

BELL UH-1H WEIGHT AND BALANCE

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ENSPIRE AVIATION

WEIGHT AND BALANCE FORM

ITEM	WEIGHT	ARM	MOMENT
BASIC EMPTY WEIGHT			
PILOT - FS47		47	
CO-PILOT - FS47		47	
FS 85 SEATS		85	
FS117 SEATS		117	
FS139 SEATS		139	
FS156 SEATS		156	
INTERNAL CARGO			
EXTERNAL CARGO		137.55	

ZERO FUEL WEIGHT			
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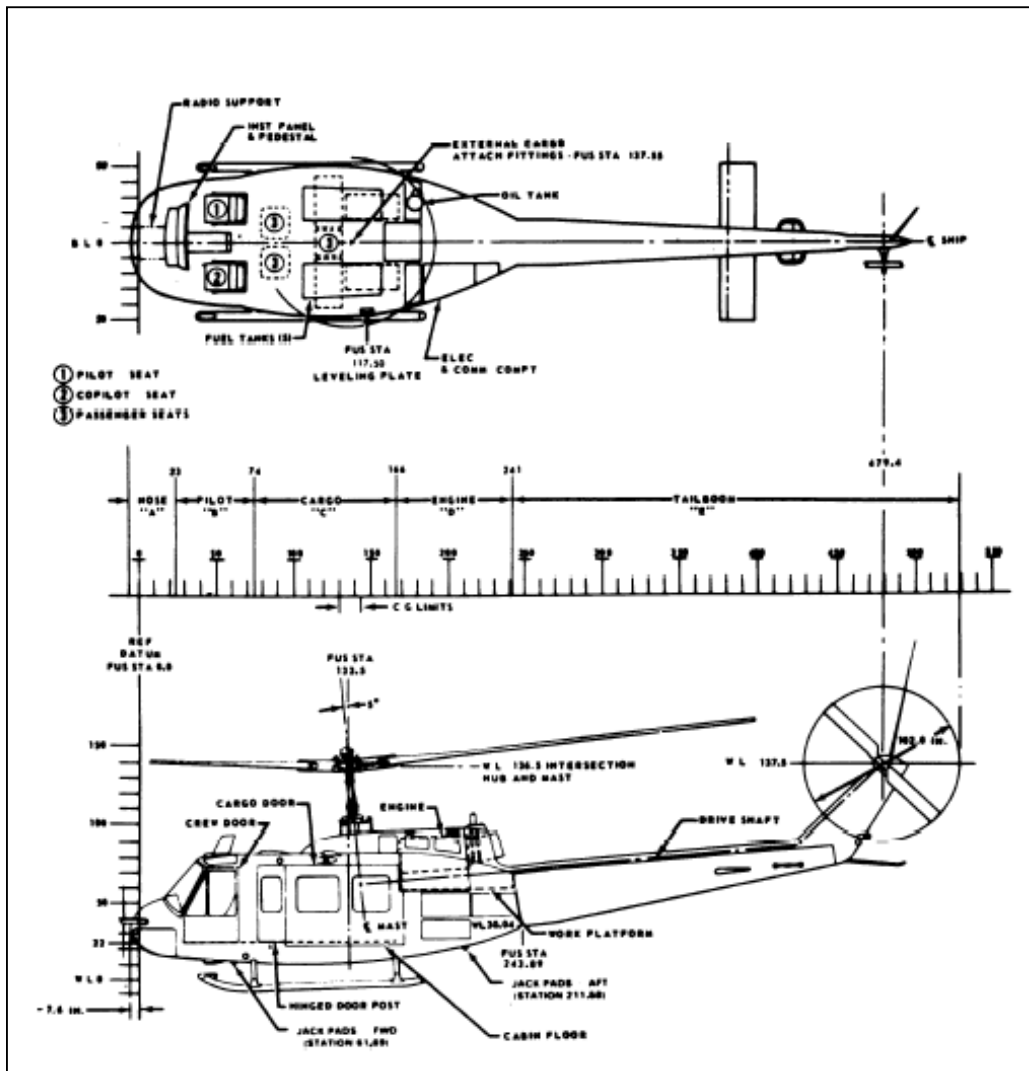
FUEL			
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TAKE OFF WEIGHT			
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**FUEL LOADING TABLE
JET A-1 @ 6.8LBS/USG**

US GALLONS	LITRES	WEIGHT LBS	C.G.	MOMENT
10	37.8	68	144	9792
20	75.6	136	144	19584
30	113.4	204	144	29376
40	151.2	272	138	37536
50	189	340	133.9	45526
60	226.8	408	131	53448
70	264.6	476	129.1	61451.6
80	302.4	544	127.7	69468.8
90	340.2	612	127.7	78152.4
100	378	680	130.5	88740
110	415.8	748	134.1	100306.8
120	453.6	816	137.1	111873.6
130	491.4	884	139.4	123229.6
140	529.2	952	141.5	134708
150	567	1020	143.4	146268
160	604.8	1088	145.1	157868.8
170	642.6	1156	146.5	169354
180	680.4	1224	147.8	180907.2
190	718.2	1292	148.9	192378.8
200	756	1360	149.9	203864
210	793.8	1428	150.8	215342.4
220	831.6	1496	151.6	226793.6

HELICOPTER STATION DIAGRAM



PERSONNEL LOADING CHART

EXAMPLE

WANTED

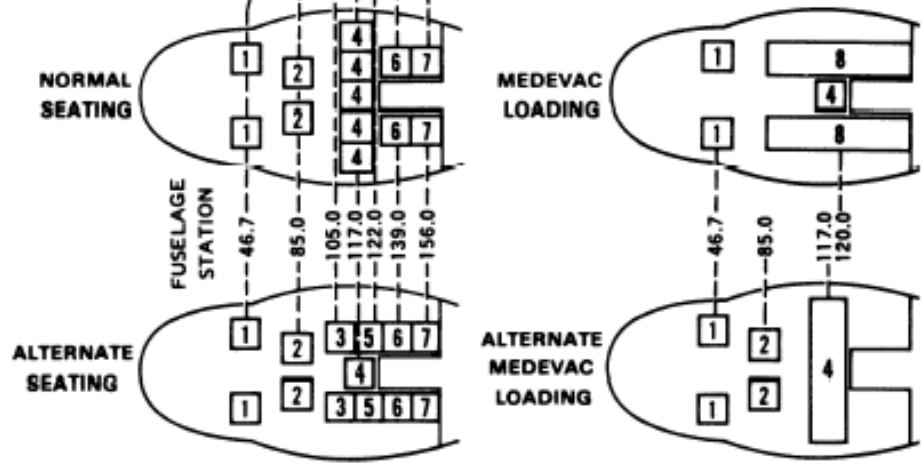
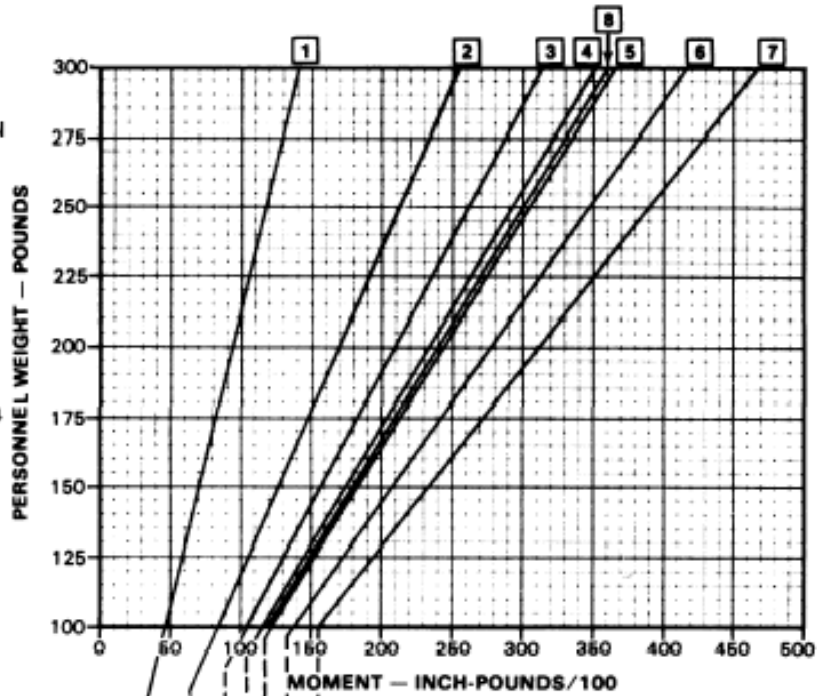
PERSONNEL MOMENT FOR A GIVEN WEIGHT AND LOCATION

KNOWN

PERSONNEL WEIGHT OF 200 POUNDS AT F.S. 117.0 (Row 4)

METHOD

MOVE RIGHT FROM 200 LBS TO THE LINE CONNECTING WITH SEAT ROW 4.
 PROJECT DOWN TO READ 234 ON THE MOMENT/100 SCALE.



INTERNAL CARGO WEIGHT AND MOMENT

EXAMPLE

WANTED

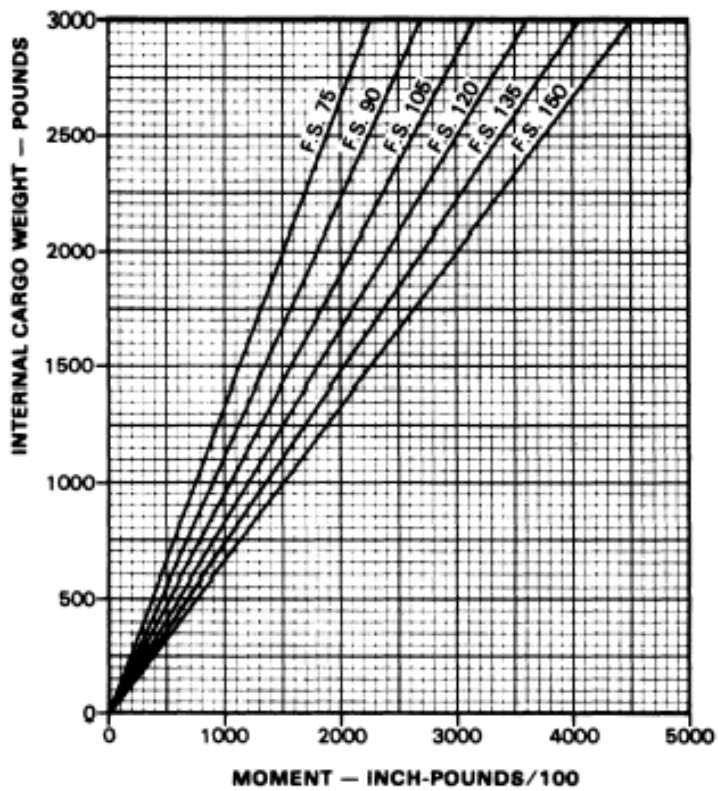
CARGO MOMENT FOR A
GIVEN CARGO WEIGHT
AND FUSELAGE STATION

KNOWN

CARGO WEIGHT 1000 LBS
LOCATION FS105

METHOD

ENTER INTERNAL CARGO
WEIGHT
MOVE RIGHT
TO FS105
MOVE DOWN TO BASE-
LINE AND READ
1050 INCH POUNDS/100



EXTERNAL CARGO WEIGHT AND MOMENT
BASED ON FS 137.55

EXAMPLE

WANTED

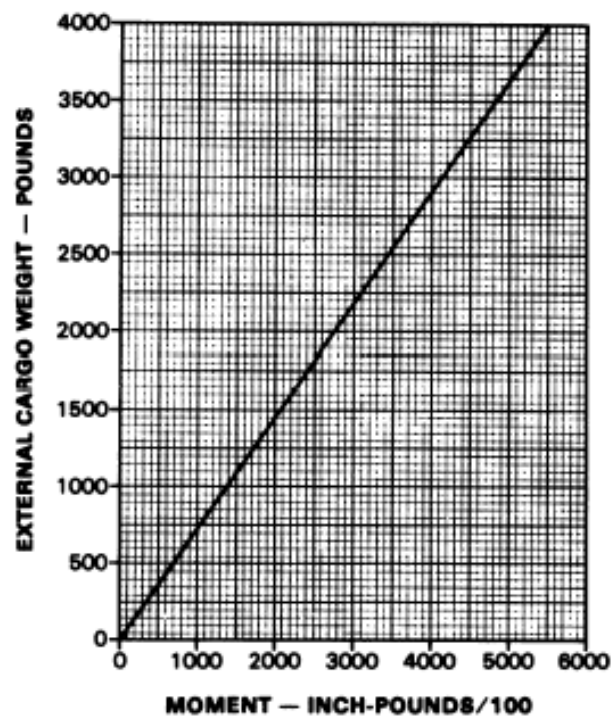
CARGO MOMENT/100 FOR A
GIVEN CARGO WEIGHT.

KNOWN

CARGO WEIGHT 3000 LBS

METHOD

ENTER EXTERNAL CARGO WEIGHT
MOVE RIGHT TO DIAGONAL LINE
MOVE DOWN TO BASELINE AND
READ 4127 ON MOMENT/100
SCALE.



CENTRE OF GRAVITY LIMITS 1

EXAMPLE

WANTED

DETERMINE CENTER OF GRAVITY FOR KNOWN WEIGHT AND MOMENT.

KNOWN

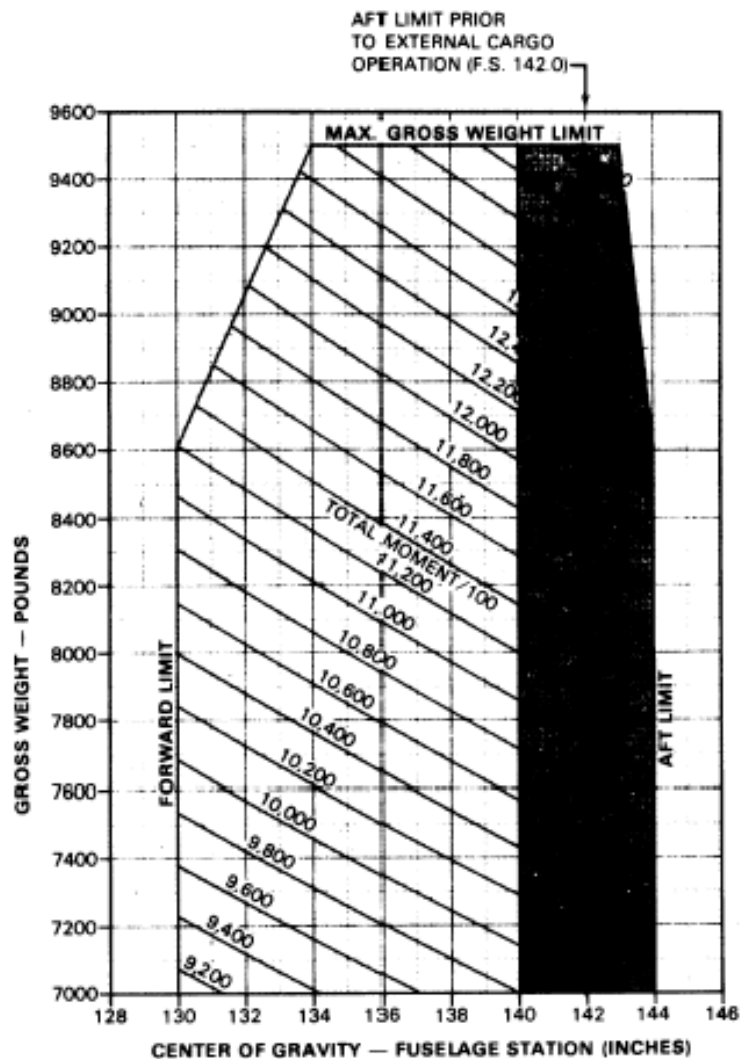
GROSS WEIGHT EQUALS 8460 POUNDS, MOMENT/100 EQUALS 11,900 INCH-POUNDS

METHOD

MOVE RIGHT FROM 8460 POUNDS TO A POINT APPROXIMATELY 1/2 OF THE DISTANCE BETWEEN 11,800 AND 12,000 INCH-POUND DIAGONAL LINES. FROM THIS POINT PROJECT DOWN TO READ 140.6 ON THE CENTER OF GRAVITY SCALE (FUSELAGE STATION IN INCHES).

NOTE

WHEN CG IS WITHIN SHADED AREA AFT OF STATION 140.0, APPROACHES SHOULD BE TERMINATED TO A 5-FOOT HOVER FOR ADEQUATE TAIL ROTOR CLEARANCE



CENTRE OF GRAVITY LIMITS 2

