SALMON RIVER HELICOPTERS INC.

External Load Operations Manual

(FAR PART 133 – EXTERNAL LOADS)

APPROVED FOR CLASS B & C LOADS
FOR UH-1F - N4582D & N3181F (Restricted Category)

APPROVED FOR CLASS A, B, & C LOADS
FOR R44 Raven II – N505HS

Salmon River Helicopters
PO Box 1293
Riggins, ID 83549
208-628-3133

INDEX

PART 100 - GENERAL INFORMATION

SUBPART 1 - RECORD OF REVISIONS

Revisions of this manual will be issued as changes to Federal Aviation Regulations or company policies may dictate.

Each manual holder is responsible to keep this manual updated as revisions are issued. A record of changed pages will be included with each revision.

All pages in this manual are dated 3/31/94 and marked "ORIGINAL" except as noted in revisions listed below.

REVISION NO.	DATE	PAGE(S)
1	6/16/1994	523-24
2	6/16/1999	521-24
3	3/27/14	ENTIRE DOCUMENT
4	6/7/2019	2, 3, & 11

FAA Approved
Spokane FSDO
Date 7/24/2019
Signature [signature]

PART 100 - GENERAL INFORMATION

SUBPART 2 - PREFACE

This Salmon River Helicopters, Inc External Load Operations Manual has been developed for the safe operation of external load operations conducted by Salmon River Helicopters, Inc. The procedures and policies contained herein supplement the regulations and are essential to good operating practices and safety. The contents of this manual are not to be construed as contrary to any existing Federal Aviation Administration regulations.

This manual is provided for the use and guidance of all company flight, maintenance and operations personnel in conducting helicopter external load operations in a safe and efficient manner.

PART 100 - GENERAL INFORMATION

SUBPART 3 - DISTRIBUTION

A copy of this manual, including all revisions, will be issued to all management personnel, pilots, lead mechanics, and the Seattle FAA Flight Standards District Office. Pilots while performing their duties under FAR 133 shall have a current copy of this manual in the aircraft performing the work.

The master-record copy of this manual will be kept on file in the operations office, at 1497 Big Salmon River Road, Riggins, Idaho 83549.

PART 110 - INFORMATION AND REGULATIONS

SUBPART 1 - DEFINITIONS, EXCERPTS (FAR PART 1)

1."External Load" - a load that is carried, or extends outside of the aircraft fuselage.

2."External load attaching means" - the structural components used to attach an external load to an aircraft, including external-load containers, the backup structure at the attachment points, and any quick-release device used to jettison the external load.

3."Rotorcraft-load Combination" - the combination of a rotorcraft and an external load, including the external-load attaching means. Rotorcraft-load combinations are designed as Class A, Class B, Class C, and Class D, as follows:

A. Class A Rotorcraft-load Combination: One in which the external load cannot move freely, cannot be jettisoned, and does not extend below the landing gear.

B. Class B Rotorcraft-load Combination: One in which the external load is jettisonable and is lifted free of land or water during the rotorcraft operation.

C. Class C Rotorcraft-load Combination: One in which the external load is jettisonable and remains in contact with land or water during the rotorcraft operation.

D. Class D Rotorcraft-load Combination: One in which the external load is other than a Class A, B, or C and has been specifically approved by the administrator for that rotorcraft operation.

PART 110 - INFORMATION AND REGULATIONS (cont'd)

SUBPART 2 - OPERATING RULES, EXCERPTS

1. Subpart B - 133.11 Certificate Required (excerpts).

(a) No person subject to this part may conduct rotorcraft external-load operations within the United States without, or in violation of the terms of, A Rotorcraft External-load Operator Certificate issued by the Administrator under 133.17.

2. Subpart C - 133.33 Operating Rules (excerpts).

(a) Notwithstanding any provisions of part 91 of this chapter (FAR's), the holder of a Rotorcraft External-Load Operator Certificate may not conduct rotorcraft external load operations over congested areas unless:

(1) The operator develops a plan for each complete operation, coordinates this plan with the FAA District Office having jurisdiction over the area in which the operation is to be conducted, and obtains a waiver and approval for each operation.

(2) Each flight must be conducted at an altitude and on a route, that will allow a jettisonable external load to be released, and the rotorcraft landed, in an emergency without hazard to persons or property on the surface.

PART 110 - INFORMATION AND REGULATIONS (cont'd)

SUBPART 2 - OPERATING RULES, EXCERPTS (cont'd)

3. Subpart C - 133.35 Carriage of persons (excerpts).

(a) No certificate holder may allow a person to be carried during rotorcraft external-load operations unless that person...

1. Is a flight crew member;

2. Is a flight crew member trainee;

3. Performs an essential function in connection with the external-load operation; or

4. Is necessary to accomplish the work activity directly associated with that operation.

4. Subpart C - 133.37 Crewmember training, currency, and testing requirements (excerpts).

(a) No certificate holder may use, nor may any person serve, as a pilot in operations conducted under this part unless that person...

1. Has successfully demonstrated, to the Administrator knowledge and skill with respect to the rotorcraft-load combination in accordance with 133.23, this demonstration may be made to the chief pilot or assistant chief pilot; and

2. Has in his or her personal possession a letter of competency or an appropriate logbook entry indicating compliance with paragraph (a)(1) of this section.

PART 110 - INFORMATION AND REGULATIONS (cont'd)

SUBPART 2 - OPERATING RULES, EXCERPTS (cont'd)

5. Subpart D - 133.45 Operating limitations (excerpts).

(a) No person may conduct an external-load operation under this part with a rotorcraft type certificated in the **restricted category** under Part 21.25 of this chapter over a densely populated area, in a congested airway, or near a busy airport where passenger transport operations are conducted.

6. Subpart D - 133.49 Markings and Placards (excerpts).

(a) A placard (displayed in the cockpit or cabin) stating the class of rotorcraft-load combination for which the rotorcraft has been approved and the occupancy limitation prescribed in 133.45(a).

(b) A placard-marking, or instruction (displayed next to the external-load attaching means) stating the maximum external load....

7. Type Certificate Data Sheet - Markings and Placards.

(a) A placard (displayed in the cockpit or cabin) as follows: RESTRICTED CATEGORY - This helicopter must be operated as a restricted category aircraft and in compliance with the limitations of FAR 91.313 and with the operating limitations stated in USAF T.O. 1H-1(U)F-1 - Section V, and Airworthiness Certificate-Operating Limitations, and in the form of placards, marking and manuals and only for the purpose approved in the Type Certificate Data Sheet

OR

(b) Airworthiness Certificate-Operating Limitations, and in the form of placards, marking and manuals and only for the purpose approved in the Type Certificate Data Sheet

8. Additional Placards Required.

(a) EXTERNAL LOAD OPERATION; Vne will be determined for each proposed external load application.

(b) MSI Indicator not to be used as a primary indicator of performance.

PART 120 - OPERATING LIMITATIONS

A. Gross Weight. Follow maximum gross weight for model specified within the Flight Manual or Pilot's Operating Handbook.

B. Center of Gravity. Follow the center of gravity limitations for the aircraft specified in the Flight Manual or Pilot's Operating Handbook.

C. Structural Load Limitations. These limitations are listed within the Flight Manual and the Type Certificate Data Sheets.

   a. UH-1F – Onboard Systems Supplemental Type Certificate # SR00699SE; Original Product Bell Helicopter, Type Certificate Number H12NM and H7NM.

   b. R44II – Onboard Systems Supplemental, Type Certificate # SR01808SE; Original Product Robinson Helicopter, Type Certificate Number H11NM

D. Airspeed Limitations. (Refer to FAR 133.33 (c))

   a. Refer to applicable Rotorcraft Flight Manual Supplement. When sling loads are being carried, these aircraft will not be operated at airspeeds greater than 80 knots. Do not exceed Vne of basic helicopter.

E. Placards and Markings. The helicopter must have the placards and markings specified in Subpart 2 of this manual including those specified within the applicable Type Certificate Data Sheets or Supplemental Type Certificates. For the Restricted Category aircraft those specified in the FAA issued Operating Limitations, dated February 7, 1994.

PART 130 - OPERATING PROCEDURES

SUBPART 1 - NORMAL OPERATIONS

Normal procedures shall include the following:

Work site preparation - prior to beginning external-load operations the pilot and ground crew should accomplish the following:

A. A daily safety briefing shall be conducted.

B. Make a complete survey (minimum of 100 feet) of the area to include any obstruction, electrical wires, or loose debris in the staging areas, refuel/parking areas, and drop sites.

C. Have a wind indicator as close as possible to the drop sites.

D. Review radio communication procedures, hand and arm signals, and discuss any special signals or radio frequencies and procedures to be used.

E. Ensure that all ground crew personnel use proper PPE including but not limited to: hard hats with chin straps, safety glasses, high visibility garments, and gloves.

F. Make sure sufficient equipment (chokers, cables, swivels, etc.) are available and that they are in serviceable condition.

G. Inspect material to be moved to determine how loads will be carried, how much material can be carried on each load, and how loads will be rigged.

H. Make certain that an accurate means for determining the weight of loads will be used.

I. Using Part 550 of this manual and the helicopter flight manual, determine the maximum load that can be carried and determine that the center of gravity will be within the prescribed limits for various loads to be moved.

The PIC has the final authority when determining if a load can or cannot be lifted safely.

Ground crew other than the pilot, mechanic, and fuel truck driver shall not be within 50 feet of the aircraft when rotors are turning.

PART 130 - OPERATING PROCEDURES (cont'd)

SUBPART 1 - NORMAL OPERATIONS (cont'd)

2. Class B load operations

A. Pre-flight checks that will include:

(1) Check circuit breakers in, and arming switch activated as appropriate.

(2) Activate both electrical and manual releases with a load applied to the hook to insure proper operation. Caution: Do not attempt Class B operations unless both the electrical and manual release functions properly.

(3) Check mirror for adjustment. Pilot should be able to see both the load and the hook.

(4) Remove any unnecessary items from the aircraft, if doors are removed, secure or remove any loose items in the cockpit.

(5) Determine the most efficient fuel load for operation. Refer to Part 550 of this manual and the Helicopter Flight Manual for fuel requirements.

B. Insure that a remote hook and non-rotating cable is used to prevent spinning of the load in flight.

C. Insure that the hook is reset and that the load is properly rigged prior to hookup.

D. Use the hovering hookup only when it is not practical to land beside the cable for hookup.

E. Caution: Do not attach empty nets, ropes, or cables to the aircraft cargo hook, which are long enough to contact the tail rotor in flight unless they are properly weighted and extra care is taken to insure they do not become entangled in any rotating components of the aircraft.

PART 130 - OPERATING PROCEDURES (cont'd)

SUBPART 1 - NORMAL OPERATIONS (cont'd)

F. Caution: If nylon slings are ever used, they must never be long enough to contact any rotating components of the aircraft. Nylon is elastic and can snap back into the aircraft if it is inadvertently released from the load.

G. Caution: Use care when making hookup with the helicopter on the ground to insure that the load attaching cables **DO NOT** pass over the skid tubes or landing gear.

H. All loads should be carefully evaluated as to density, so as to prevent undue oscillations.

I. Smooth movements of the controls can minimize erratic oscillations of the external loads. Oscillation of the load in flight may also be controlled somewhat by increasing or decreasing airspeed. The length of the long line cables will also have some effect on the oscillating tendencies of the load.

J. Select cargo cable assemblies that will ensure at least 15 feet of vertical clearance from the bottom of the skids to the highest obstacle or tree height in the area that the work is to be performed.

SUBPART 2 - EMERGENCY PROCEDURES

1. ELECTRICAL FAILURE.

A. In the event of electrical failure, the load can be released in the normal manner by using the manual release. Approaches should be planned so that if both the electrical and manual fail the helicopter and/or load can be landed or held at a hover until a ground crewmember can release the load.

PART 130 - OPERATING PROCEDURES (cont'd)

SUBPART 2 - EMERGENCY PROCEDURES (cont'd)

2. ENGINE FAILURE.

A. Ground hover and hookup.

(1) All ground crewmembers should be briefed on what actions to take should the engine fail during the hovering hookup. Should this occur or should anything unusual happen during the hovering hookup, the ground crewmember should exit as quickly as possible to the front of the aircraft. If this is not possible, the pilot and crewmember must coordinate their actions in case of emergency prior to conducting the hovering hookup.

B. In Flight.

(1) In the event of engine failure during flight, immediately enter autorotation. After determining that you have minimized the danger to persons or property on the surface, the load should be released. In all cases the load must be released prior to initiating the flare.

(2) Primary considerations for determining when to release an external load in autorotation are:

a. The load should be released as soon as it is safe to do so.

b. A load which is released just prior to the flare may skip into the aircraft after touchdown.

C. At High Hover.

(1) In the event of engine failure during high hover, immediately jettison all external cargo if it safe to do so. If sufficient altitude permits, enter autorotation.

PART 130 - OPERATING PROCEDURES (cont'd)

SUBPART 3 - STATIC ELECTRICITY DISCHARGE

All ground crewmembers should be aware that the helicopter can build a static electricity charge in flight. When possible, long line loads should be allowed to touch the ground before crewmembers touch them. Wearing rubber gloves designed for electrical workers will also minimize the likelihood of being shocked by static electricity discharge.

SUBPART 4 - SPINNING LOADS

Ground crewmembers should be cautioned to never attempt to stop a spinning load by hand. The pilot should stop the spin by placing the load on the ground before any attempt is made to handle it by ground personnel.

SUBPART 5 – ELECTRICAL LINES – MINIMUM APPROACH RULES GOVERNING HELICOPTERS AND PILOTS

Pilots and helicopters assigned to perform work must comply with all the rules pertaining to safe working distances for **energized** facilities.

Operators not under immediate, direct supervision of a QEW (Qualified Electrical Worker), shall maintain the distances from energized high voltage lines specified in the following table:

Minimum Approach Distances

Normal Voltage (phase to phase)	**Minimum Required Clearance (ft)**
600 – 50,000	10′
50,001 – 75,000	11′
75,001 – 125,000	13′
125,001 – 175,000	15′
175,001 – 250,000	17′
250,001- 370,000	21′
270,001 – 550,000	27′

PART 140 - HAND SIGNALS FROM GROUND TO AIRCRAFT

During Salmon River Helicopters' external load operations radio communications will be the primary source of ground to air communication.

(NOTE: Since Salmon River Helicopters employs vertical reference type flying at hover altitudes of 100 feet or more above their ground personnel and the normal hand and arm signals depicted within 8700.1 are not discernable at that altitude, they shall only be used during hover hook up or landing. During external load operations the following hand and arm signals will be used when necessary.

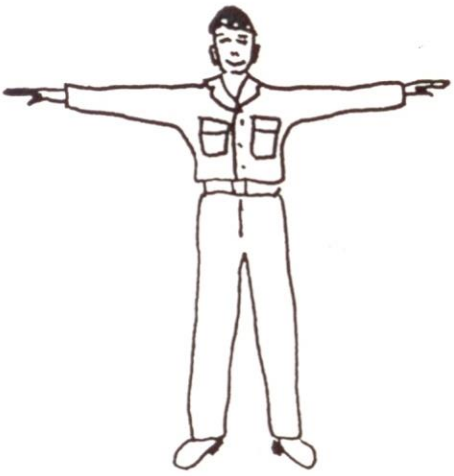
The pilot shall endeavor to maintain visual contact with the appropriate ground personnel during all external load operations. If radio communications are not possible or to supplement radio communications, the following arm and hand signals can be used.

Although not depicted, all ground personnel should wear safety glasses, hard hats with chin straps, and hearing protection.

PART 140 - HAND SIGNALS FROM GROUND TO AIRCRAFT (cont'd)

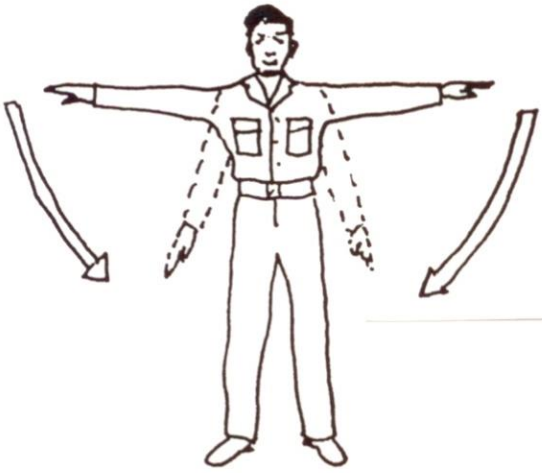
FOR HOVER HOOK UPS OR LANDING

HOVER
Arms extended horizontally sideways, palms down.



STOP
Arms held crossed overhead.

MOVE DOWNWARD
Arms extended horizontally sideways, motioning downward, palms facing down.



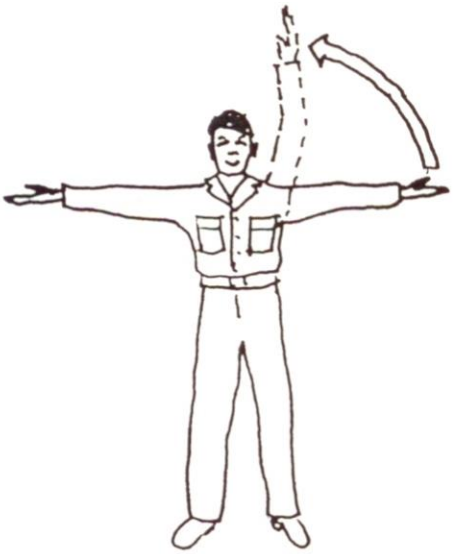
MOVE UPWARD
Arms extended horizontally sideways, motioning upward, palms facing up.

PART 140 - HAND SIGNALS FROM GROUND TO AIRCRAFT (cont'd)

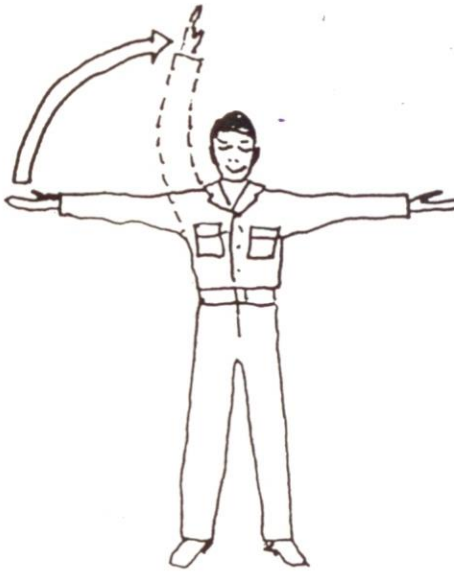
FOR HOVER HOOK UPS OR LANDING

MOVE LEFT

Right or left arm extended horizontally sideways in direction of movement and other motioning in same direction repeatedly.

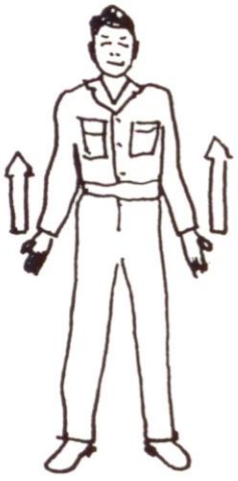


MOVE RIGHT



MOVE REARWARD

Arms at sides, palms forward sweep arms forward and upward repeatedly.



MOVE FORWARD

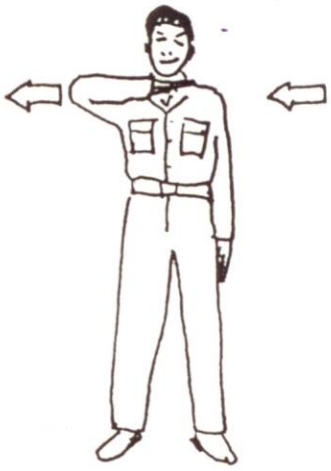
Arms a little aside, palms backward, move hands back and up repeatedly.

PART 140 - HAND SIGNALS FROM GROUND TO AIRCRAFT (cont'd)

FOR HOVER HOOK UPS OR LANDING

RELEASE CABLE
Left arm extended forward horizontally, fist clenched, right hand making horizontal slicing movement below left fist.

CUT ENGINES
Either arm and hand level with shoulder, hand moved across throat.



AFFIRMATIVE
Hand raised, thumb up.

NEGATIVE
Hand raised, thumb down.

PART 140 - HAND SIGNALS FROM GROUND TO AIRCRAFT (cont'd)

LONG LINE WORK

STOP HERE
Both hands raised above the head, facing the aircraft.

TAKE-OFF OR CLEAR
One arm raised vertically, while making a circular motion.

ABORT TAKE-OFF
Arms held out in front horizontally, bring forearms together and then apart in a scissors motion, repeatedly.

PART 150 - WEIGHT AND LOADING

SUBPART 1 - GENERAL INFORMATION

The actual helicopter empty weight may vary slightly from that shown in the sample.

It is important to carefully examine the weight and balance forms for each aircraft to determine the current actual weight. After determining the actual weight, carefully examine the aircraft Center of Gravity Range Chart from the applicable Type Certificate Data Sheet to ensure that the aircraft will remain within its limits at all times.

PART 150 - WEIGHT AND LOADING (cont'd)

1. Determining maximum gross weight for the existing conditions is done by referring to the applicable Flight Manual. Find the maximum gross weight at sea level for a standard day.

   A. Class A Loads. To determine maximum hover weight, use the Hover Celing and Hover Power Required Charts in the applicable Flight Manual, and any applicable Flight Manual Supplements. Authorized for N505HS only.

   B. Class B Loads. To determine maximum hover weight, use the Hover Ceiling and Hover Power Required Charts in the applicable Flight Manual, and any applicable Flight Manual Supplements. Authorized for all aircraft.

   C. Class C Loads. To determine maximum hover weight, use the Hover Ceiling and Hover Power Required Charts in the applicable Flight Manual, and any applicable Flight Manual Supplements. Authorized for all aircraft.

   D. Class D Loads. Not authorized.

2. Determining useful load. The useful load is the helicopter empty weight shown on the current weight and balance, located in the Helicopter Flight Manual, subtract from the computed maximum gross weight.

EXAMPLE:		
	Maximum gross weight	9,000 lbs.
	Empty weight	-4,780 lbs.
	Useful Load	4,220lbs.

3. Determining Payload. The payload is the actual cargo weight that can be carried. Find the payload by subtracting the weight of the pilot(s) and fuel from the useful load.

EXAMPLE:		
	Useful load	4,220 lbs.
	Pilot weight	-170 lbs.
	Fuel weight	-700 lbs.
	Payload	3,350 lbs.

PART 150 - WEIGHT AND LOADING (cont'd)

4. Fuel requirements

   A. UH1-F:
      1. Fuel consumption is approximately 600 lbs. per hour.
      2. The helicopter should not be flown with less than 20 minutes of fuel remaining.
      3. The PIC will utilize a stop watch/timer after each refuel to ensure the reserve fuel is not over flown.

   B. R44 Raven II:
      1. Fuel consumption is approximately 14 gallons per hour.
      2. The helicopter should not be flown with less than 20 minutes of fuel remaining.
      3. The PIC will utilize a stop watch/timer after each refuel to ensure the reserve fuel is not over flown.

5. Maximum load for which the aircraft is certified is:

   A. UH1-F:
      - 9,000 lbs max gross weight
      - 4,000 lbs max gross hook weight

   B. R44 Raven II:
      - 2,500 lbs max gross weight
      - 800 lbs max gross hook weight

6. Center of gravity limits are usually not greatly affected by Class B loads, however, the pilot should refer to the Center of Gravity Limits charts in the applicable Type Certificate Data Sheet before loading any unusual loads.

7. Airspeed limitations - VNE 80 knots for external loads.

PART 160 - OPERATING LIMITATIONS

NOT SHOWN ACTUAL SIZE

U.S. Department
of Transportation
Federal Aviation
Administration

Flight Standards District Office
2725 Skyway Drive
Suite 1
Helena, Montana 59601
406-449-5270, Fax: 406-449-5275
1-800-457-9917

OPERATING LIMITATIONS
RESTRICTED

AIRCRAFT MAKE/MODEL **Western International/Bell** ENGINE MAKE **LYCOMING**

REGISTRATION NO. **N4582D** SERIAL NO. **63-13163**

This aircraft has been certified in the restricted category under the provisions of FAR Part 21 as an **Agriculture, Forest and External Load.**

Operations involving this aircraft in any other use are prohibited unless the airworthiness certificate and this Operations Limitations sheet are amended in accordance with the provisions of FAR Part 21.

1. This aircraft shall not be operated in any manner which will endanger public life or property. The operator shall adjust the take-off weight to provide a safe margin of performance for the existing operating conditions, considering the takeoff area, altitude, temperature and terrain.

2. Maneuvers shall be limited to those normally performed in the above listed operations.

3. The above listed operations shall not be conducted over densely populated areas, in congested airlanes or in the vicinity of busy airports where passenger transport operations are being conducted unless the Administrator finds it in the public interest to authorize such operation.

4. Persons other than the minimum crew necessary for the above operations shall not be carried during these operations.

5. The spreading of sulfur or other inflammables is prohibited.

6. When operated in the restricted category, this aircraft does not meet the requirements of the applicable, comprehensible and detailed airworthiness code as provided by Annex 8 to the Convention of International Civil Aviation. This aircraft may not be operated over any foreign country without the special permission of that country.

7. This aircraft shall be operated in compliance with the limitation prescribed in FAR 91.313 effective **August 30, 1996**, except brief operation over densely populated areas or in

HLN FSDO Form 8100-5 (10-92)

PART 160 - OPERATING LIMITATIONS (cont'd)

NOT SHOWN ACTUAL SIZE

congested airways may be conducted during takeoffs and landings necessary for refueling only.

8. These Operating Limitations are part of the Restricted Certificate of Airworthiness, FAA Form 8130-7, dated **08-30-96** and must be displayed in the aircraft in accordance with FAR 91.203(b).

9. For this aircraft to be operated with an external load, the operator must possess a current FAR 133 operating certificate.

10. The pilot-in-command of this rotorcraft must, as applicable, hold an appropriate category/class rating.

11. This rotorcraft must have the markings, placards, etc., required by Federal Aviation Regulation (FAR) 91.9 in addition to those described in restricted type certificate applicable to this rotorcraft.

12. This rotorcraft must be operated in accordance with Rotorcraft Flight Manual to 1H-1(U)-1 and FAA approved Flight Manual Supplement #TAM006. This rotorcraft must be maintained in accordance with TM 55-1520-210-23 and TO 1H-1(U) F-2-1, and USAF T.O. 1H-1(U) F-6 and TAM Continued Airworthiness Report 008.

13. Operator must comply with all appropriate notes in Type Certificate Data Sheet **H12NM.**

The operator must show records of applicable forthcoming technical bulletins, maintenance work order, and safety of flight messages compliance as part of continuing Airworthiness requirements for this rotorcraft certificate.

Additionally, this rotorcraft shall be operated in accordance with applicable Air Traffic and general operating rules of FAR 91, and all additional limitations herein prescribed under the provisions of FAR 91.313, and those Type Certificate Data Sheet notes applicable to this rotorcraft.

Robert C. Speicher
Principal Maintenance Inspector
NM-FSDO-05

08/30/96
Date Issued

HLN FSDO Form 8100-5 (10-92)

PART 160 - OPERATING LIMITATIONS (cont'd)

NOT SHOWN ACTUAL SIZE

U.S. Department of Transportation
Federal Aviation Administration

Flight Standards District Office
2725 Skyway Drive, Suite 1
Helena, Montana 59602
(406) 449-5270, Fax: (406) 449-5275
(800) 457-9917

OPERATING LIMITATIONS
RESTRICTED AIRCRAFT
Agricultural, Forest and Wildlife Conservation

(These limitations are derived from the national standards contained in FAA Order 8130.2G

REG. NO.	MAKE:	MODEL:	SERIAL NO:
N3181F	Tamarack Helicopters	UH-1F	64-15486

1. This aircraft is prohibited from carrying cargo for compensation or hire. Carriage of cargo is limited to such cargo that is incidental to the helicopter owner/operator's business which is other than air transportation. The authorized cargo that may be carried on this aircraft is incidental to Agricultural, Forest and Wildlife Conservation (firefighting) and external load.
2. This rotorcraft is prohibited from carrying cargo for compensation or hire unless it is engaged in an FAA approved 14 CFR part 133 external load operation.
3. This aircraft may not be operated over any foreign country without special permission of that country. Evidence of that permission must be carried aboard the aircraft, along with the U.S. Airworthiness Certificate, and made available to the FAA or CAA in the country of operation upon request.
4. This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 to the Convention on International Civil Aviation.
5. This rotorcraft shall not be operated in any manner which will endanger public life and property. The operator shall adjust the take-off weight to provide a safe margin of performance for existing operating conditions, considering the take-off area, altitude, temperature and terrain.
6. Maneuvers shall be limited to those normally performed in Agricultural, Forest and Wildlife Conservation (firefighting) operations.
7. Agricultural, Forest and Wildlife Conservation (Firefighting) operations shall not be conducted over densely populated areas, in congested airspace or in the vicinity of busy airports where passenger transport operations are being conducted unless the Administrator finds it in the public interest to authorize such operation.
8. Persons other than the minimum crew necessary for Agricultural, Forest and Wildlife Conservation (Firefighting) or external load operations shall not be carried during these operations.
9. These operating limitations are part of the FAA Form 8130-7, Special Airworthiness Certificate dated February 16, 2012 and must be displayed in the aircraft in accordance with §91.203(b).
10. The pilot in command of this rotorcraft must hold an appropriate category/class rating. If required, the pilot in command must also hold a type rating in accordance with Part 61, or a letter of authorization issued by a FAA Flight Standards Inspector.
11. This rotorcraft shall be operated in accordance with Restricted Category operating limitations of FAR 91.313 and in accordance with USAF T.O. 1H-1(U)F-1, dated January 29, 1987, with Operational Supplement No. T.O. 1H-(U)F-1S-131, dated March 2, 1987.

PART 160 - OPERATING LIMITATIONS (cont'd)

NOT SHOWN ACTUAL SIZE

12. This rotorcraft must be serviced, maintained, inspected, repaired and overhauled in accordance with: UH-1F: USAF T.O. 1H-1(U)F-2-1 "Organization Maintenance" Change 14, dated April 28, 1988 and T.O. 1H-1(U)F-6WC-2 and T.O. 2J-T58-2WC-1. Limited Life and Overhaul schedules for helicopter components are included in USAF T.O. 1H-1(U)F-6.
13. Continued airworthiness is contingent upon compliance with all FAA AD's applicable to Bell Helicopter Textron, Inc.,Model 204/205 series helicopters, the Honeywell Model T53-L-13B engine and any component installed theron.
14. No agricultural aircraft operations shall be conducted unless approval has been issued under provisions of FAR Part 137.
15. Unless appropriately equipped for night flight in accordance with FAR 91.205 (c), this rotorcraft shall be operated day VFR only.

Bryan Hanson

Aviation Safety Inspector

NM-FSDO-05

Date Issued: February 16, 2012

PART 160 - OPERATING LIMITATIONS (cont'd)

The operating limitations for the R44 Raven II are outlined in its POH.

PART 170 – SAMPLE CONGESTED AREA PLAN

SAMPLE CONGESTED AREA PLAN

Aircraft Owner & Operator:
Operating Certificate Number: SR9L033Y
Salmon River Helicopters, Inc.
P.O. Box 1293
Riggins, Idaho 83549
(208) 628-3133

Cindy J. Carlson - President
Guy M. Carlson, II – VP
Gary Wiltrout – Chief Pilot

Contractor (Customer):
XXXXXXXXXXXXXXXXX
CONTACT INFO
XXXXXXXXXXXXXXXXX

Project:
NAME
NUMBER, IF APPLICABLE

NAME OF SITE
LATITUDE
LONGITUDE

Rotorcraft:

*N Number**	*Make*	*Model*	*Category*
N505HS	Robinson	R44 Raven II	Standard

Pilot Name and Certificate Number:

Position	**Last**	**First**	**Certificate**
PIC	***	***	****

Dates and Times Operation Will Begin and Terminate

Event	*Date(s)*	*Time Begin*	*Time Terminate*
External Lift Material Transport	**/**/***	****	****

PART 170 – SAMPLE CONGESTED AREA PLAN (cont'd)

Name, title and contact information of authorities agreeing to exclude unauthorized persons from operations area, if applicable:

CUSTOMER will be providing flagging for small surface roads.
***** County Dispatch, ***CONTACT INFORMATION***
*****County Sheriff, ***CONTACT INFORMATION***
*****County Fire, Fire Chief, ***CONTACT INFORMATION***

List of streets/roads that will be blocked during operation, if applicable:

(See Google Earth file and attached diagrams.)

Ingress/Egress Routes, if applicable:
N/A

This operation has been coordinated with the following air traffic control facilities, if applicable:

Airport (****), ***CONTACT INFORMATION

Rotorcraft-load combination Class; __A, _**X**_B, ___C or ___D

- Description;

  A Load = ___ Platform and/or, ___ Skid Work
  B Load = _X_ Long Line (Tools/Materials), ___ Long Line (Live Load)
  C Load = ___ Sock Line Pulling

- Length of attaching means (includes hook and cable); 100' w' remote hook
- Weight and Description of Loads
  - *********

List of Buildings that shall be either partially or entirely unoccupied by persons:

Building Description/Address	*Owners*	*Telephone Numbers*
N/A	N/A	N/A

PART 170 – SAMPLE CONGESTED AREA PLAN (cont'd)

Load penetration (for occupied buildings): How many floors could be penetrated by the load if dropped from the highest point it will be lifted above the building? (N/A) floors. What is the maximum height the load will be lifted above the building? N/A feet.

Are charts, maps, and/or diagrams attached? Yes (See Attached).

Narrative description of pickup site, route, delivery site, and plan for ceasing operation if unauthorized persons enter operation area. (Use additional sheets if necessary.):

(See attached drawings, charts and/or sketches.) Prior to the start of work persons along the route have been made aware of the work through face to face contact. On the days of the heavy lift operations, a "right of way coordinator" equipped with a radio will be traveling just ahead of the heavy lift operation to ensure the right of way is clear of persons not affiliated with the work, ensuring the path is clear and safe. At any moment during the operation, any of the participants (equipped with hand held radios) can declare, "Hold the Load". At the earliest "safe" opportunity the aircraft will hold position to allow the cause of the hold to clear or be mitigated. There is adequate room along the 'Right of Way' for the aircraft to make and emergency/precautionary landing if needed.

_____ _____

Cindy J. Carlson Date
President
Salmon River Helicopters, Inc.