

**BELL MODEL 206B
JET RANGER II
FLIGHT MANUAL
SUPPLEMENT FOR
206-706-335
CARGO HOOK
1500 POUND
(681 KILOGRAMS)
CAPACITY**

**FAA APPROVED
JUNE 16, 1972**

This supplement shall be attached to the Flight Manual, when the 206-706-335 Cargo Hook, 1500 Pound Capacity has been installed.

The information contained herein supplements the information of the basic Flight Manual. For Limitations, Procedures, and Performance Data not contained in this supplement, consult the basic Flight Manual.

Bell Helicopter **TEXTRON**

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INTRODUCTION

The Cargo Hook Kit No. 206-706-335, consists of a frame and hook assembly, electrical and manual (emergency) release system, and attaching hardware. A bungee shock cord is attached to the cargo hook which provides automatic stowing when hook is not in use.

■ Cargo hook is located at fuselage station 108.5.

NOTE

A swivel link is not supplied with the Cargo Hook Kit; however, it is recommended that a link be installed between the suspension cable and the cargo hook.

Section 1

OPERATING LIMITATIONS

OPERATING RESTRICTIONS

Operation of the helicopter with no load on external cargo suspension hook is authorized under the standard airworthiness certificate under VFR conditions without removing the unit from the helicopter.

With a load attached to suspension assembly, operation shall be conducted in accordance with appropriate operating rules for external loads under VFR conditions.

WEIGHT LIMITATIONS

Maximum approved gross weight 3350 pounds (1519.5 kilograms) including external load.

Maximum external cargo load is 1500 pounds (681 kilograms).

AIRSPEED LIMITATIONS

Vne 91 MPH (78 knots) for gross weights above 3000 pounds (1360.8 kilograms).

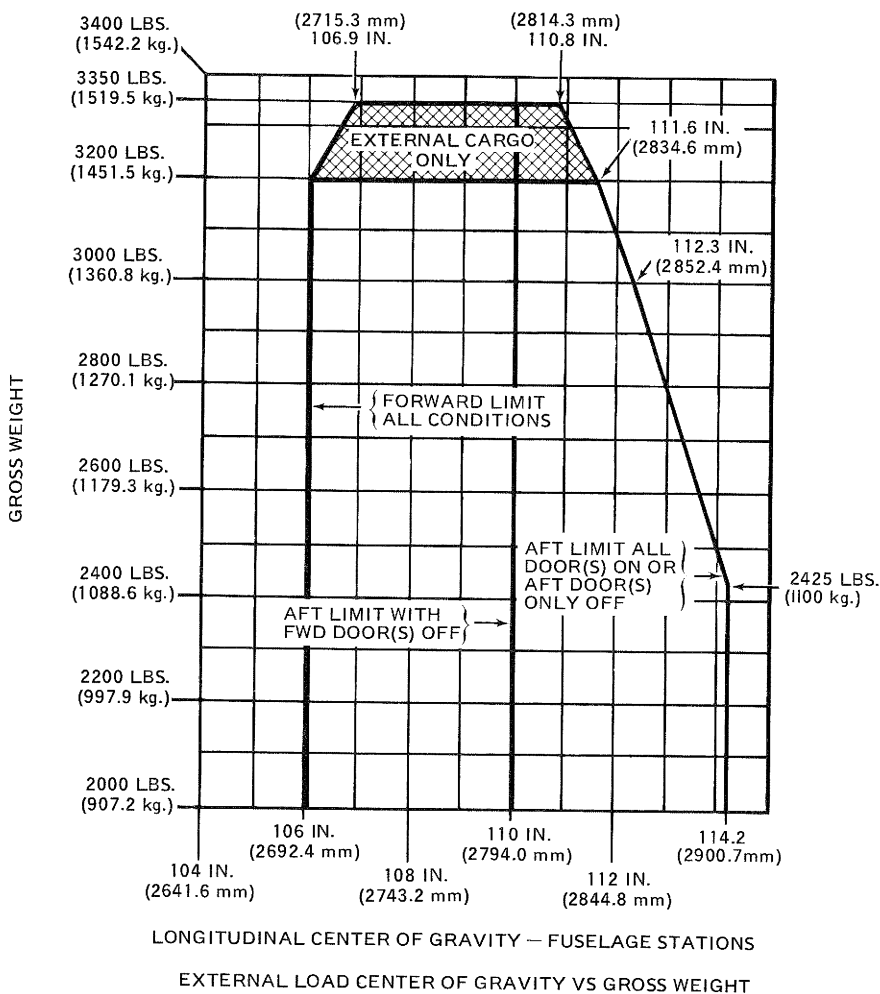
CAUTION

The airspeed with external cargo is limited by controllability. Caution should be exercised when carrying external cargo, as the handling characteristics may be affected due to the size, weight, and shape of the cargo load.

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CENTER OF GRAVITY LIMITS

Actual weight change shall be determined after kit is installed and ballast readjusted, if necessary, to return empty weight CG within allowable limits. Refer to External Load Center of Gravity vs Gross Weight chart.



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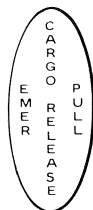
PLACARDS AND MARKINGS

CARGO



RELEASE

(LOCATED ON CYCLIC STICK.)



(LOCATED ON T HANDLE OF
MANUAL RELEASE CABLE.)

LOAD LIMIT 1500 LB

(LOCATED ON UNDER SIDE OF HELICOPTER
ON HOOK FRAME ASSEMBLY.)

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Section 2

OPERATING PROCEDURES

NORMAL PROCEDURES

GROUND CREW INSTRUCTIONS

Instruct ground crewmember to discharge helicopter static electricity before attaching cargo by touching the airframe with a ground wire, or if a metal sling is used, the hook-up ring can be struck against the cargo hook. If contact has been lost after initial grounding, the helicopter should be electrically regrounded and, if possible, contact maintained until hook-up is completed.

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EXTERIOR CHECK

Cargo suspension assembly — Condition and security.

Cargo sling — Condition, proper length.

Check primary load ring and secondary load ring for condition and proper size (table 2-1). Check for correct rigging.

WARNING

Use of multiple rings, slings, or shackles on the load beam or the primary load ring or use of an oversize secondary load ring is like using a primary load ring smaller than nominal size. This can cause the load to hang up during release.

Failure to comply with these instructions may impair cargo hook ring interface operation, resulting in potential problems.

Table 2-1. Ring sizes — cargo hook P/N SP-4232-5

PRIMARY RING INSIDE DIAMETER	PRIMARY RING CROSS SECTION	MAXIMUM CROSS SECTION OF SECONDARY RING
2.38 to 2.5 in. (60.45 to 63.50 mm)	1.0 in. (25.4 mm)	0.438 in. (11.12 mm)
2.5 to 2.75 in. (63.50 to 69.85 mm)	1.0 in. (25.4 mm)	0.625 in. (15.88 mm)

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Check that only one primary ring is captured in the load beam and only one secondary ring with correct cross-section dimension is captured in the primary ring. Additional rings, slings, or shackles shall be attached to the secondary load ring. See figure 2-1.

ENGINE PRESTART CHECK

CARGO HOOK circuit breaker — In.

BATtery switch — ON.

Cyclic CARGO RELEASE switch — Depress and hold; pull down on cargo hook; hook should open. Release switch and hook should close and lock.

BEFORE TAKEOFF

Cargo — Secured; sling attached to cargo.

Ground crewmember — Positioned as required.

TAKEOFF

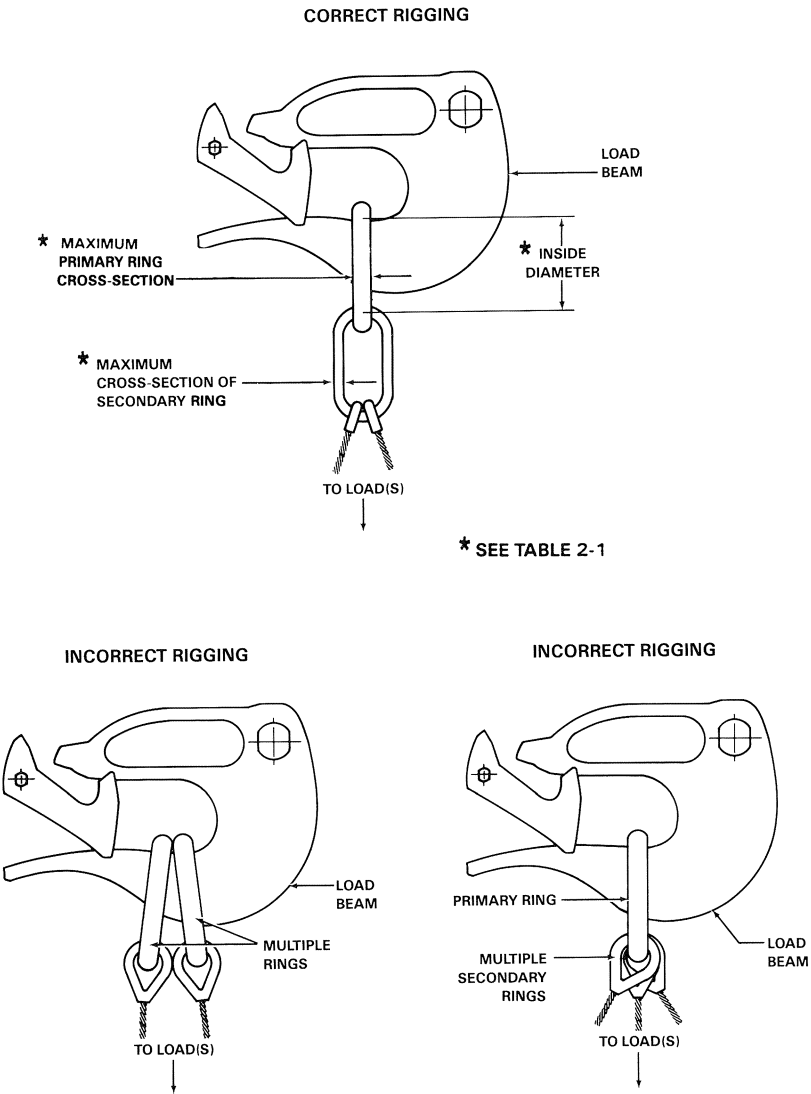
WARNING

Avoid critical relative winds while performing external cargo operations. Refer to Section 3.

Hover helicopter at sufficient height to allow crewmember to discharge static electricity and to attach cargo sling to cargo hook.

Ascend vertically directly over cargo, then slowly lift cargo from surface.

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Figure 2-1. External load rigging

TAKEOFF (Cont)

Pedals — Check for adequate directional control.

Hover power — Check torque required to hover with external load.

Takeoff into the wind if possible, allowing adequate sling load clearance over obstacles.

IN-FLIGHT OPERATION

NOTE

Control movements should be made smoothly and kept to a minimum to prevent oscillation of sling load.

Airspeed — Within limits for adequate controllability of rotorcraft-load combination.

Flight path — As required to avoid flight with external load over any person, vehicle or structure.

DESCENT AND LANDING

Flight path and approach angle — As required for wind direction and obstacle clearance.

Terminate approach to a high hover. When stabilized at a hover, descend slowly until cargo contacts surface. Maintain tension on sling.

Cyclic CARGO RELEASE switch — Engage to release sling from hook.

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EMERGENCY PROCEDURES

CARGO FAILS TO RELEASE ELECTRICALLY

In the event that the cargo hook will not release the sling when the cyclic **CARGO RELEASE** switch is engaged, proceed as follows:

Maintain tension on sling.

Pull **EMER CARGO RELEASE PULL** mechanical release handle to drop cargo.

Section 3

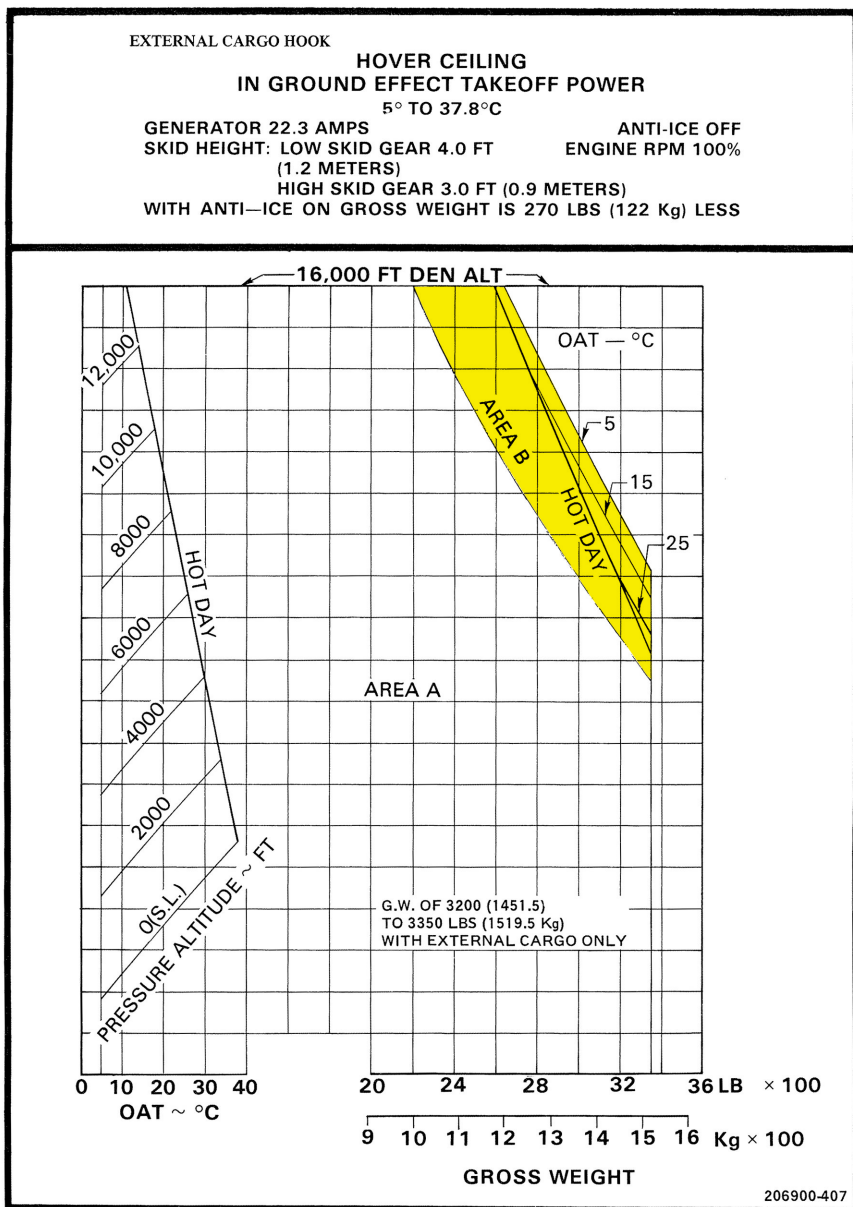
PERFORMANCE DATA

Refer to Particle Separator Supplement when the particle separator is installed.

HOVER CEILING CHARTS.

For hover performance with Cargo Hook installed, refer to Hover Ceiling charts in this supplement. Refer to Section 3 of the basic Flight Manual for use of these charts.

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EXTERNAL CARGO HOOK

HOVER CEILING
IN GROUND EFFECT TAKEOFF POWER

5° TO -54°C

GENERATOR 22.3 AMPS

ANTI-ICE OFF

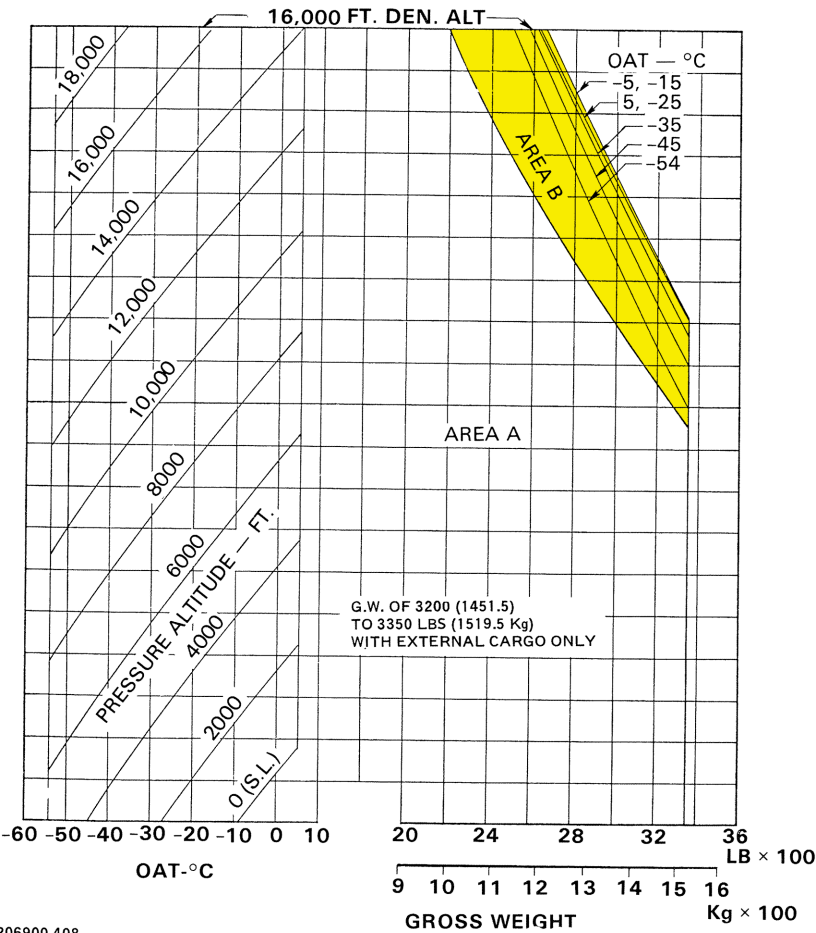
SKID HEIGHT: LOW SKID GEAR 4.0 FT

ENGINE RPM 100%

(1.2 METERS)

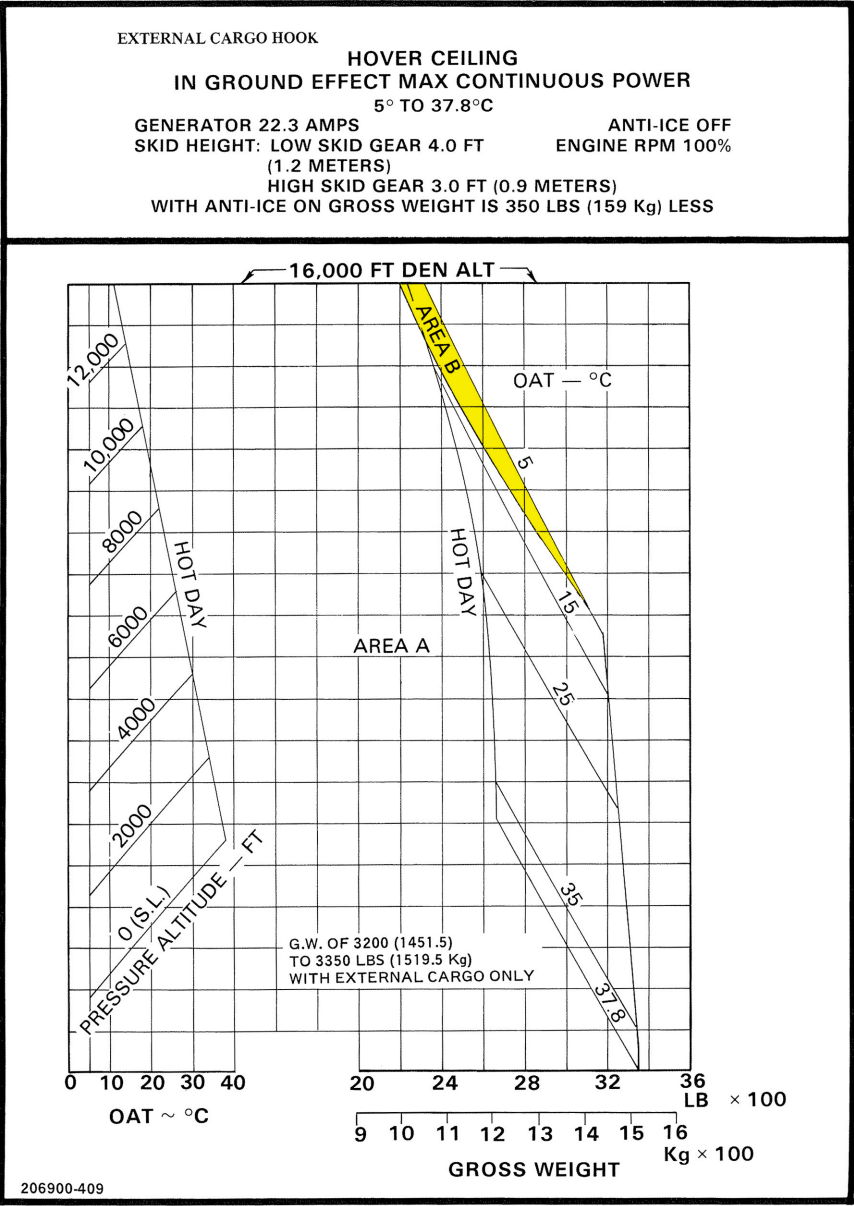
HIGH SKID GEAR 3.0 FT (0.9 METERS)

WITH ANTI-ICE ON GROSS WEIGHT IS 270 LBS (122 Kg) LESS



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EXTERNAL CARGO HOOK

**HOVER CEILING
IN GROUND EFFECT MAX CONTINUOUS POWER**

5° TO -54°C

GENERATOR 22.3 AMPS

ANTI-ICE OFF

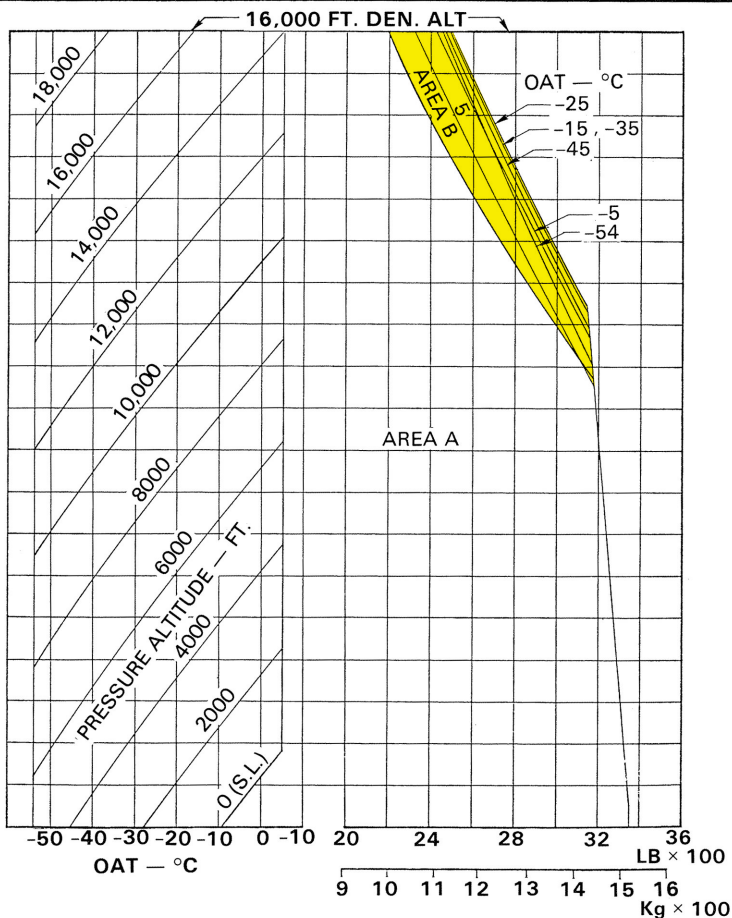
SKID HEIGHT: LOW SKID GEAR 4.0 FT

ENGINE RPM 100%

(1.2 METERS)

HIGH SKID GEAR 3.0 FT (0.9 METERS)

WITH ANTI-ICE ON GROSS WEIGHT IS 350 LBS. (159 Kg) LESS



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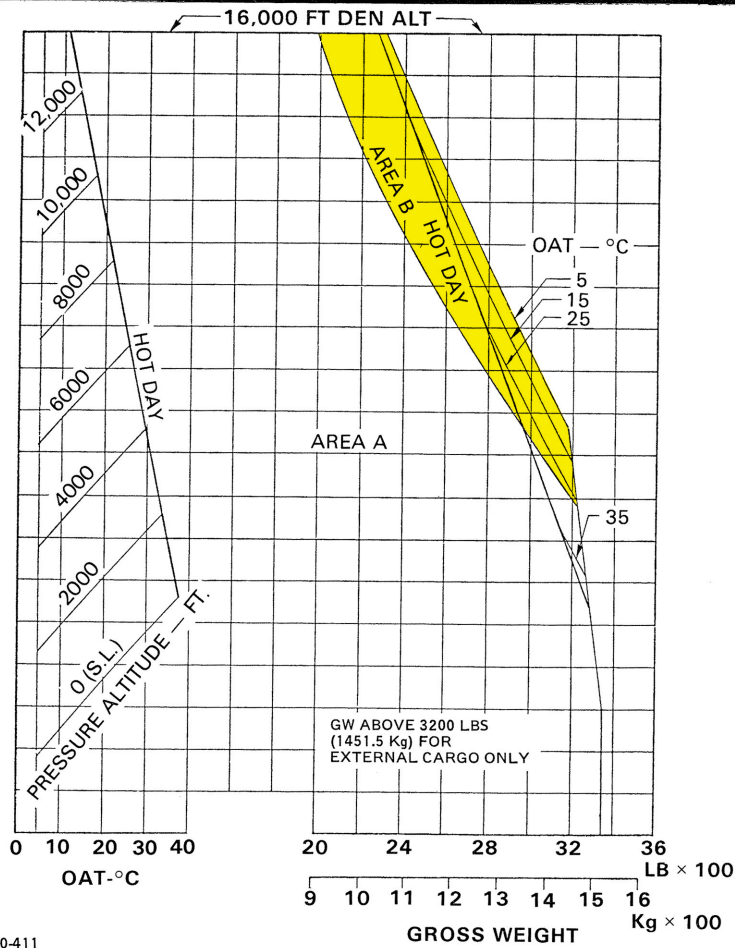
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EXTERNAL CARGO HOOK

HOVER CEILING
OUT OF GROUND EFFECT TAKEOFF POWER
5° TO 37.8°C

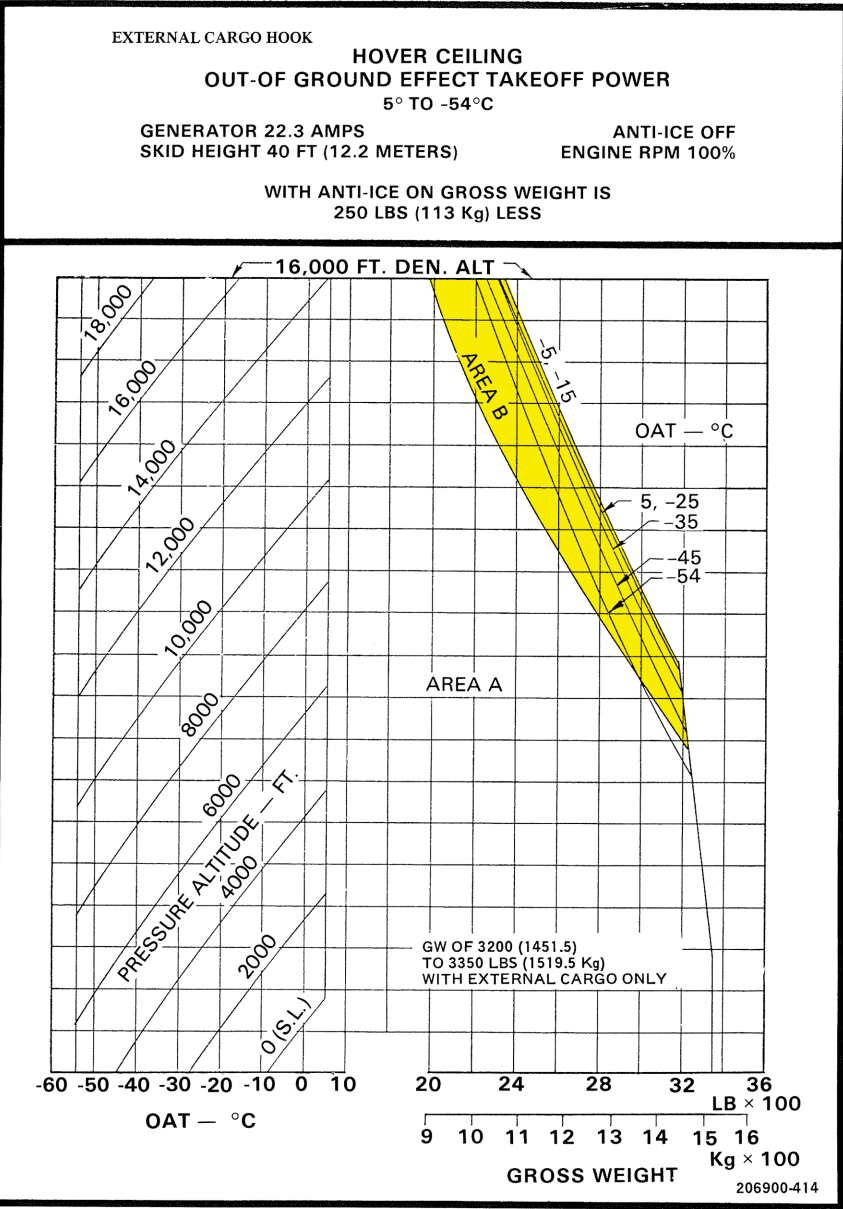
GENERATOR 22.3 AMPS
SKID HEIGHT 40 FT. (12.2 METERS)
WITH ANTI-ICE ON GROSS WEIGHT IS 250 LBS (113 Kg) LESS

ANTI-ICE OFF
ENGINE RPM 100%



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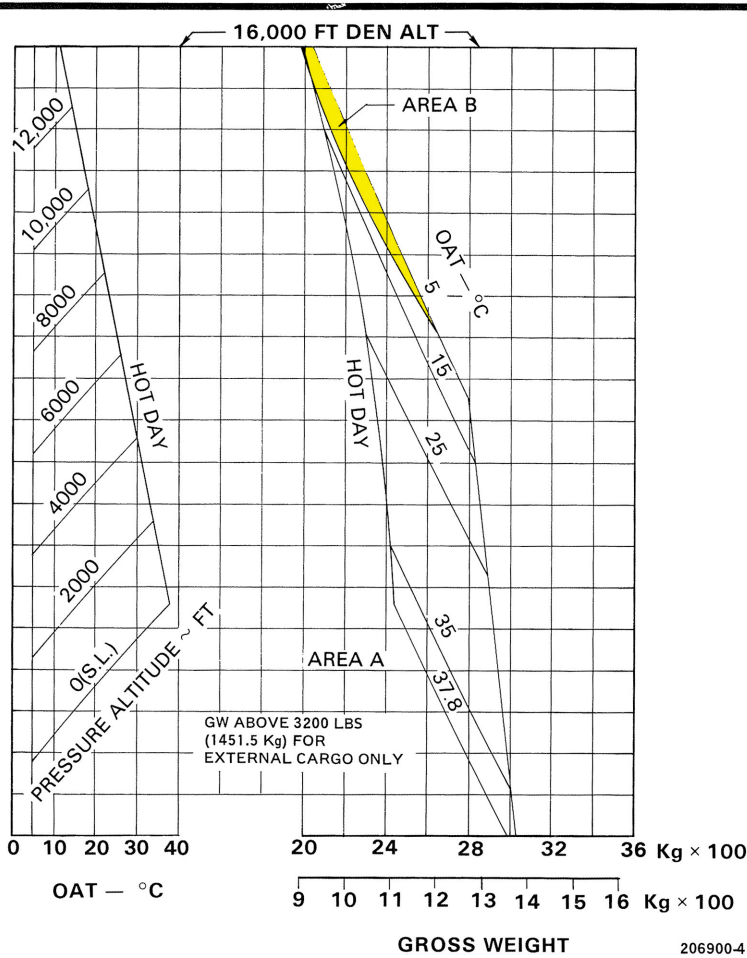
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EXTERNAL CARGO HOOK

HOVER CEILING
OUT OF GROUND EFFECT MAX CONTINUOUS POWER
5° TO 37.8°C

GENERATOR 22.3 AMPS
SKID HEIGHT 40 FT. (12.2 METERS)
WITH ANTI-ICE ON GROSS WEIGHT IS 290 LBS (132 Kg) LESS

ANTI-ICE OFF
ENGINE RPM 100%



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EXTERNAL CARGO HOOK

HOVER CEILING
OUT OF GROUND EFFECT MAX CONTINUOUS POWER
5° TO -54°C

GENERATOR 22.3 AMPS

SKID HIGHT 40 FT. (12.2 METERS)

ANTI-ICE OFF

ENGINE RPM 100%

WITH ANTI-ICE ON GROSS WEIGHT IS 290 LBS. (132 Kg) LESS

