

Bell **212**
MODEL

**ROTORCRAFT
FLIGHT MANUAL**

**SUPPLEMENT
20/90 AUXILIARY FUEL TANKS**

212-899-243

**CERTIFIED
MARCH 3, 1975**

This supplement shall be attached to Bell Helicopter Model 212 Flight Manual when 20/90 auxiliary fuel tanks are installed.

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

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REISSUE — 14 AUGUST 1995

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LOG OF REVISIONS

Original0 03 MAR 75
 Reissue0 14 AUG 95

LOG OF PAGES

PAGE	REVISION NO.	PAGE	REVISION NO.
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FLIGHT MANUAL

MANUFACTURER'S DATA

Title — NP	0	3 — 8	0
A — B	0		
1/2	0		

NOTE

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 Insert latest revision pages; dispose of superseded pages.

LOG OF APPROVED REVISIONS

Original0 03 MAR 75
Reissue0 14 AUG 95



APPROVED:



MANAGER

ROTORCRAFT CERTIFICATION OFFICE
FEDERAL AVIATION ADMINISTRATION
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Section 1

LIMITATIONS

No change from basic manual.

Section 2

NORMAL PROCEDURES

No change from basic manual.

Section 3

EMERGENCY/MALFUNCTION PROCEDURES

No change from basic manual.

Section 4

PERFORMANCE

No change from basic manual.



Section 5



WEIGHT AND BALANCE

No change from basic manual.

Section 1

SYSTEMS DESCRIPTION

No change from basic manual.

Section 2

HANDLING AND SERVICING

2-1. FUEL LOADING TABLES

Fuel loading tables are shown in figure 2-1.

SERVICING

2-2. FUEL

		Total fuel capacity	
Total fuel capacity		Helicopter	217 gallons
		90 gallon auxiliary fuel kit	<u>90 gallons</u>
		Total fuel	307 gallons
Helicopter	217 gallons		
20/90 auxiliary fuel kit	<u>110 gallons</u>		
Total fuel	327 gallons		

90 GALLON AUXILIARY FUEL TANK ON LEFT SIDE OF HELICOPTER CABIN AND 20 GALLON TANK ON RIGHT

GAL	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
10	65	143.6	9334	0	0
20	130	143.6	18668	0	0
30	195	140.2	27348	0	0
40	260	134.8	35055	0	0
50	325	131.6	42771	0	0
60	390	129.4	50480	0	0
70	455	127.9	58186	0	0
*72.6	472	127.6	60176	0	0
80	520	128.3	66706	0	0
90	585	130.9	76577	-0.1	-59
100	650	134.0	87100	-0.6	-390
110	715	136.2	97383	-1.0	-715
120	780	138.2	107796	-1.5	-1170
130	845	139.7	118047	-2.0	-1690
140	910	141.2	128492	-2.4	-2184
150	975	142.3	138743	-2.8	-2730
160	1040	143.2	148928	-3.0	-3120
170	1105	144.1	159231	-3.3	-3647
180	1170	144.9	169533	-3.6	-4212
190	1235	145.6	179816	-3.9	-4817
200	1300	146.3	190190	-4.3	-5590
210	1365	146.9	200519	-4.8	-6552
220	1430	147.5	210925	-5.2	-7436
230	1495	148.0	221260	-5.6	-8372
240	1560	148.5	231660	-6.0	-9360
250	1625	149.0	232440	-6.4	-9984
260	1690	149.4	252486	-6.7	-11323
270	1755	149.9	263075	-7.0	-12285
280	1820	150.3	273546	-7.3	-13286
290	1885	150.6	283881	-7.6	-14326
300	1950	151.0	294450	-7.8	-15210
310	2015	151.2	304668	-8.1	-16322
320	2080	151.4	314912	-8.4	-17472
327	2126	151.6	322302	-8.5	-18071

*Most critical fuel amount for most forward C.G. condition.

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Figure 2-1. Fuel loading table (Sheet 1 of 4)

90 GALLON AUXILIARY FUEL TANK ON RIGHT SIDE OF
HELICOPTER CABIN AND 20 GALLON TANK ON LEFT

GAL	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
10	65	143.6	9334	0	0
20	130	143.6	18668	0	0
30	195	140.2	27348	0	0
40	260	134.8	35055	0	0
50	325	131.6	42771	0	0
60	390	129.4	50480	0	0
70	455	127.9	58186	0	0
*72.6	472	127.6	60176	0	0
80	520	128.3	66706	0	0
90	585	130.9	76577	+0.1	+59
100	650	134.0	87100	+0.6	+390
110	715	136.2	97383	+1.0	+715
120	780	138.2	107796	+1.5	+1170
130	845	139.7	118047	+2.0	+1690
140	910	141.2	128492	+2.4	+2184
150	975	142.3	138743	+2.8	+2730
160	1040	143.2	148928	+3.0	+3120
170	1105	144.1	159231	+3.3	+3647
180	1170	144.9	169533	+3.6	+4212
190	1235	145.6	179816	+3.9	+4817
200	1300	146.3	190190	+4.3	+5590
210	1365	146.9	200519	+4.8	+6552
220	1430	147.5	210925	+5.2	+7436
230	1495	148.0	221260	+5.6	+8372
240	1560	148.5	231660	+6.0	+9360
250	1625	149.0	232440	+6.4	+9984
260	1690	149.4	252486	+6.7	+11323
270	1755	149.9	263075	+7.0	+12285
280	1820	150.3	273546	+7.3	+13286
290	1885	150.6	283881	+7.6	+14326
300	1950	151.0	294450	+7.8	+15210
310	2015	151.2	304668	+8.1	+16322
320	2080	151.4	314912	+8.4	+17472
327	2126	151.6	322302	+8.5	+18071

*Most critical fuel amount for most forward C.G. condition.

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Figure 2-1. Fuel loading table (Sheet 2 of 4)

ONE 90 GALLON AUXILIARY FUEL TANK
ON LEFT SIDE OF HELICOPTER CABIN

GAL	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
10	65	143.6	9334	0	0
20	130	143.6	18668	0	0
30	195	140.2	27348	0	0
40	260	134.8	35055	0	0
50	325	131.6	42771	0	0
60	390	129.4	50480	0	0
70	455	127.9	58186	0	0
*72.6	472	127.6	60176	0	0
80	520	128.3	66706	0	0
90	585	130.3	76226	- 0.7	- 410
100	650	133.0	86450	- 2.0	- 1300
110	715	136.0	97240	- 3.0	- 2145
120	780	138.4	107952	- 3.8	- 2964
130	845	140.0	118300	- 4.6	- 3887
140	910	141.4	128674	- 5.4	- 4914
150	975	142.7	139133	- 6.1	- 5948
160	1040	143.8	149552	- 6.8	- 7072
170	1105	145.0	160225	- 7.2	- 7956
180	1170	145.8	170586	- 7.6	- 8892
190	1235	146.6	181051	- 7.9	- 9757
200	1300	147.3	191490	- 8.3	-10790
210	1365	148.0	202020	- 8.5	-11603
220	1430	148.4	212212	- 8.8	-12584
230	1495	148.9	222606	-19.1	-13605
240	1560	149.4	233064	- 9.3	-14508
250	1625	149.8	243425	- 9.5	-15438
260	1690	150.2	253838	- 9.7	-16393
270	1755	150.6	264303	- 9.9	-17375
280	1820	151.0	274820	-10.0	-18200
290	1885	151.4	285389	-10.2	-19227
300	1950	151.8	296019	-10.3	-20085
307	1994	152.0	303088	-10.4	-20738

*Most critical fuel amount for most forward C.G. condition.

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Figure 2-1. Fuel loading table (Sheet 3 of 4)

**ONE 90 GALLON AUXILIARY FUEL TANK
ON RIGHT SIDE OF HELICOPTER CABIN**

GAL	WEIGHT	LONGITUDINAL		LATERAL	
		ARM	MOMENT	ARM	MOMENT
10	65	143.6	9334	0	0
20	130	143.6	18668	0	0
30	195	140.2	27348	0	0
40	260	134.8	35055	0	0
50	325	131.6	42771	0	0
60	390	129.4	50480	0	0
70	455	127.9	58186	0	0
*72.6	472	127.6	60176	0	0
80	520	128.3	66706	0	0
90	585	130.3	76226	+ 0.7	+ 410
100	650	133.0	86450	+ 2.0	+ 1300
110	715	136.0	97240	+ 3.0	+ 2145
120	780	138.4	107952	+ 3.8	+ 2964
130	845	140.0	118300	+ 4.6	+ 3887
140	910	141.4	128674	+ 5.4	+ 4914
150	975	142.7	139133	+ 6.1	+ 5948
160	1040	143.8	149552	+ 6.8	+ 7072
170	1105	145.0	160225	+ 7.2	+ 7956
180	1170	145.8	170586	+ 7.6	+ 8892
190	1235	146.6	181051	+ 7.9	+ 9757
200	1300	147.3	191490	+ 8.3	+10790
210	1365	148.0	202020	+ 8.5	+11603
220	1430	148.4	212212	+ 8.8	+12584
230	1495	148.9	222606	+ 9.1	+13605
240	1560	149.4	233064	+ 9.3	+14508
250	1625	149.8	243425	+ 9.5	+15438
260	1690	150.2	253838	+ 9.7	+16393
270	1755	150.6	264303	+ 9.9	+17375
280	1820	151.0	274820	+10.0	+18200
290	1885	151.4	285389	+10.2	+19227
300	1950	151.8	296019	+10.3	+20085
307	1994	152.0	303088	+10.4	+20738

*Most critical fuel amount for most forward C.G. condition.

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Figure 2-1. Fuel loading table (Sheet 4 of 4)