Part 2, Section IV
Loading Information
Chart B

SIKORSKY AIRCRAFT
S-61N FLIGHT MANUAL

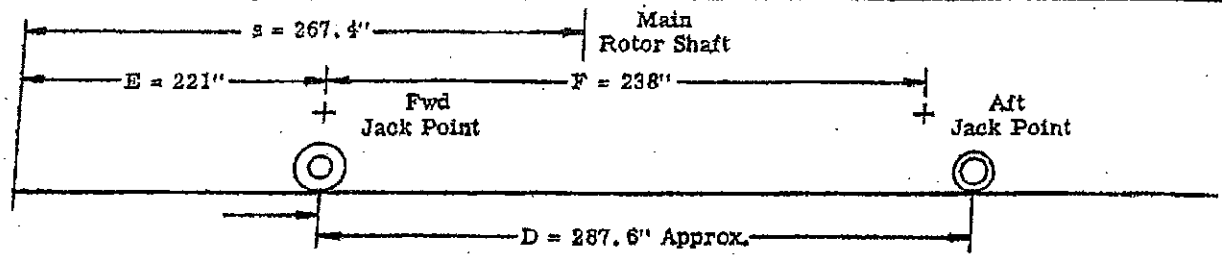
Sheet 1 of 1

AIRCRAFT ACTUAL WEIGHT AND HORIZONTAL BALANCE FOR S-61N MODEL HELICOPTER

Prepared By Rod MANOGUE
Date 4-4-08

Reg. No. N725JH Serial No. 61-775

SCALE POSITION	SCALE NO.	SCALE READING (LB)	TARE	SCALE ERROR	SYMBOL	NET WEIGHT
LEFT MAIN POINT	3	4335			W_L	4335
RIGHT MAIN POINT	2	4410			W_R	4410
POINT TAIL	1	1680			W_T	1680
TOTAL WEIGHT		10425			W	10425



CENTER OF GRAVITY TO FORWARD DATUM (HORIZ. DIST. - AS WEIGHED)

Weighing on Wheels $E + \frac{W_T \times D}{W}$ $221 + \frac{1680 \times 287.6}{10425} = 267.3$

Weighing on Jack Points $E + \frac{W_T \times F}{W}$ $221 + \frac{\quad}{\quad} =$

CORRECTED WEIGHT AND HORIZONTAL BALANCE

ITEMS ADDED & SUBTRACTED	WEIGHT (LB)	HORIZONTAL DIST (in) C. G. TO FWD DATUM	MOMENT (lb in.)
Aircraft as Weighed	10425	267.3	2786602.5
Plus -			
Minus -			
TOTAL EMPTY WEIGHT	10425	267.3	2786602.5
BALANCE 267.3 (Corrected) Horizontal Dist. - s = .1 in. Fwd Aft of Main Rotor Centroid			

S 5654 (R2)

Witnessed By [redacted]
Rodney Manogue

Figure 4-10

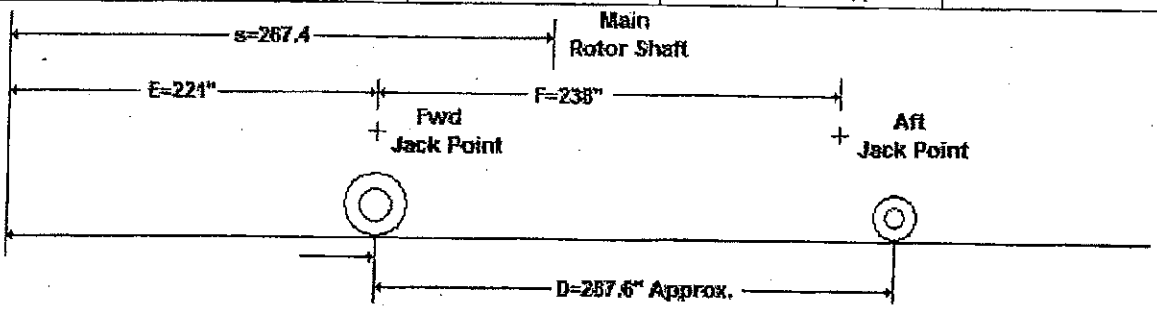
September 9, 1963
Reissued December 17, 1971

AIRCRAFT ACTUAL WEIGHT AND HORIZONTAL BALANCE, CHART B
S-61N MODEL HELICOPTER (Form 80-287)

Prepared By: Levi Phillips

Date: 3/28/2008 Reg. No. N61NH Serial No. 61474

0	SCALE No.	SCALE READING (lbs)	TARE	SYMBOL	NET WEIGHT
LEFT MAIN POINT	1	5043.2	0	Wl	5043.2
RIGHT MAIN POINT	2	5123.2	0	Wr	5123.2
NOSE/TAIL POINT	3	1843.7	0	Wt	1843.7
TOTAL WEIGHT		12010	0	W	12010



CENTER OF GRAVITY TO FORWARD DATUM (HORIZ. DIST. – AS WEIGHED)

Weighing on Wheels $E + \frac{Wt \times D}{W}$

Weighing on Jack Points $E + \frac{Wt \times F}{W}$

$221 + \frac{1843.7 * 287.6}{12010} = 265.15$

CORRECTED WEIGHT AND HORIZONTAL BALANCE

ITEMS ADDED & SUBTRACTED	WEIGHT (lbs)	HORIZONTAL DIST (In) C.G. TOFWD DATUM	MOMENT (lb. in.)
Aircraft as Weighed	12010	265.15	3184451.5
Plus -			
Minus -			
TOTAL **EMPTY/GROSS** WEIGHT	12010	265.15	3184451.5
BALANCE (corrected)	Horizontal Dist. – s =	in. **Fwd/Aft** of Main Rotor Centroid	

Form # 80-287

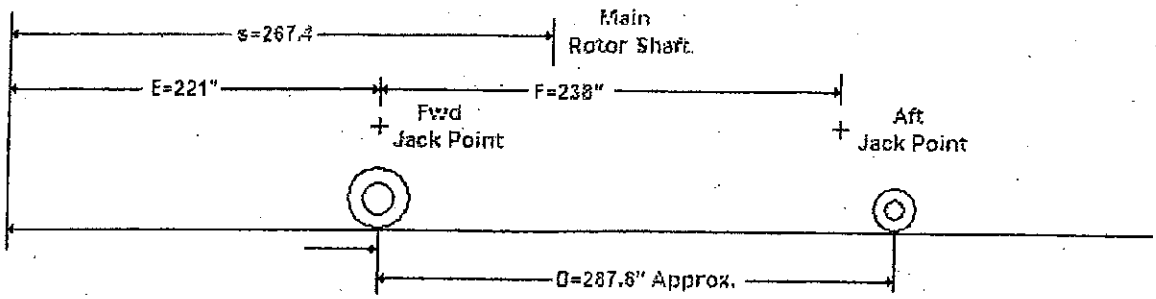
Witnessed By: _____

AIRCRAFT ACTUAL WEIGHT AND HORIZONTAL BALANCE, CHART B
S-61N MODEL HELICOPTER (Form 80-287)

Prepared By: Steve Metheny

Date: 1/15/2008 Reg. No. N103WF SerialNO 61766

SCALE POSITION	SCALE No.	SCALE READING (lbs)	TARE	SYMBOL	NET WEIGHT
LEFT MAIN POINT	4350			Wl	4350
RIGHT MAIN POINT	4492			Wr	4492
NOSE/TAIL POINT	2170			Wt	2170
TOTAL WEIGHT	11012			W	11012



CENTER OF GRAVITY TO FORWARD DATUM (HORIZ. DIST. – AS WEIGHED)

Weighing on Wheels $E + \frac{Wt \times D}{W}$

Weighing on Jack Points $E + \frac{Wt \times F}{W}$

221 + 2107 x 238 = 266.53

11012

CORRECTED WEIGHT AND HORIZONTAL BALANCE

ITEMS ADDED & SUBTRACTED	WEIGHT (lbs)	HORIZONTAL DIST (in) C.G. TOFWD DATUM	MOMENT (lb. in.)
Aircraft as Weighed	11012	266.53	2935028
Plus -			
Minus -			
TOTAL EMPTY/GROSS WEIGHT	11012	266.53	2935028
BALANCE (corrected)	Horizontal Dist. – s =	in. Fwd/Aft of Main Rotor Centroid	

Form # 80-287

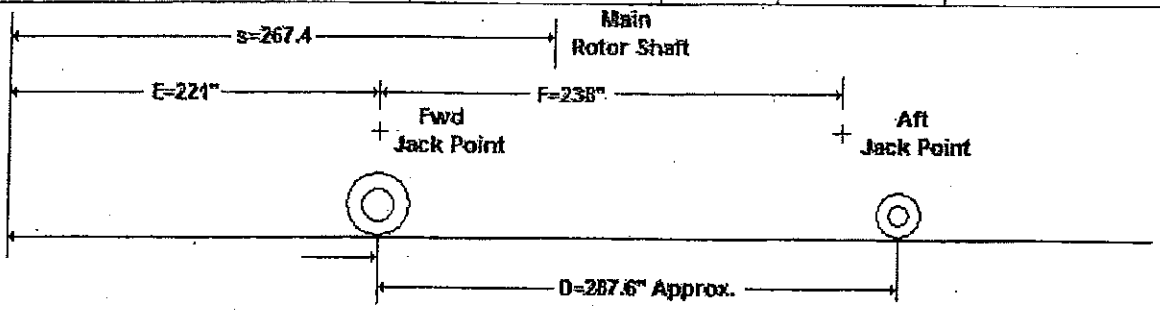
Witnessed By: [redacted]

AIRCRAFT ACTUAL WEIGHT AND HORIZONTAL BALANCE, CHART B
S-61N MODEL HELICOPTER (Form 80-287)

Prepared By: Levi Phillips

Date: 1/14/2008 Reg. No. N4503E Serial No. 61220

0	SCALE No.	SCALE READING (lbs)	TARE	SYMBOL	NET WEIGHT
LEFT MAIN POINT	1	4794.9	0	Wl	4794.9
RIGHT MAIN POINT	2	4874.9	0	Wr	4874.9
NOSE/TAIL POINT	3	2343.3	0	Wt	2343.3
TOTAL WEIGHT		12013	0	W	12013



CENTER OF GRAVITY TO FORWARD DATUM (HORIZ. DIST. – AS WEIGHED)

Weighing on Wheels $E + \frac{Wt \times D}{W}$

Weighing on Jack Points $E + \frac{Wt \times F}{W}$

$221 + \frac{2343.3 * 287.6}{12013} = 277.1$

CORRECTED WEIGHT AND HORIZONTAL BALANCE

ITEMS ADDED & SUBTRACTED	WEIGHT (lbs)	HORIZONTAL DIST (in) C.G. TOFWD DATUM	MOMENT (lb. in.)
Aircraft as Weighed	12013	277.1	3328802.3
Plus -			
Minus -			
TOTAL **EMPTY/GROSS** WEIGHT	12013	277.1	3328802.3
BALANCE (corrected)	Horizontal Dist. – **s** =	in. **Fwd/Aft** of Main Rotor Centroid	

Form # 80-287

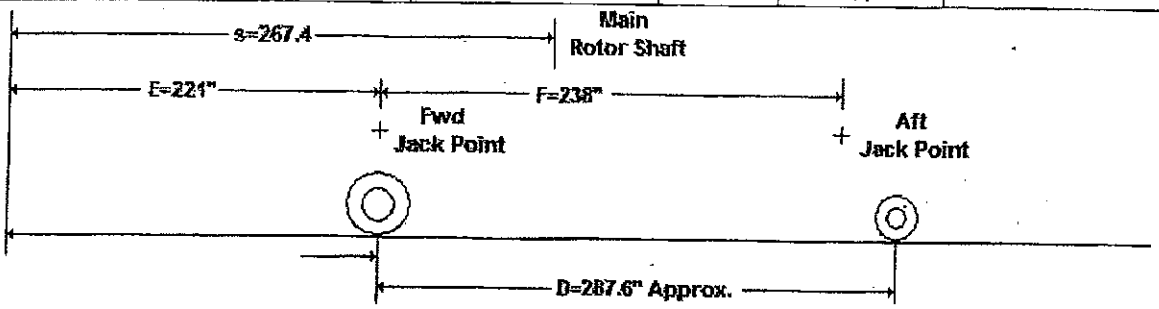
Witnessed By: _____

AIRCRAFT ACTUAL WEIGHT AND HORIZONTAL BALANCE, CHART B
S-61N MODEL HELICOPTER (Form 80-287)

Prepared By: Levi Phillips

Date: 4/3/2008 Reg. No. N7011M Serial No. 61216

0	SCALE No.	SCALE READING (lbs)	TARE	SYMBOL	NET WEIGHT
LEFT MAIN POINT	1	4852.9	0	Wl	4852.9
RIGHT MAIN POINT	2	4932.9	0	Wr	4932.9
NOSE/TAIL POINT	3	2366.2	0	Wt	2366.2
TOTAL WEIGHT		12152	0	W	12152



CENTER OF GRAVITY TO FORWARD DATUM (HORIZ. DIST. – AS WEIGHED)

Weighing on Wheels $E + \frac{Wt \times D}{W}$

Weighing on Jack Points $E + \frac{Wt \times F}{W}$

$221 + \frac{2366.2 * 287.6}{12152} = 277$

CORRECTED WEIGHT AND HORIZONTAL BALANCE

ITEMS ADDED & SUBTRACTED	WEIGHT (lbs)	HORIZONTAL DIST (In) C.G. TOFWD DATUM	MOMENT (lb. in.)
Aircraft as Weighed	12152	277	3366104
Plus -			
Minus -			
TOTAL **EMPTY/GROSS** WEIGHT	12152	277	3366104
BALANCE (corrected)	Horizontal Dist. – **s** =	in. **Fwd/Aft** of Main Rotor Centroid	

Form # 80-287

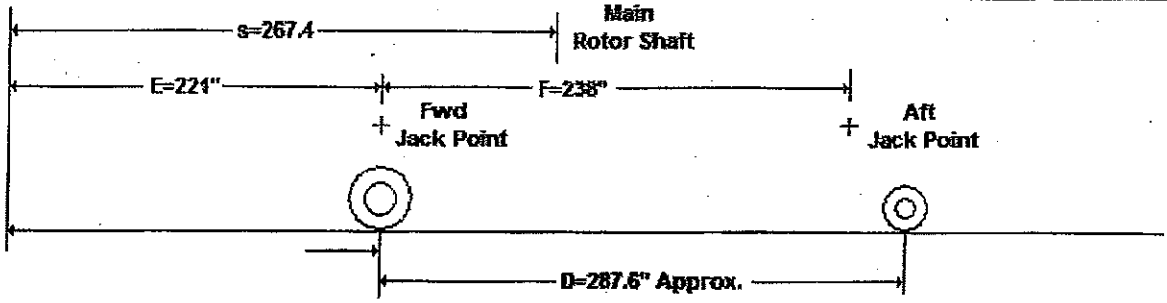
Witnessed By: _____

AIRCRAFT ACTUAL WEIGHT AND HORIZONTAL BALANCE, CHART B
S-61N MODEL HELICOPTER (Form 80-287)

Prepared By: Levi Phillips

Date: 1/205/2008 Reg. No. N612RM Serial No. 61744

0	SCALE No.	SCALE READING (lbs)	TARE	SYMBOL	NET WEIGHT
LEFT MAIN POINT	1	4351.6	0	Wl	4351.6
RIGHT MAIN POINT	2	4431.6	0	Wr	4431.6
NOSE/TAIL POINT	3	2242.8	0	Wt	2242.8
TOTAL WEIGHT		11026	0	W	11026



CENTER OF GRAVITY TO FORWARD DATUM (HORIZ. DIST. – AS WEIGHED)

Weighing on Wheels	$E + \frac{Wt \times D}{W}$	$221 + \frac{2242.8 * 287.6}{11026} = 279.5$
Weighing on Jack Points	$E + \frac{Wt \times F}{W}$	

CORRECTED WEIGHT AND HORIZONTAL BALANCE

ITEMS ADDED & SUBTRACTED	WEIGHT (lbs)	HORIZONTAL DIST (in) C.G. TOFWD DATUM	MOMENT (lb. in.)
Aircraft as Weighed	11026	279.5	3081767
Plus -			
Minus -			
TOTAL **EMPTY/GROSS** WEIGHT	11026	279.5	3081767
BALANCE (corrected)	Horizontal Dist. – **s** =	in. **Fwd/Aft** of Main Rotor Centroid	

Form # 80-287

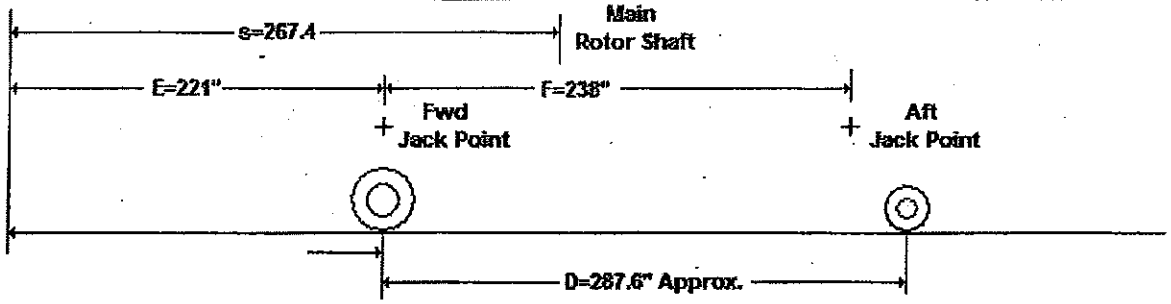
Witnessed By: _____

AIRCRAFT ACTUAL WEIGHT AND HORIZONTAL BALANCE, CHART B
S-61N MODEL HELICOPTER (Form 80-287)

Prepared By: Levi Phillips

Date: 12/05/2007 Reg. No. N116AZ Serial No. 61242

0	SCALE No.	SCALE READING (lbs)	TARE	SYMBOL	NET WEIGHT
LEFT MAIN POINT	1	4784.9	0	Wl	4784.9
RIGHT MAIN POINT	2	4864.9	0	Wr	4864.9
NOSE/TAIL POINT	3	2359.2	0	Wt	2359.2
TOTAL WEIGHT		12009	0	W	12009



CENTER OF GRAVITY TO FORWARD DATUM (HORIZ. DIST. – AS WEIGHED)

Weighing on Wheels $E + \frac{Wt \times D}{W}$

Weighing on Jack Points $E + \frac{Wt \times F}{W}$

$221 + \frac{2359.2 * 287.6}{12009} = 277.5$

CORRECTED WEIGHT AND HORIZONTAL BALANCE

ITEMS ADDED & SUBTRACTED	WEIGHT (lbs)	HORIZONTAL DIST (in) C.G. TOFWD DATUM	MOMENT (lb. In.)
Aircraft as Weighed	12009	277.5	3332497.5
Plus -			
Minus -			
TOTAL **EMPTY/GROSS** WEIGHT	12009	277.5	3332497.5
BALANCE (corrected)	Horizontal Dist. – s =	in. **Fwd/Aft** of Main Rotor Centroid	

Form # 80-287

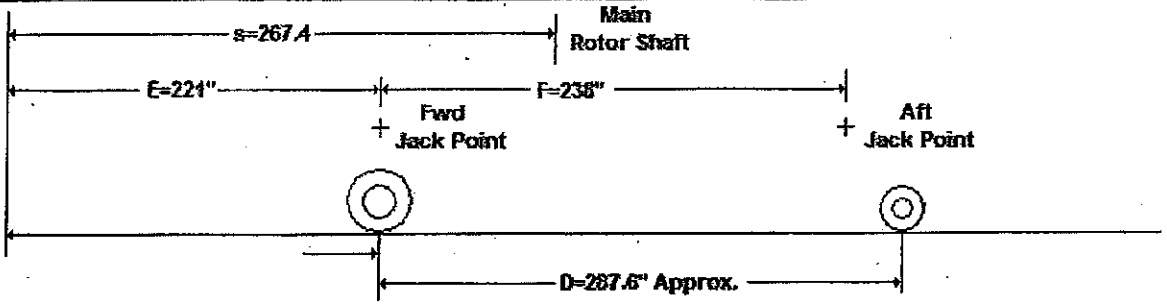
Witnessed By: _____

AIRCRAFT ACTUAL WEIGHT AND HORIZONTAL BALANCE, CHART B
S-61N MODEL HELICOPTER (Form 80-287)

Prepared By: Levi Phillips

Date: 4/8/2008 Reg. No. N905AL Serial No. 61717

0	SCALE No.	SCALE READING (lbs)	TARE	SYMBOL	NET WEIGHT
LEFT MAIN POINT	1	5179.4	0	Wl	5179.4
RIGHT MAIN POINT	2	5259.4	0	Wr	5259.4
NOSE/TAIL POINT	3	1830.1	0	Wt	1830.1
TOTAL WEIGHT		12269	0	W	12269



CENTER OF GRAVITY TO FORWARD DATUM (HORIZ. DIST. – AS WEIGHED)

Weighing on Wheels $E + \frac{Wt \times D}{W}$

Weighing on Jack Points $E + \frac{Wt \times F}{W}$

$221 + \frac{1830.1 * 287.6}{12269} = 263.9$

CORRECTED WEIGHT AND HORIZONTAL BALANCE

ITEMS ADDED & SUBTRACTED	WEIGHT (lbs)	HORIZONTAL DIST (in) C.G. TOFWD DATUM	MOMENT (lb. in.)
Aircraft as Weighed	12269	263.9	3237763
Plus -			
Minus -			
TOTAL **EMPTY/GROSS** WEIGHT	12269	263.9	3237763
BALANCE (corrected)	Horizontal Dist. – **s** =	in. **Fwd/Aft** of Main Rotor Centroid	

Form # 80-287

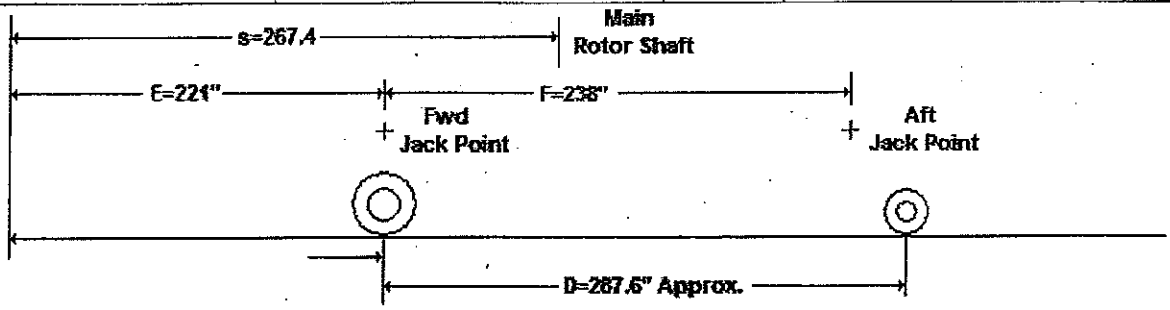
Witnessed By: _____

AIRCRAFT ACTUAL WEIGHT AND HORIZONTAL BALANCE, CHART B
S-61N MODEL HELICOPTER (Form 80-287)

Prepared By: Levi Phillips

Date: 4/6/2008 Reg. No. N410GH Serial No. 61749

0	SCALE No.	SCALE READING (lbs)	TARE	SYMBOL	NET WEIGHT
LEFT MAIN POINT	1	5276.3	0	Wl	5276.3
RIGHT MAIN POINT	2	5356.3	0	Wr	5356.3
NOSE/TAIL POINT	3	1879.4	0	Wt	1879.4
TOTAL WEIGHT		12512	0	W	12512



CENTER OF GRAVITY TO FORWARD DATUM (HORIZ. DIST. – AS WEIGHED)

Weighing on Wheels $E + \frac{Wt \times D}{W}$

Weighing on Jack Points $E + \frac{Wt \times F}{W}$

$221 + \frac{1879.4 * 287.6}{12512} = 264.2$

CORRECTED WEIGHT AND HORIZONTAL BALANCE

ITEMS ADDED & SUBTRACTED	WEIGHT (lbs)	HORIZONTAL DIST (in) C.G. TOFWD DATUM	MOMENT (lb. in.)
Aircraft as Weighed	12512	264.2	3305670
Plus -			
Minus -			
TOTAL **EMPTY/GROSS** WEIGHT	12512	264.2	3305670
BALANCE (corrected)	Horizontal Dist. – s =	in. **Fwd/Aft** of Main Rotor Centroid	

Form # 80-287

Witnessed By: _____

N3153U

NAVAIR 01-1B-50

FORM B – AIRCRAFT WEIGHING RECORD	FOR USE WITH T.O. 1-1B-40, NAVAIR 01-1B-40, AND TM-55-1500-342-23	Form Approved OMB No. 0704-0188

DATE WEIGHED (YYMMDD)	MODEL/DESIGN	SERIAL NUMBER
6-27-07	S-61A	61186

PLACE WEIGHED	WEIGHT AND BALANCE TECHNICIAN (Last, first, M.I.)	DUTY PHONE NUMBER
Perkasie, Pa	Rodney Manogue	

REACTION (Wheels, jackpoints, etc.)	SCALE READING	CORRECTIONS	NET WEIGHT	ARM	MOMENT
LEFT MAIN	4057		4057		
RIGHT MAIN	4207		4207		
SUB-TOTAL (Both main)			8264	E 221	1826344
NOSE OR TAIL	2524		2524	F 459	1158516
TOTAL (as weighed) Not to be posted on Chart C			10788	276.7	2984860

MEASUREMENTS

B= _____ the distance from the jig point, to the center line of the main reactions. Obtain by measurement.

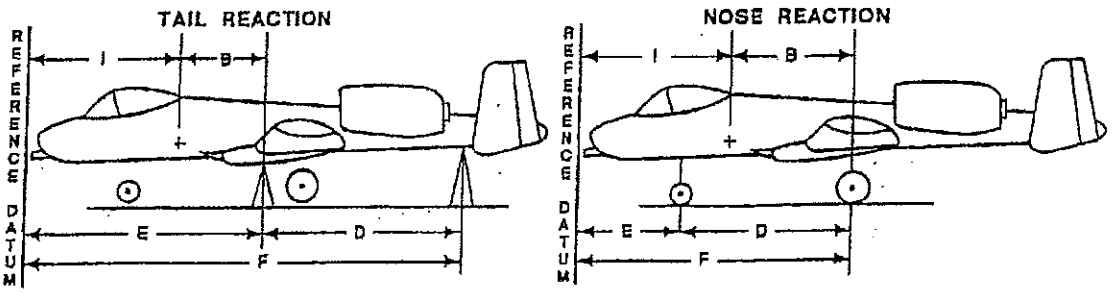
I = _____ the distance from the reference datum to the jig point of the aircraft, from which a plumb bob can be dropped to the ground. Obtain from the aircraft diagram in Chart E.

E= 221 [1] the distance from the reference datum to the center line of the main reactions.
E = I + B
E = I - B (if the jig point is aft of the center line of the main reactions.)

D= 459 the distance between the main and nose or tail reaction. Obtain by measurement.

F= _____ [1] the distance from the reference datum to the center line of the nose or tail reaction.
F = E – D (for nose reaction)
F = E + D (for tail reaction)

CORRECTIONS	LEFT MAIN	RIGHT MAIN	NOSE or TAIL
CALB CORR			
SCALE CORR			
TEMP ___ [2]			
EQUIP			
OTHER			
TOTAL			



DIAGRAMS FOR MEASURING VARIOUS TYPES OF REACTIONS TO DETERMINE ARM OF SUPPORT POINTS.
See Aircraft Chart E's for specific weighing instructions

[1] Check dimensions E and F against approximate dimensions listed in Chart E.
[2] Enter temperature at time of weighing.

DD Form 365-2, MAR 88 Previous editions are obsolete S/N 0102-LF-003-0300 400 085

A2-7

N3173U

NAVAIR 01-1B-50

DESCRIPTION	NET WEIGHT	ARM	MOMENT	[1] INDEX OR MOM/
TOTAL *(As weighed)* *(From front side)*	10788	276.7	2984860	
OIL ON AIRPLANE				
TOTAL OF ITEMS WEIGHED BUT NOT PART OF BASIC WEIGHT *(From Column I below)*	–		–	
TOTAL OF BASIC WEIGHT ITEMS NOT IN AIRCRAFT WHEN WEIGHED *(From Column II below)*	+		+	
BASIC AIRCRAFT *(Post to Chart C)*	10788	276.7	2984860	

COLUMN I				COLUMN II			
ITEMS WEIGHED BUT NOT PART OF BASIC WEIGHT	WEIGHT	ARM	MOMENT	BASIC WEIGHT ITEMS NOT IN AIRCRAFT WHEN WEIGHED	WEIGHT	ARM	MOMENT
TOTAL				TOTAL			

REACTIONS USED

TYPE SCALE Revere
SERIAL NUMBER 5356A
CALIBRATION DATE *(YYMMDD)* 6-07
CALIBRATED ACCURACY +/- 0.1%

REMARKS

Weighed at Carson Helicopters, Inc. CRS NBER647G

[redacted]
Rodney Manogue

[1] *Enter constant need.*

DD Form 365-2, Reverse, MAR 88

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