SCHWEIZER AIRCRAFT CORP.

Supplement to the FAA Approved
Rotorcraft Flight Manual

For

300CBi Model 269C-1 Helicopter

See Page 2 for Effectivity

ROTORCRAFT AMPHIBIOUS FLOAT LANDING GEAR

Part No. 269A4300-15

Date of Original Approval: 11 Aug 2004

Date of Rev # 1 Approval: APR – 1 2005

Approved By: for Vito A. Pulera
Manager, NYACO, ANE-170

FAA APPROVED
ROTORCRAFT FLIGHT MANUAL SUPPLEMENT
ROTORCRAFT AMPHIBIOUS FLOAT LANDING GEAR
PART NO. 269A4300-15
FOR
300CBi MODEL 269C-1 HELICOPTERS

HELICOPTER SERIAL NO. EFFECTIVITY
269C-1 Serial No. 0139 and subsequent
or Serial No. 0001 through 0138 having Schweizer Kit SA-269K-108 Kit, Fuel Injected Conversion installed.

LOG OF PAGES

PAGE	DATE	PAGE	DATE
1	01 Apr 2005	8	11 Aug 2004
2	01 Apr 2005	9	11 Aug 2004
3	01 Apr 2005	10	11 Aug 2004
4	11 Aug 2004	11	11 Aug 2004
5	01 Apr 2005	12	01 Apr 2005
6	11 Aug 2004	13	11 Aug 2004
7	11 Aug 2004	14	01 Apr 2005

NOTE

The change bar (▌) defines the latest FAA Approved changes.

REVISION TABLE

Revision Number	Date	Description
#1		Corrected RPM & format.

This page is intentionally left blank.

Table of Contents

This page is intentionally left blank.

Section I
Introduction and General

The 269A4300-15 Amphibious Float Landing Gear Kit consists of two multiple cell type inflatable floats, landing gear skid extensions and attachment fittings.

Except as modified by this Rotorcraft Flight Manual Supplement, operation in compliance with Section II of the basic FAA Approved Rotorcraft flight Manual is mandatory. Other sections of the RFM or Supplement are recommended procedures.

Section II
Limitations

2-1. CG Limits

Longitudinal – in. (mm)	Lateral – in. (mm)
95.0 (2413)	+2.25 (+57.2), -1.00 (-25.4)
97.5 (2476)	-2.50 (-63.5)
99.5 (2527)	+4.00 (+101.6)
101.0 (2565)	+1.50 (+38.1), -2.5 (-63.5)

NOTE

Lateral "+" is right of centerline, lateral "-" is left of centerline when looking forward.

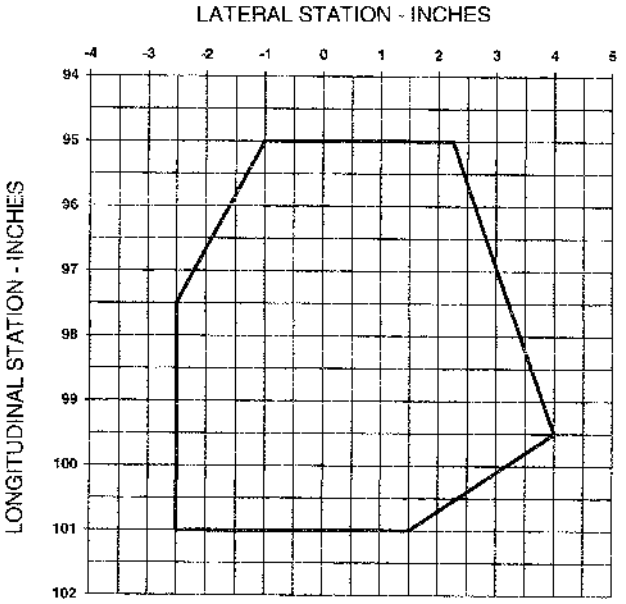

Figure 2-1. Center-of-Gravity Envelope

2-2. The 269A8626-3 Restrictor Plate must be installed between the scroll and the lower portion of the oil cooler only when floats are installed.

2-3. 269A8660-1 Scroll Inlet Turbulator Installation must be installed when floats are installed.

2-4. Model 269C-1 aircraft S/N's 0001 through 0138 must be modified in accordance with Schweizer Kit SA-269K-108 Kit, Fuel Injected Conversion.

2-5. Night flight with floats permitted if the following equipment is installed; landing, navigation (including 2 extra side position lights), anti-collision lights and instrument lights.

2-6. Night operation, to and from water, limited to aircraft equipped with dual 450-watt (GE 4580, 28-volt) landing lights.

2-7. Minimum float inflation pressure 1.5 psig (0.105 kgs/cm gage); maximum float inflation pressure is 6 psig (0.422 kgs/cm gage). To maintain these limits, changes in operating altitude should be considered as follows:

If the Initial Altitude Float Pressure is: PSIG (kgs/cm gage)	Allowable Altitude Increase is: Feet (m)	Allowable Altitude Decrease is: Feet (m)
1.5 (0.105)	9800 (2987)	0 (0)
2 (0.141)	8800 (2682)	1000 (305)
3 (0.211)	6600 (2012)	3000 (914)
4 (0.281)	4400 (1341)	5400 (1646)
5 (0.352)	2200 (671)	7600 (2316)
6 (0.422)	0 (0)	9800 (2987)
NOTE: This will include the normal variation in ambient temperature associated with changes in altitude.		

To account for variations in ambient temperature or water temperature at a given base of operations, the following criteria should be used to maintain the minimum 1.5 psig (0.105 kgs/cm gage) inflation pressure.

When an ambient (air) temperature or water temperature colder than the temperature at initial inflation is anticipated, float inflation pressure should be increased 0.5 psig (0.035 kg/cm gage) (above the minimum 1.5 psig (0.105 kg/cm gage)) for each 15°F (8°C) decrease in temperature anticipated.

Example: Floats inflated to 1.5 psig (0.105 kg/cm gage)

70°F (21°C) Ambient temperature at time of inflation
-45°F (7°C) Anticipated water temp. at scheduled landing/parking site
25° (14°C) Temperature decrease

Pressure change to account for: (25°F ÷ 15°) x 0.5 psig = 0.8 pig
(14°C ÷ 8°C) x .035 kg/cm gage = .061 kg/cm gage

Minimum float inflation pressure for this operation would be:
1.5 psig ÷ 0.8 psig = 2.3 psig
0.105 kg/cm gage + .061 kg/cm gage = .166 kg/cm gage

NOTE
Temperature increases will increase float inflation pressure, and need not be considered. However, 6 psig (0.422 kg/cm gage) must not be exceeded.

2-8. Doors off operation permitted.

If passenger seat is not occupied the seat cushion must be removed (or lashed in place). Secure unused belt and harness to prevent flaying.

2-9. Takeoff and landing to and from water prohibited with external equipment is installed. Float installation is not approved for combined operation with any external cargo racks or litters.

2-10. Model 269C-1 aircraft are equipped with a three-piece chin skin P/N 269A2329-7. The 269A2355-1 Air Scoop Installation is required when the float kit is installed. The 269A2355-1 Air Scoop Installation must be removed for the non-float configuration.

2-11. When the aircraft is equipped with optional 269A4451 cabin heat system, the cabin heat system must be removed prior to float operation above 80° F.

Section III
Emergency and Malfunction Procedures

3-1. Water Landing

a. Engine Failure – Altitude above 400 feet (122 meters).

(1) Enter normal autorotation.

(2) Establish a steady glide of 52 KIAS (97 km/hr IAS).

(3) At about 80 to 100 feet (24 to 30 meters) altitude, apply back cyclic stick until aircraft is slightly nose high, decreasing forward speed and rate of decent.

(4) At about 2 to 10 feet (0.6 to 3 meters) altitude, increase collective to reduce sink rate. Make water contact slightly nose high.

(5) Avoid rapid lowering of collective after landing.

b. Engine failure – altitude above 7 feet (2 meters) and below 400 feet (122 meters). Use procedure outlined in basic flight manual except make water contact slightly nose high. (If altitude and airspeed permit, the procedure outlined in 3-1a. above should be followed.)

c. Engine failure – altitude below 7 feet (2 meters). Follow procedure outlined in basic flight manual.

Section IV
Normal Procedures

4-1. Pilot's Preflight Inspection – On helicopters equipped with 269A2355-1 Air Scoop Installation, inspect intake scoop for foreign objects and debris.

4-2. Rotor Engagement on Water – Determine that sufficient clearance exists between aircraft and any obstacle during rotor engagement. Tail swing before directional control is obtained will be approximately 200 degrees.

4-3. Water touchdown speed should be less than 26 KIAS (48 km/hr). Reduce speed if water is rough.

4-4. On water landing the collective should not be fully lowered until forward speed is 5 KIAS (9.3 km/hr) or less.

4-5. Water taxi speed should be less than 10 knots (18.5 km/hr). A slight application of collective pitch may be used to increase speed, but speed should be kept down so the bows of the floats do not submerge.

For cross-wind taxiing, apply a slight amount of cyclic in order to maintain correct control of the helicopter.

4-6. Hover for approximately 10 seconds to allow water to drain from pitot tube following operations involving moderately high bow waves.

4-7. Night Operation – Water

NOTE

Use both landing lights for all water landings.

a. Normal Night Water Landings

(1) Slow airspeed to approximately 48 KIAS (88 km/hr) for normal approach and reduce collective for desired rate of decent. Maintain 2700 RPM.

(2) At about 80 to 100 feet (24 to 30 meters) altitude raise the nose of the aircraft slightly, reducing airspeed and rate of decent.

(3) Make water contact slightly nose high.

(4) Avoid rapid lowering of collective after landing.

FAA Approved: 11 Aug 2004
Revised: 01 Apr 2005

b. During night takeoff from water, switch to aft landing light(s) to reduce glare.

4-8. Ballast may be required when in solo flight and can be added by the use of the 269A4314-17 weight kit. Ballast consists of a 2.5-pound (1.1-kg) bag, 45-pound (20.4-kg) weight, and 20-pound (9.1 kg) weight. Maximum ballast is 65 pounds (29.5 kg).

4-9. When ballast is air transported in or on the helicopter it should be stowed and secured.

NOTE

No storage between seats with center collective installed.

4-10. Water operations including taxi, take-off and landing approved for maximum wave heights up to 1.0 foot (30 cm) and average winds less than 8 knots. (Reference: Sea State 1; based on the World Meteorological Organization)

Section V
Performance Data
Not Affected

Section VI
Weight and Balance

6-1. Float installation center of gravity limits are shown under Limitation, Section II. Weight and balance calculation should use the following information to ensure these center of gravity limitations are not exceeded:

ITEM		Weight	Arm
Part No.	Description	Lbs (kg)	In. (mm)
269A4300-15	Float Installation	58.2 (26.4)	118.6 (3012)
269A4314-9	Ballast Bag	2.5 (1.1)	52.5 (1334)
269A4314-7	Weight		
	In Ballast Bag	45.0 (20.4)	52.5 (1334)
	In Seat	45.0 (20.4)	79.0 (2007)
269A4314-9	Weight		
	In Ballast Bag	20.0 (9.1)	52.5 (1334)
	In Seat	20.0 (9.1)	79.0 (2007)
269A2355-1	Air Scoop Installation	1.50 (0.7)	46.0 (1168)

Section VII
Aircraft Handling, Service, and Maintenance
Not Affected

Section VIII
Additional Operations and Performance Data
Not Affected