FAA APPROVED

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

TO THE

MDHC MODELS 369HS, 369HM AND 369HE

FAA APPROVED ROTORCRAFT FLIGHT MANUALS
SEE PAGE 3 FOR SERIAL NUMBER EFFECTIVITY

UTILITY FLOATS

This supplement must be attached to the appropriate FAA Approved Rotorcraft Flight Manual when the rotorcraft is modified by the installation of utility floats P/N 20408-101 LH or P/N 20408-102 RH in accordance with STC No. SR00937LA.

The information contained herein supplements or supersedes the basic manual only in those areas listed herein. For limitations, procedures and performance information not contained in this supplement, consult the basic Rotorcraft Flight Manual.

FAA APPROVED D. N. Stone

ACTING Manager, Flight Test Branch, ANM-160L
Federal Aviation Administration
Los Angeles Aircraft Certification Office
Transport Airplane Directorate

Date 10 FEB 2000

LOG OF REVISIONS

Rev.	Page	Date	Description	FAA Approval
N/C	1	3/9/99	No Change	
	2	3/9/99	No Change	
	3	3/9/99	No Change	
	4	3/9/99	No Change	
	5	3/9/99	No Change	
	6	3/9/99	No Change	
	7	3/9/99	No Change	
	8	3/9/99	No Change	
	9	3/9/99	No Change	
	10	3/9/99	No Change	
	11	3/9/99	No Change	

ACTING Mgr. Flight Test Branch
FAA, LAACO
Transport Airplane
Directorate

Date: 10 FEB 2000

TABLE OF CONTENTS

Section	Title	Page
1	Limitations	4
2	Emergency Procedures	8
3	Normal Procedures	8
4	Performance	9

MDHC 500 Models 369HS, HM and HE Helicopters

Helicopter Serial No. Effectivity
369HS Serial No. 0101S and Subsequent
369HM Serial No. 0101M and Subsequent
369HE Serial No. 0101E and Subsequent

FAA Approved Date FEB 10 2000

SECTION 1

LIMITATIONS

1-1. **Weight Limitations**

a. Maximum gross weight, 2515 pounds with 250-C18 engine installed.

b. For take off and landing weight limitations with 250-C18 engine installed, see Figure 1-1.

c. With 250-C20 engine installed, no change.

1-2. **Center of Gravity Limitations**

Longitudinal center of gravity limits are station 99 to 104 at all gross weights.

1-3. **Flight Limitations**

a. Night flights with floats are permitted if the following equipment is installed.

1. Standard Night Light Kit

2. Lighting Kit, P/N 369H90062-511

b. Take off from and landing on water and flight over water at night beyond autorotational capability to the ground is permitted if Night Landing Lighting Kit 369D292032 is installed.

FAA Approved Date FEB 10 2000

SECTION 1

LIMITATIONS

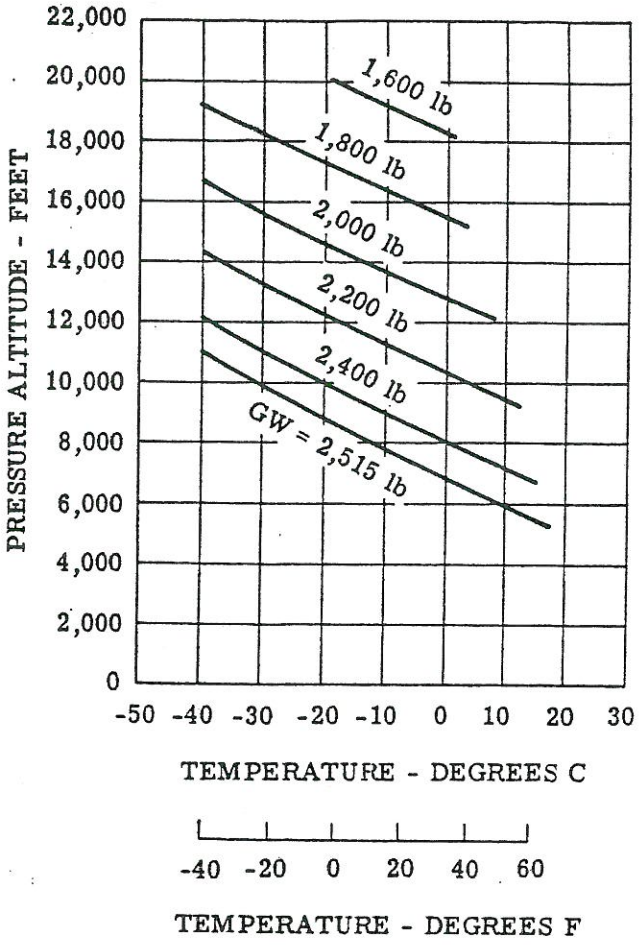

Figure 1-1. Take Off and Landing Weight Limitations for Helicopters Equipped with 250-C18 Engine

FAA Approved Date FEB 10 2000

SECTION 1

LIMITATIONS

Changes of altitude are limited with the following:

If the Base Altitude Float Pressure Is (psig)	The Allowable Altitude Increase Is (feet)	The Allowable Altitude Decrease Is (feet)
1.5 (minimum)	7400	0
2.0	5100	1000
3.0	3000	3000
4.0	1000	5100
5.0	0	7400

Note: This will include the normal variations in ambient temperature associated with changes in altitude.

1. The floats incorporate a pressure relief valve with a nominal setting of 5 psig. If the allowable increase in altitude noted above is exceeded, minimum operational float pressure (1.5 psig) will not be available on return to base altitude.

2. 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 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 (above the minimum 1.5 psig) for each 15° decrease in temperature anticipated.

FAA Approved Date FEB 10 2000

SECTION 1

LIMITATIONS

Example

Floats inflated to 1.5 psig

70° F	ambient temperature at time of inflation
-45° F	anticipated water temperature at scheduled landing or parking site
25° F	temperature decrease

Pressure change to account for

(25°/15°) x 0.5 psig = 0.8 psig

Minimum float inflation pressure for this operation would be as follows:

1.5 psig + 0.8 psig = 2.3 psig

Note: Temperature increase will increase float inflation pressure and need not be considered.

1-4. **Kit Combination Limitations**

a. The 369H90060 Passenger Step Kit may not be installed simultaneously with the Utility Floats.

FEB 1 0 2000

FAA Approved Date _____

SECTION 2

EMERGENCY PROCEDURES

2-1. If an engine-out emergency occurs at night over water , the dual belly-mounted lights should not be illuminated above 1000 feet above surface in order to conserve battery power. Approach and landing procedures as noted in 2-2 and 2-3 should be followed.

2-2. Water touchdown speed should be 20 knots or less.

2-3. Touchdown with a slightly tail low altitude is recommended.

SECTION 3

NORMAL PROCEDURES

3-1. **Rotor Engagement or Brake Application on Water**

Determine that sufficient clearance exists between the helicopter and any obstacle during these operations. Tail swing, before directional control is obtained during engagement, will be approximately 200° nose right and 200° nose left during brake application.

3-2. Water touchdown speed should be 20 knots or less.

3-3. Touchdown with a slightly tail low altitude is recommended.

3-4. Water taxi speed should be less than 10 mph. It will be necessary to use some collective pitch to taxi at more than 5 mph.

3-5. For normal landings on water at night, the dual belly-mounted lights (Kit 369D292032) should be activated to enhance the pilot's perception of the water surface.

FAA Approved Date FEB 10 2000

SECTION 4

PERFORMANCE

4-1. See Figure 4-1 for Hovering Ceiling (2-foot skid height) for helicopters equipped with the 250-C18 engine.

4-2. See Figure 4-2 for Hovering Ceiling (2-foot skid height) for helicopters equipped with the 250-C20 engine.

4-3. Height-Velocity diagram is the same as Figure 3-4 in the basic Rotorcraft Flight Manual and includes the condition of calm water for landing in water.

FAA Approved Date FEB 10 2000

SECTION 4

PERFORMANCE

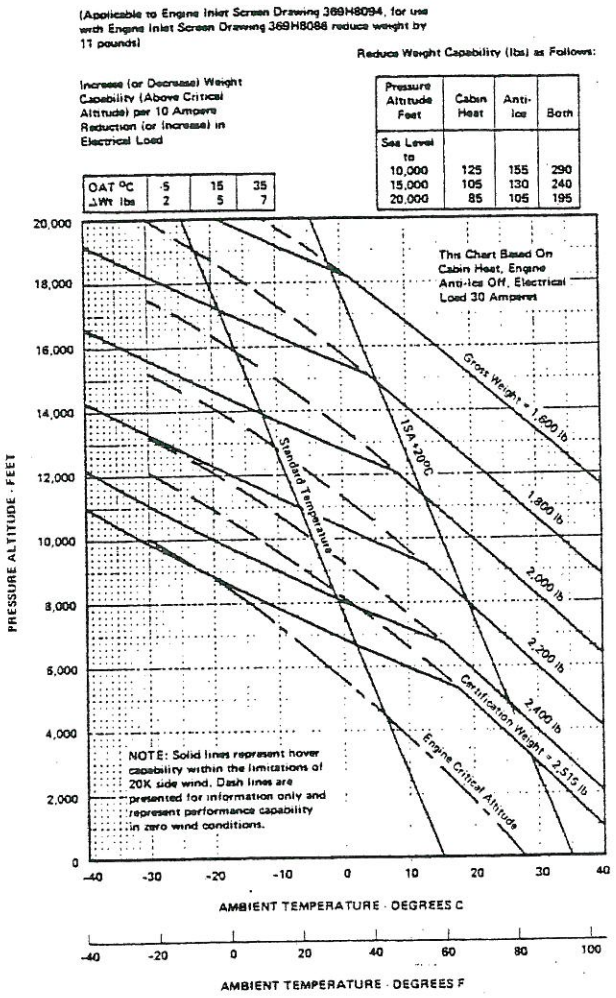

Figure 4-1. Hover Ceiling Versus Temperature, 2-Foot Skid Clearance, Extended Landing Gear, Utility Floats Installed, Take Off Power, 103% N_2, 250-C18 Engine

FAA Approved Date FEB 10 2000

SECTION 4

PERFORMANCE

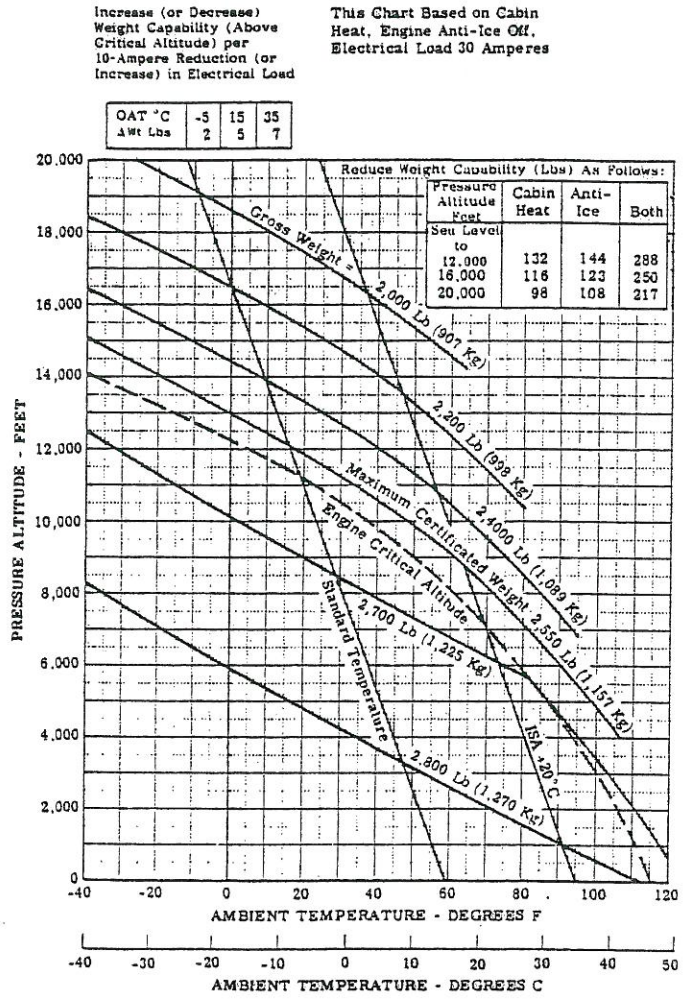

Figure 4-2. Hover Ceiling Versus Temperature, 2-Foot Skid Clearance, Extended Landing Gear, Utility Floats Installed, Take Off Power, 103% N_2, In Ground Effect250-C20 Engine

FAA Approved Date FEB 10 2000

United States of America
Department of Transportation — Federal Aviation Administration

Supplemental Type Certificate

Number **SH8041NM**

This certificate, issued to **Apical Industries, Incorporated**
2608 Temple Heights Drive
Oceanside, California 92056

certifies that the change in the type design for the following product with the limitations and conditions thereof as specified hereon meets the airworthiness requirements of Part ***27** *of the* **Federal Aviation Regulations.** **See T.C.D.S. H3WE**

Original Product — Type Certificate Number: **H3WE**
Make: **McDonnell Douglas Helicopter Company**
Model: **369D, 369E, 369HS, 369HE, 369HM, & 500N**

Description of Type Design Change: **Configuration 1: Installation of emergency floats in accordance with FAA approved California Inflatable Co., Master Document List MD HF369, Revision "D", dated November 2, 1994, or later FAA approved revision. FAA approved California Inflatables Rotorcraft Flight Manual Supplement FMS-500(5) for Model 369D and 369E, FMS-500(7) for Model 500N or FMS-500(8) for Model 369HS, 369HE, and 369HM, dated November 9, 1994, or later FAA approved revision is required as part of this modification.**

See Continuation Sheet.

Limitations and Conditions: **See Continuation Sheet**

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: **February 19, 1993**
Date of issuance: **November 17, 1994**
Date reissued: **December 27, 1995**
Date amended: March 22, 1996

By direction of the Administrator

(Signature)
Manager, Systems and Equipment Branch,
Los Angeles Aircraft Certification Office
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

FAA Form 8110-2 (10-68)

United States of America
Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)

Number

SH8041NM

DESCRIPTION OF TYPE DESIGN CHANGE: (continued)

Configuration 2: Installation of emergency floats in accordance with FAA approved Apical Industries, Inc., Master Document List MD HF369, Revision "H", dated December 18, 1995, or later FAA approved revision. FAA approved Apical Industries Rotorcraft Flight Manual Supplement FMS-500(5) for model 369D and 369E, FMS-500(7) for model 500N, or FMS-500(8) for model 369HS, 369HE, and 369HM, dated January 30, 1996, or later FAA approved revision is required as part of this modification.

LIMITATIONS AND CONDITIONS: (continued)

1. McDonnell Douglas Helicopter Company Float Attachment Kit must be installed prior to the installation of this STC. Follow the chart below for proper Attachment Kit part number:

MODEL	ATTACHMENT KIT
369D	369D290121-515, -517, OR -519
369E	369D290121-527
369 HS, HE, and HM	369H90121-509
500N	369D290121-531

2. This installation should not be incorporated in any aircraft unless it is determined that the interrelationship between this installation and any previously approved configuration will not introduce any adverse effect upon the Airworthiness of the aircraft.

3. Noise characteristics: This modification has been demonstrated to be a "no acoustical change" as defined in section 21.93(b), Amendment 21-70 of the Federal Aviation Regulations.