

SCHWEIZER AIRCRAFT CORP.

Supplement to the Approved
Rotorcraft Flight Manual

For

Schweizer 333 Model 269D Config. "A" Helicopter

with

CARGO HOOK INSTALLATION
(Part Number 269D9216-2 & -3)

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Date of Approval: _____

MAY 1 2003

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LOG OF PAGES

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1	01 May 2003	7	01 May 2003
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6	01 May 2003	12	01 May 2003

LOG OF REVISIONS

Number Change	Date	Description

NOTE

The change bar (■) defines the latest approved changes.

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Section I

INTRODUCTION

The 269D9216-2 & -3 Cargo Hook Installation consists of a cargo hook which attaches to the landing gear cross beams by four cables. It utilizes an electrical and (emergency) mechanical cargo release.

The 269D9216-2 Installation is for right-hand PIC configured helicopters and the -3 installation is for the left-hand PIC configured helicopters.

When installed, the installation will permit the owner or operator, holding a valid Rotorcraft External Load Operator Certificate, to utilize the helicopter for transportation of Class B Non-Human External Cargo (NHEC) load combinations or other NHEC Rotorcraft-Load Combinations approved in accordance with FAR Part 133, for compensation or hire. All operations with cargo on the hook shall be conducted in accordance with applicable portions of FAR Part 133.

Information provided in this supplement is presented with the intent of furnishing important data that can be used in conjunction with the approved RFM in preparing the Rotorcraft-Load Combination Flight Manual. The Combination Flight Manual, which is required by FAR Part 133, will be prepared by the applicant to obtain the Rotorcraft External Load Operator Certificate.

The helicopter meets the structural and design requirements of CAR 6, provided the data contained in this supplement is included in and imposed by the Combination Flight Manual.

Operation under FAR 91 can be conducted with the cargo hook installed, providing cargo is not being transported.

This supplement must be carried in the FAA Approved Basic 333 Model 269D Config. "A" Rotorcraft Flight Manual, when the Rotorcraft is modified by the installation of the cargo hook kit in accordance with the applicable installation instructions.

Except as modified by the Rotorcraft Flight Manual Supplement, operation in compliance with Section II thru V of the Basic Approved Rotorcraft Flight Manual is mandatory. Other sections of the RFM or supplement are recommended procedures.

Section II
OPERATING LIMITATIONS

2-1. WEIGHT LIMITATIONS

- a. Maximum Rotorcraft - Load Combinations operating gross weight 2550 pounds (FAR 133).

2-2. CENTER OF GRAVITY LIMITATIONS

- a. Longitudinal C.G. envelope is expanded for external load operation only (Fig. 2-1). After the load is released the aircraft must be within the normal category envelope (Fig. 2-2 of the basic RFM).
- b. Lateral C.G. envelope unchanged.

2-3. CARGO HOOK LIMITATIONS

- a. Cargo hook load is limited to 1,000 pounds.
- b. Operation is limited to Non-Human External Cargo (NHEC).
- c. Operation is limited to Class "B" load combinations unless otherwise approved in accordance with FAR Part 133.

2-4. AIRSPEED LIMITATIONS

- a. With no load on hook, airspeed limits are unchanged.
- b. With hook loaded, maximum Vne 80 KIAS at sea level to 3000 feet density altitude. Above 3000 feet reduce Vne 7 kts per 1000 feet of altitude. Refer to Figure 2-2 for Limitations Placard.

Note: Use caution as size and shape of load, and load attaching cable size and length may affect flight characteristics. Satisfactory flight characteristics have been demonstrated with a compact load (24 in. X 26 in. X 8 in. high) suspended by two parallel 3/16-inch cables 4 feet long and attached with a swivel.

SCHWEIZER MODEL 269D Config. "A" HELICOPTER
CSP-D-1T

NOTE: The pilot is responsible for determining the limit speed according to the load and sling length. Particular care must be exercised when bulky loads are being carried on the sling.

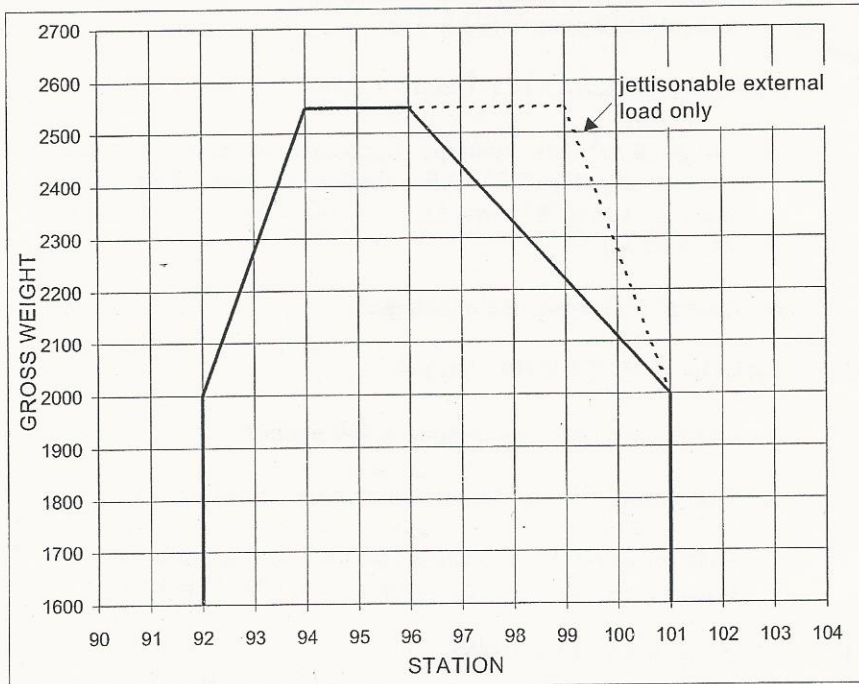


Figure 2-1. Longitudinal Center of Gravity Limits

2-5. ALTITUDE LIMITATIONS

- a. With no load on hook, altitude limitation is unchanged.
- b. With load on hook, maximum operating altitude is 7,000 feet density altitude.

2-6. PLACARDS

- a. Placard stating approved load class(es) and occupancy limitations; display placards in conspicuous location in cabin.

APPROVED FOR CLASS B ROTORCRAFT-
LOAD COMBINATIONS. NO PERSON
MAY BE CARRIED DURING SLING
OPERATION UNLESS PERFORMING
AN ESSENTIAL FUNCTION ASSOCIATED
WITH THAT OPERATION.

- b. Placard stating, "External Load Limit 1,000 Pounds" installed on or next to cargo hook.

MAX. LOAD
1000 LBS.

- c. External Load V_{NE} placard limits imposed with external load (Fig. 2-2) installed on pilot door frame below existing V_{NE} placard.

		EXTERNAL LOAD							
		V_{NE} IAS KNOTS							
OAT		PRESS. ALT. X 1000 FT.							
°C	°F	0	1	2	3	4	5	6	7
-23	-10								74
-18	0							77	68
-7	20			80			76	67	59
4	40					75	67	58	
16	60				75	66	58		
27	80			74	66	57			
38	100		74	66	58	NO FLIGHT			
43	110	79	70	62	53				

Figure 2-2. External Load V_{NE} Placard

Section III
EMERGENCY PROCEDURES

3-1. ENGINE FAILURE

- a. The presence of an external load may further complicate a failed engine condition. Release of loads attached through the cargo hook should be accomplished as soon as practicable; consistent with other safety of flight factors (rotor RPM, altitude, airspeed, ground personnel safety, etc).

3-2. EMERGENCY RELEASE

- a. Pull mechanical release handle to release cargo in the event of an electrical failure. Operate handle quickly and deliberately.

NOTE: Ground support personnel should manually assure positive reset of the cargo hook after use of mechanical release, prior to further cargo pickups.

Section IV
OPERATING PROCEDURES

4-1. NORMAL OPERATION

a. Preflight:

- (1) Place battery switch in BATTERY position and check that HOOK circuit breaker is in.
- (2) Push cargo load ring (D-ring or suitable substitute) into hook throat. Cargo hook keeper should permit easy entrance into throat. Leave ring in hook for remainder of operational checks.
- (3) Pull aft and downward on load ring; hook must remain in locked position.
- (4) Operational Checks:
 - Check electrical and emergency operation of cargo release.
 - Check operation of external release knob (located on left side of cargo hook body).
 - Hook should be returned to the closed position after each of the above checks. The hook may be flown in the open position to facilitate loading by a ground crew.
- (5) Move pilot's cyclic to all extreme positions. Cargo hook must remain locked and external release knob must not rotate.
- (6) With load ring in cargo hook, swing hook to the limits of travel in all directions. Hook must remain in the closed position.

b. Inflight:

- (1) Check cargo HOOK circuit breaker IN.

WARNING

USE CARE TO AVOID PASSING LOAD ATTACHING CABLES OVER LANDING GEAR SKID TUBE WHEN ATTACHING LOAD TO HOOK WITH HELICOPTER ON THE GROUND.

CAUTION

A steel cargo load ring must be used as the attachment to the load beam. Verify that the cargo load ring will freely slide off the load beam when it is opened. Only the primary ring should be in contact with the cargo hook load beam.

- (2) Apply collective smoothly when lifting cargo.

NOTE: Rapid control inputs result in oscillations of load. Avoid rapid inputs.

- (3) Activate electrical cargo release switch on cyclic stick to release cargo.

4-2. STATIC ELECTRICITY DISCHARGE

- a. Instruct ground crew to insure that the helicopter has been electrically grounded prior to attaching cargo to discharge static electricity that may build up in flight. If possible maintain grounding contact until hookup is completed.

Section V
PERFORMANCE

5-1. Hover Performance

Figure 5-1 provides hover ceiling data at 6-foot skid clearance to assist in planning operations with the cargo hook.

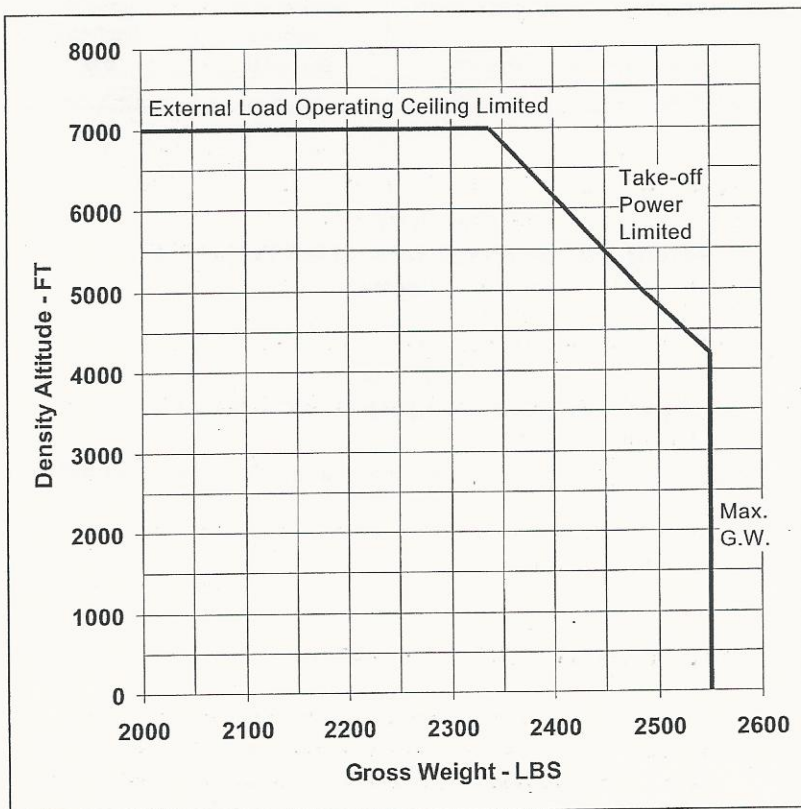


Figure 5-1. Hover Ceiling In Ground Effect
6 Foot Skid Height
Take-Off Power (TOP) and 90% N2
(valid to ISA +41°F conditions)

Section VI
WEIGHT AND LOADING

- 6-1. The following information can be used in conjunction with the Helicopter Owners Manual to determine helicopter weight and center of gravity.

Hook Load			
Installation Part Number	Configuration	Longitudinal (Inches)	Lateral (Inches)
269D9216-2	R/H PIC	Sta. 99.0	0.0
269D9216-3	L/H PIC	Sta. 99.0	RBL 1.0

Section VII
HANDLING, SERVICING & MAINTENANCE
Not Affected

Section VIII
OPERATIONS & PERFORMANCE DATA

- 8-1. No additional performance data are available for the rotorcraft with external load attached.