 lbs

These weight increases are applicable for Basic Flight Manual and all Bell Helicopter Textron FAA approved Flight Manual Supplements.

IGE EXAMPLES

Three examples are shown below for a sample IGE Hover Ceiling Chart (Figure 5-1). A chart on the next page illustrates these examples.

Example 1:

Pressure Altitude = 12,000 ft

Outside Air Temperature = 0°C

Initial Result = Area A maximum of 3640 lbs

Additional Allowable: Adding 170 lbs results in a maximum weight of 3810 lbs. This is less than the maximum gross weight of 4150 lbs, so the full 170-lb increase is permitted.

Example 2:

Pressure Altitude = 7,500 ft

Outside Air Temperature = 20°C

Initial Result: Area A maximum of 4040 lbs.

Additional Allowable: Adding 170 lbs results in a maximum weight of 4210 lbs. This is more than the maximum gross weight. Subtract the Area A maximum from the maximum gross weight to find the additional allowable weight ($4150 - 4040 = 110$ lbs).

Example 3:

Pressure Altitude = 2,000 ft

Outside Air Temperature = 40°C

Initial Result = Area A maximum of 4150 lbs. This is the maximum gross weight, so no additional weight is permitted.



NOTE

The use of Van Horn Aviation tail rotor blades does NOT authorize loading over the following aircraft's maximum gross weight limits at any time or in any condition:

- 4050 lbs internal gross weight for basic helicopter configuration
- 4150 lbs internal gross weight with main rotor yoke P/N 206-011-149-101 installed (see note 26, TCDS H2SW)
- 4250 lbs external gross weight limit

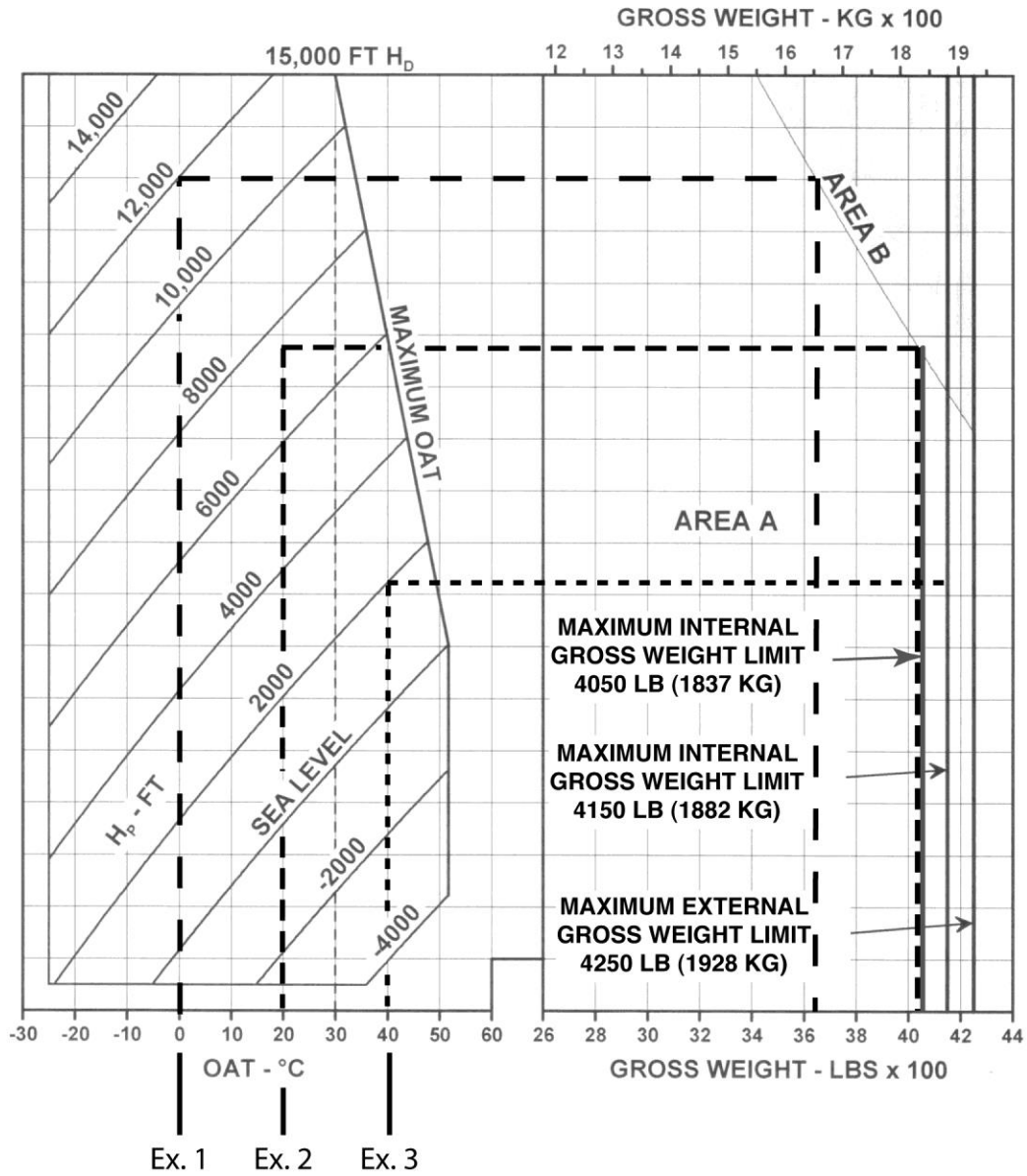


Figure 5-1
 Sample IGE Hover Chart



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OGE EXAMPLES

Three examples are shown below for a sample OGE Hover Ceiling Chart (Figure 5-2). A chart on the next page illustrates these examples.

Example 1:

Pressure Altitude = 12,000 ft

Outside Air Temperature = 0°C

Initial Result = Area A maximum of 3530 lbs

Additional Allowable: Adding 75 lbs results in a maximum weight of 3605 lbs. This is less than the maximum gross weight of 3870 lbs permitted for this condition, so the full 75-lb increase is permitted.

Example 2:

Pressure Altitude = 8,000 ft

Outside Air Temperature = 13°C

Initial Result: Area A maximum of 3950 lbs

Additional Allowable: Adding 75 lbs results in a maximum weight of 4025 lbs. This is more than the maximum gross weight of 4010 lbs permitted for this condition. Subtract the Area A maximum from the maximum gross weight to find the additional allowable weight ($4010 - 3950 = 60$ lbs).

Example 3:

Pressure Altitude = 4,000 ft

Outside Air Temperature = 30°C

Initial Result = Area A maximum of 4080 lbs. This is the maximum gross weight for this condition, so no additional weight is permitted.



NOTE

The use of Van Horn Aviation tail rotor blades does NOT authorize loading over the following aircraft's maximum gross weight limits at any time or in any condition:

- 4050 lbs internal gross weight for basic helicopter configuration
- 4150 lbs internal gross weight with main rotor yoke P/N 206-011-149-101 installed (see note 26, TCDS H2SW)
- 4250 lbs external gross weight limit

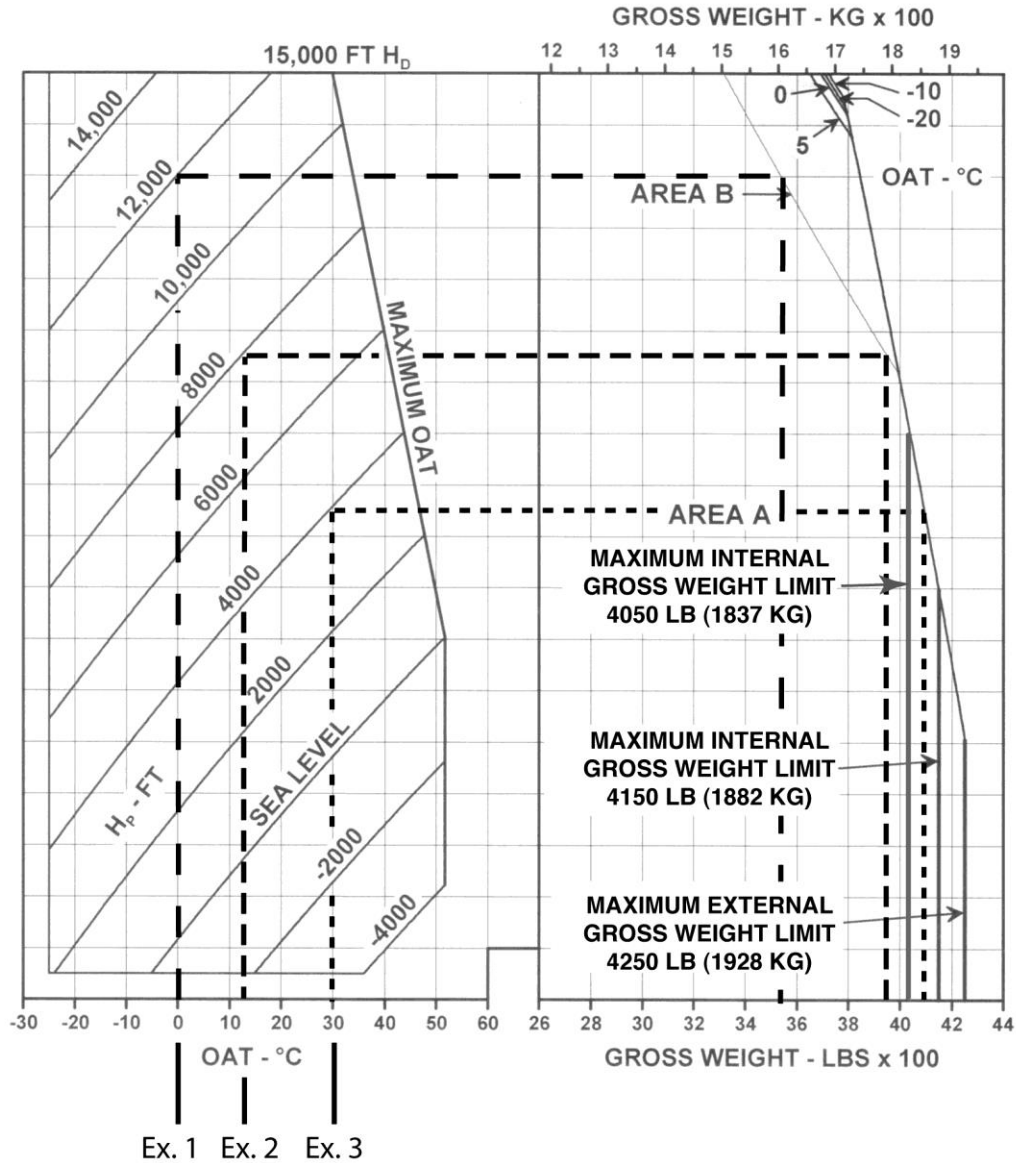


Figure 5-2
 Sample OGE Hover Chart