FAA APPROVED
ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

TO THE

SIKORSKY S-76A, B, C, and D
ROTORCRAFT FLIGHT MANUAL

Helifab’s Auxiliary Fuel Tank

Aircraft Serial Number: __________  Aircraft Registration Number: __________

This supplement must be attached to the FAA approved rotorcraft flight manual when the aircraft is modified by the installation of Helifab’s auxiliary fuel tank in accordance with supplemental type certificate number SR00763DF.

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

FAA Approved

Scott A. Horn
Manager, Fort Worth Aircraft Certification Office
Fort Worth, Texas  76137-4298

Date: November 20, 2015
# LOG OF REVISIONS

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Date: 11/20/15

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NOTES:  
1) Revised text is indicated by a black vertical line in the right hand margin in line with the text.
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SECTION I: OPERATING LIMITATIONS

INTRODUCTION

This section of the flight manual supplement provides operating limitations, normal and emergency procedures for Helifab, Inc. auxiliary fuel tank installation.

LIMITATIONS

All rotorcraft manufacturer limitations are to be followed. The following limitations supersede only those aspects specifically stated herein.

Maximum Baggage Weight in Baggage Compartment

A maximum of 70Lb of baggage may be carried in the baggage compartment when the auxiliary fuel tank is installed. Baggage must be secured in accordance with instructions given in the rotorcraft manufacturer’s flight manual.

Auxiliary Fuel Transfer

Transfer from the auxiliary fuel tank must be accomplished in straight and level flight in order to transfer the maximum available fuel from the auxiliary fuel tank. A nose down pitch attitude is acceptable during auxiliary fuel transfer.

Complete transfer of the auxiliary fuel to the main fuel tanks must be accomplished prior to reaching the halfway point of the endurance calculated using only fuel available in the main fuel tanks.
SECTION II: NORMAL PROCEDURES

Preflight Inspection

In addition to the normal preflight inspections mandated by the rotorcraft manufacturer flight manual, the following preflight checks must be made.

1) Check general security of auxiliary tank ensuring no loose or missing hardware.

2) Check fuel level in auxiliary fuel tank

3) Sump the auxiliary fuel tank and check for water and other contaminants. Continue to sump the auxiliary tank until the fuel shows no sign of water or contamination. Ensure sump valve is secured in the closed position after completion. (The auxiliary fuel tank sump valve is accessed by opening the access door on the left hand side of the auxiliary fuel tank.)

4) Using the shutoff valve control annunciator/switch in the cockpit, operate the auxiliary fuel tank shutoff valve from CLOSED to OPEN and ensure annunciator indicates “OPEN”. Operate the valve from OPEN to CLOSED and ensure annunciator indicates “CLOSED”

5) Ensure auxiliary fuel tank filler cap is secured and locked.

6) Ensure access doors on the right and left hand side of the auxiliary fuel tank are closed and locked.

Taxiing

1) Auxiliary fuel tank shutoff valve indicates “CLOSED”

Pre-takeoff / takeoff

1) Auxiliary fuel tank shutoff valve indicates “CLOSED”

Climb

1) Auxiliary fuel tank shutoff valve indicates “CLOSED”
SECTION II: NORMAL PROCEDURES (Continued)

Cruise

1) As soon as cruise (straight and level) flight has been established, open the auxiliary tank shutoff valve. The annunciator / switch will change from “CLOSED” indication to “OPEN” indication. Fuel will begin to transfer from the auxiliary fuel tank to the main tanks.

Note:
Auxiliary fuel must be transferred as soon as cruise flight is established.

Note:
The quantity of aux fuel indicated on the auxiliary fuel tank quantity indicator should start to drop and both the left hand and right hand main fuel tank gauges should start to rise at an even pace until full. The main tank quantity gauges should stop at the normal full level and should not indicate an overfilled condition. The main tanks should remain full until the auxiliary tank is empty.

2) Once the auxiliary fuel tank quantity indicator indicates 0 Lb, leave the auxiliary tank shutoff valve open for an additional 15 minutes and then close the shutoff valve. The annunciator/switch will change from “OPEN” to “CLOSED” indication.

Pre-landing /Landing

1) Auxiliary fuel tank shutoff valve indicates “CLOSED”
SECTION III: EMERGENCY PROCEDURES

Normal aux fuel transfer rate is, at minimum, the fuel transfer rate required to maintain a constant level of fuel in the main tanks

No Aux Fuel Transfer to Main Tanks

Two issues may cause no aux fuel to transfer to the main tanks; the procedures for each are as follows:

1) Aux tank shutoff valve has not opened or is only partially open.

   If the valve is indicated in the “CLOSED” position after activation of the switch, check circuit breakers for popped breakers and reset as required. If shutoff valve annunciator changes to indicate “OPEN” and normal aux fuel transfer noted, continue flight under normal operation procedures. If aux fuel transfer is below normal rate or nonexistent, return to landing zone for diagnosis of the problem. Aux fuel will not be useable and duration of continued flight should be calculated using only available fuel in the main tanks.

   If the valve shows no OPEN-CLOSED indication after activation of the switch, the valve is only partially open. Check circuit breakers for popped breakers and reset as required. If shutoff valve annunciator changes to indicate “OPEN” and normal aux fuel transfer rate is noted, continue flight under normal operating procedures. If aux fuel transfer is below normal rate or nonexistent, return to landing zone for diagnosis of the problem. Aux fuel will not be useable and duration of continued flight should be calculated using only available fuel in the main tanks.

2) Both float valves in main tank are stuck closed

   If shutoff valve annunciator reads “OPEN” but no aux fuel transfer is noted, cycle the shutoff valve from OPEN to CLOSED and back to OPEN. If aux fuel transfer is below normal rate or nonexistent, return to landing zone for diagnosis of the problem. Aux fuel will not be useable and duration of continued flight should be calculated using only available fuel in the main tanks.
SECTION III: EMERGENCY PROCEDURES (continued)

Aux Fuel Transfers only to Right or Left Hand Main Tank

1) One float valve in stuck in the closed position

If auxiliary fuel transfers only to the left or right hand tank, cross feed from the full main tank until the left and right hand main tanks contain equal fuel volume. Once equal fuel volume is achieved in the main tanks, reset the fuel selector to its normal position per the manufacturer’s rotorcraft flight manual.

One or Both Main Tank(s) Exceeds the Normal Full Level.

1) One or both float valve(s) stuck in the open position.

If during auxiliary fuel transfer the main tank quantity gauges indicate above normal full level, close the auxiliary tank shutoff valve until main tank levels drop to approximately 100Lb below normal full level (100Lb for each tank) and then open the aux fuel tank shutoff valve. When the main tanks register normal full level, close the aux tank shutoff valve. Repeat the previous steps until the auxiliary fuel tank is empty.

SECTION IV: PERFORMANCE INFORMATION

No change to basic rotorcraft flight manual
**U.S. DEPARTMENT OF TRANSPORTATION**  
**FEDERAL AVIATION ADMINISTRATION**  
**STATEMENT OF COMPLIANCE WITH THE FEDERAL AVIATION REGULATIONS**  
**DATE**  
June 18, 2015

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**LIST OF DATA**

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**Notes:**

1. The “Recommend Approval” certification below pertains only to the Flight Analyst aspects of the installation.

2. This Flight Manual Supplement adds applicability of the Aux Fuel Tank to the Sikorsky S-76D model. The content of the supplement remains unchanged from the Rev. 0 version FAA Approved on February 6, 2014.

3. This approval is for Flight Manual Supplement data only. It indicates the data listed above demonstrates compliance only with the regulations specified by paragraph and subparagraph listed below as Applicable Requirements. (Compliance with additional regulations not listed here may be required.) This form does not constitute FAA approval of all the data necessary for substantiation of compliance to necessary requirements for the entire alteration/repair.

4. My authorization to Recommend Approval of this Flight Manual Supplement was issued by Mr. Charles C. Harrison, Project Manager, ASW-140, via email to Helifab (K. St. Aubin) on June 17, 2015.

5. Refer to the Project Specific Certification Plan (PSCP), Helifab document, HF-CP-12-4, Rev. A, or later FAA approved revision for additional requirements.

**8. PURPOSE OF DATA**

To support FAA Project No. SA03547RC-R amendment to STC SR00763DE to add S-76D Auxiliary Fuel Tank Installation.

**9. APPLICABLE REQUIREMENTS (List specific sections)**


10. CERTIFICATION – Under authority vested by direction of the Administrator and in accordance with conditions and limitations of appointment under 14 CFR Part 193, data listed above and on attached sheets numbered _NA_ sheets have been examined in accordance with established procedures and found to comply with applicable requirements of the Airworthiness Standards listed.

![Recommend approval of these data](X)

![Approve these data]( )

**11. SIGNATURE(S) OF DESIGNATED ENGINEERING REPRESENTATIVE(S)**  
Paul J. Magno

**12. DESIGNATION NUMBER(S)**  
DERT-605340-NM

**13. CLASSIFICATION(S)**  
Systems and Equipment, Chart C2, Special: Major Repair, Major Alteration.  
Flight Analyst, Chart G, Special: Major Alteration.