NOTICE

Please incorporate Revision 6 into the Flight Manual Supplement in accordance with the Log of Pages attached.

Bell Helicopter would also like to thank its Customers for providing us with Customer Feedback information. This information is very much appreciated and allows us to improve the quality of our manuals with each revision.

Bell Helicopter
A Textron Company

POST OFFICE BOX 482 • FORT WORTH, TEXAS 76101

9 APRIL 1996
REVISION 6 — 1 SEPTEMBER 2009

Bell MODEL 430

ROTORCRAFT FLIGHT MANUAL

SUPPLEMENT

RETRACTABLE LANDING GEAR

430-705-001

CERTIFIED
9 APRIL 1996

This supplement shall be attached to the BHT-430-FM-1 when the Retractable Landing Gear kit has been installed.

Information contained herein supplements information in the basic Flight Manual. For Limitations, Procedures, and Performance Data not contained in this supplement, refer to the basic Flight Manual.

Bell Helicopter
A Textron Company

POST OFFICE BOX 482 • FORT WORTH, TEXAS 76101

9 APRIL 1996
REVISION 6 — 1 SEPTEMBER 2009

NOTICE PAGE

PROPRIETARY RIGHTS NOTICE

DESTINATION CONTROL STATEMENT

These commodities, technology, or software were exported from the United States in accordance with the Export Administration Regulations (EAR). Diversion contrary to U.S. law prohibited. The data contained in this manual are classified as ECCN EAR99.

Additional copies of this publication may be obtained by contacting:
Commercial Publication Distribution Center
Bell Helicopter Textron Inc.
P. O. Box 482
Fort Worth, Texas 76101-0482

LOG OF REVISIONS

Original	0	09 APR 96	Revision	4	21 JAN 03
Revision	1	13 MAY 97	Revision	5	29 MAY 06
Revision	2	30 JUN 00	Revision	6	01 SEP 09
Revision	3	06 FEB 01			

LOG OF PAGES

PAGE	REVISION NO.	PAGE	REVISION NO.
FLIGHT MANUAL		**MANUFACTURER'S DATA**	
Title	6	13 – 19	0
NP	6	20 – 22	4
A/B	6	23 – 27	0
C/D	6	28	2
E/F	6	29 – 52 Deleted	2
i/ii	5		
1 – 2	6		
3 – 4	5		
5	0		
6	6		
7 – 10	0		
11/12	0		

NOTE

Revised text is indicated by a black vertical line. Insert latest revision pages; dispose of superseded pages.

LOG OF TC APPROVED REVISIONS

Original	0	09 APR 96	Revision	4	21 JAN 03
Revision	1	Not TC Approved	Revision	5	29 MAY 06
Revision	2	Not TC Approved	Revision	6	01 SEP 09
Revision	3	06 FEB 01			

APPROVED **DATE**

1 SEP 2009

A/ **CHIEF, FLIGHT TEST**
FOR
DIRECTOR — NATIONAL AIRCRAFT CERTIFICATION
TRANSPORT CANADA

LOG OF FAA APPROVED REVISIONS

Original	0	09 APR 96
Revision	1	13 MAY 97
Revision	2	Not FAA Approved
Revision	3	15 FEB 01
Revision	4	28 FEB 03
Revision	5	22 JUN 06
Revision	6	06 OCT 09

Section 1

LIMITATIONS

1-1. INTRODUCTION

The limitations described in this supplement are in addition to those described in the basic Flight Manual and apply only to Model 430 helicopters equipped with retractable landing gear.

1-6. WEIGHT AND CENTER OF GRAVITY

Actual weight change will be determined after kit installation. Ballast will then be adjusted, as required, to return empty weight CG to within allowable limits.

1-7. AIRSPEED

AIRSPEED LIMITATIONS

Decrease V_{NE} for ambient conditions in accordance with Airspeed Limitations placard (Figure 1-6).

V_{LE} (V_{NE} landing gear extended)	140 KIAS
V_{LO} (V_{NE} for landing gear operation)	120 KIAS

1-9. MANEUVERING

1-9-B. CLIMB AND DESCENT

Reserved.

1-9-C. SLOPE LANDING

Slope landings are limited to side slopes not to exceed 10° with parking brake ON.

1-9-D. GROUND TAXI

Maximum groundspeed for taxi on smooth, firm surface is 35 knots.

1-9-E. TAKEOFF AND LANDING

Maximum groundspeed for takeoff and landing is 45 KIAS at sea level, and 39 KIAS at 10,000 feet (3050 m) H_D with zero wind condition.

1-20. INSTRUMENT MARKINGS AND PLACARDS

Refer to Figure 1-6 Decals and Placards.

FUEL QTY
BASIC 1275 LB

LOCATION: INSTRUMENT PANEL

PRIMARY PLACARD	OAT °C	PRESSURE ALTITUDE FT X 1000											
		0	2	4	6	8	10	12	14	16	18	20	AUTOROTATION VNE 80 KIAS
	52	148											
VNE AIRSPEED LIMITS– BASIC HELICOPTER (INDICATED AIRSPEED IN KTS)	40	150	144	137	130								
	30	150	147	140	133	126	119						
	20	150	150	143	136	129	122	114	107	100			GEAR EXTENSION & RETRACTION VLO 120 KIAS
	10	150	150	147	140	133	125	118	111	104	96	89	
	0	150	150	150	143	136	128	121	114	107	99	92	
	–10	150	150	150	145	133	131	123	116	109	101	94	
	–15	144	144	144	141	129	127	123	118	110	103	96	
	–20	133	133	133	133	125	117	117	114	111	105	97	
	–25	120	120	120	120	118	112	109	106	103	100	98	
	–30	110	110	110	110	110	102	99	96	93	91	88	
	–35	100	100	100	100	100	90	88	85	82	79	76	
	–40	95	95	95	95	95	82	75	72	68	65		
VNE IS RESTRICTED FOR CERTAIN MISSION LOADING CONDITIONS FROM FS 247 TO FS 255. SEE SECONDARY PLACARD.													

Location: Forward of overhead console

SECONDARY PLACARD RESTRICTED CG RANGE	OAT °C	PRESSURE ALTITUDE FT X 1000										
		0	2	4	6	8	10	12	14	16	18	20
	52	120										
	40	120	120	120	120							
	30	120	120	120	120	116	109					
VNE AIRSPEED LIMITS– BASIC HELICOPTER (INDICATED AIRSPEED IN KTS)	20	120	120	120	120	119	112	104	97	90		
	10	120	120	120	120	120	115	108	101	94	86	79
	0	120	120	120	120	120	118	111	104	97	89	82
	–10	120	120	120	120	120	120	113	106	99	91	84
	–15	120	120	120	120	119	117	113	108	100	93	86
	–20	120	120	120	120	115	107	107	104	101	95	87
	–25	110	110	110	110	108	102	99	96	93	90	88
	–30	100	100	100	100	100	92	89	86	83	81	78
	–35	90	90	90	90	90	80	78	75	72	69	66
	–40	85	85	85	85	85	72	65				
GEAR EXTENSION & RETRACTION VLO 120 KIAS												
AUTOROTATION VNE 80 KIAS												

Location: Forward of overhead console

430_FMS-1_0002

Figure 1-6. Decals and Placards

Section 3

EMERGENCY/MALFUNCTION PROCEDURES

3-3. ENGINE

3-3-A. SINGLE ENGINE FAILURE

3-3-A-1. SINGLE ENGINE FAILURE — DURING TAKEOFF

● After:

If decision is made to land, proceed as follows:

● Add.

LDG GEAR handle — Down, LNR lights illuminated.

● After:

Assume landing attitude before touchdown.

● Add.

After touchdown — Apply wheel brakes as required.

3-3-A-5. SINGLE ENGINE LANDING

● After:

SEAT BELTS and NO SMOKE switches — On.

● Add.

LDG GEAR handle — Down, LNR lights illuminated.

Parking brakes — Released (off).

● After:

NOTE

Avoid abrupt power changes. Avoid prolonged operation at limit OEI power levels if a suitable landing area is available.

● Add.

After touchdown — Apply wheel brakes as required.

3-3-C.

● After:

Collective — Down: Enter autorotation.

● Add.

LDG GEAR handle — Down, LNR lights illuminated.

Parking brakes — Released (off).

● After.

Execute autorotation landing (if necessary).

● Add.

After touchdown — Apply wheel brakes as required.

3-5. TAIL ROTOR

3-5-B. TAIL ROTOR FAILURE IN-FLIGHT — COMPLETE LOSS OF TAIL ROTOR THRUST

After touchdown — Apply wheel brakes as required.

3-6. HYDRAULIC SYSTEM

3-6-A. HYDRAULIC SYSTEMS FAILURE

NOTE

Loss of hydraulic system 1 has no effect on normal operations of landing gear system.

- INDICATIONS:

  Grinding or howling noise from hydraulic pump.

  Fluctuating or low hydraulic system pressure.

  MASTER CAUTION light illuminated.

  HYD SYS 2 caution light illuminated.

CAUTION

CYCLIC AND COLLECTIVE RATE LIMITING AND/OR CONTROL FEEDBACK MAY BE EVIDENT DURING ABRUPT MANEUVERS.

- PROCEDURE:

  Airspeed — 100 to 120 KIAS.

  HYD PRESS and TEMP — Check.

  HYD switch (affected system) — OFF.

CAUTION

PROLONGED FLIGHT AFTER LOSS OF HYDRAULIC SYSTEM 2 PRESSURE MAY ALLOW LANDING GEAR TO SLOWLY LOWER DUE TO SEAL LEAKAGE OF GEAR HYDRAULIC LOCK.

TO ENSURE A FREE FALL AND POSITIVE DOWN LOCK, EMERGENCY EXTENSION — FREE FALL PROCEDURE MUST BE ACCOMPLISHED PROMPTLY AFTER LOSS OF HYDRAULIC SYSTEM 2 PRESSURE.

Landing gear — Refer to paragraph 3-12-A.

MASTER CAUTION light — Reset.

SEAT BELTS and NO SMOKE switches — On.

Land as soon as possible.

3-12. LANDING GEAR

3-12-A. LANDING GEAR EXTENSION — FAILURE

- INDICATIONS:

  UNSAFE warning light remains illuminated with gear handle down.

  One or more green LNR lights fail to illuminate.

- PROCEDURE:

  Check LDG GEAR circuit breakers — IN.

  Airspeed — 100 to 120 KIAS.

NOTE

Do not lower LDG GEAR handle until EMER PULL GEAR handle has been pulled.