

Summary of Pre-Japan flights

NG-0 - 25 Oct. 6.7005 Mc - set for 168 hours with
commutated timer - broke on ascent

Schjeldahl balloon - 730 gram payload

NG-1 - 11 Nov. 6.7005 Mc - no timer - Code R - 120 cells

Vivon balloon - flight OK.

NG-2 9 Jan 15.025.5 Mc - 90 cells - Code R - (timer failed)

Launch at 8:43 - tracked 0900 - 1500 - 9 Jan ^{MST}

Vivon #6 - 0900 - 1530 - 10 Jan

(last of 9 flights) 0800 - 0900 - 11 Jan (signal fine at 0800)

1330 - 1745 - 21 Jan

NG-3 1 Feb Raven #104 - (test balloon)

48 hour timer - 207g transmitter - Letter N

15.025.5 Mc

Launch at 9:10

track to 14:30 MST

2 Feb - track to 1245 MST - T = -20°C

no pickup on 3 Feb.

NG-4 17 Feb - Schjeldahl No. 17 - 9 footor
31 hour timer Letter K 15.025.5 Mc

Launch at 0508 MST

31 hour timer

signal received from 0920 to 1220 MST - Boulder

0900 to 1530 - Boston

Flight NG-5 - from 29 hour flight - Code K - 15,025.5Mc

19 Feb launch - Schjeldahl Balloon No. 9

Flight Launch at 0706 MST

Signal received - 19-20-21 Feb.

145 3/4 signal received 4-5-6 March

↳ 500 miles NW of Boulder

Balloon - Schjeldahl - No. 15 - 2105g

NG-6 - 25 hour timer Code N - 15,025.5Mc

Launch at 0942 MST - 3 March

Signal received 3 March - 4 March

↳ Hudson Bay

5 March - Ken

Helium lift - 2850 → over Hudson

H₂ excess = 200

3050 - total

Free lift = 200 grams

Electronics = 232

Timer = 396

Balloon = 317

weight = 1145 grams

Balloon - 2105

Electronics - 232

Timer - 396

Balloon - 317

Total - 3050

Flight from Tateo - 3 April 1964

* launch at 1725 hrs 1850 Japan local
0950

Flight Anna - A-1 - G di dah

Spider No. 2 - weight - 396 grams

145 3/4 Turns - 144 hours

Balloon - Schjeldahl - No. 15 - 2105g.

Helium lift - 2940	2105	232	396	3050
Hydrogen lift - 4210	2733	2733	317	2733
Total lift = 213150 grams				

Spider = 396
Helium lift - 2850 - normalized

Electronics = 232
H₂ excess = 200

Balloon = 2105
3050 - total

Total = 3050

Free lift = 200 grams

Electronics = 232

Timer = 396 grams

Balloon = 317

wrench off = 1145 grams

Balloon - 2105

Electronics - 232

Timer - 396

Balloon - 317

Total - 3050

Picked up at 2040 hrs
hooked up to 01005
1000 hrs
Tracked 0100502

2nd Launch - Tateno - 4 April 1964

* Launch at 1725 Japan - 0825 Z

Flight Gertrude - G-1 - dah dah dit

Spider No. 4 - weight - 396 grams

144 hours

Balloon Schjeldahl No. 2 - 2150 grams

Normalized H₂ weight = 3050 grams

Balloon - 2150

Spider - 396

Electronics - 232

Ballast - 272

Total - 3050

Free lift = 200 grams

Electronics = 232

Timer = 396 grams

Ballast = 272

1100

* - Overinflated

- 90 grams added to

Picked up keep 6.5% free lift

Picked up at 2040Z - 4 April - strong signal (0546 SLT.)

Tracked to 0520Z

3rd launch - Tateno - 5 April 1964

Launch at 0815Z 7Z (105714)

Flight Unit - U-1 - didididid

Spider No. 5 - 395 grams

Spider 144 hours - 400g (including 2 gram string)

Balloon - Schjelbahl No 1 - 2150 grams

Balloon - Schjelbahl No. 3 - 2150g

Normalized H₂ weight = 3050 grams

Normalized H₂ weight = 3050 grams

Balloon - 2150

Spider - 395

Electronics - 230

Ballast - 275

Total 3050

Total - 3050

Free lift = 200g

Electronics = 230

Timer = 395

(Ballast) = 255

(Nozzle) = 20

1100

20

1125x

Picked up at 2322Z - 5 April

tracked to - 6 April

4th launch - Tateno - 6 April 1964

Launch at 0757 Z (1657 JLT)

Flight - Wilma - W-1 - didahdah

Returned to
Tateno

Spider No 6 - 404g (including
9 gram string)

157 144 hours / 50 hours

April 18, 1964

Balloon - Schjeltbahl No. 3 - 2105g

71 turns of string
remained on the
wheel.

Normalized H₂ weight = 3050 grams

Obviously must have lost
some turns during fall and
recovery.

Balloon - ²²¹³ 2105

Spider - 404

Electronics - 241g

Ballast - 360g

Total - 3050

Freelift - 200g

Electronics - 241

Timer - 404

Ballast - 360

1145

nozzle 20

1125*

* was weighed by mistake at
1165 grams. Freelift = 180

No return.

5th Launch - Tateno

8 APRIL 1964

Launch at - 0846Z

Flight Duration - del. del. del.

Returned to
Tateno

Spider No. No. 7 - 404 grams

157.5 turns - 150 hours.

April 18, 1964

Balloon - Schjeldahl No. 7A - 2213 grams

71 turns of string
remained on the
wheel.

Normalized H₂ weight = 3050 grams

Obviously must have lost
some turns during fall and
recovery.

Balloon - 2213
~~240~~

Spider - 405

Electronics - 240

Flight Ballast - 192

Total 3050

Free lift = 240 grams

Flight Ballast = 192

Electronics = 240

Timer = 405

Total Ballast
weighoff 1077

- nose - 20

weigh off sack - 1057

launch in fine mist.

100% R.H to 650mb.

No return.

7th Kasack - Tateno

2108 (gross)

April 14, 1964

@ ~~1000~~ ~~1000~~ ~~1000~~

Flight - Rolane - dit dahidit

ALICE A-2

Di Di

Spider No. 12 - 406 grams

Balloons (Raven)

- 192 hours

Electronics

Balloon - Schjeldahl No - 11 - 2147.6g.

2289

8% Free lift

Normalized H₂ weight - 3050g.

183.12

Balloon - 2148

Spider - 406

Electronics - 238g

Flight Ballast - ~~258g~~

Total - 3050

183.12

422.12

15.5

437.62

21.5

416.12 gm.

Free lift - 240g

Flight Ballast - ~~250~~ 258

Electronics - 238

Spider - ~~406~~ 406

Total Weigh off Ballast 1142

- nozzle - 20

Wendoff Sack - ~~1000~~ 1122

- Filler picture

7th LAUNCH 2108 (6:08 JST)
APRIL 14, 1964 @ ~~6:08~~ A.M. April 15

ALICE A-2 Di DA

Balloons (Raven)

Electronics

2050 gm.

239

2289

8% Free lift

.08

183.12

Weighoff ballast

~~2050.00~~
~~+ 183.12~~

~~2233.12~~

239 gm.

183.12

422.12

+ Balloon Plug

15.5

437.62

- Filler's fixture

21.5

416.12 gm.

5108 (20077)
@ ~~5108~~ 5108

April 14, 1904
The Launch

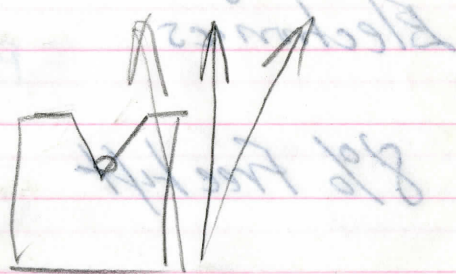
- 57 pm.

ALICE A-5

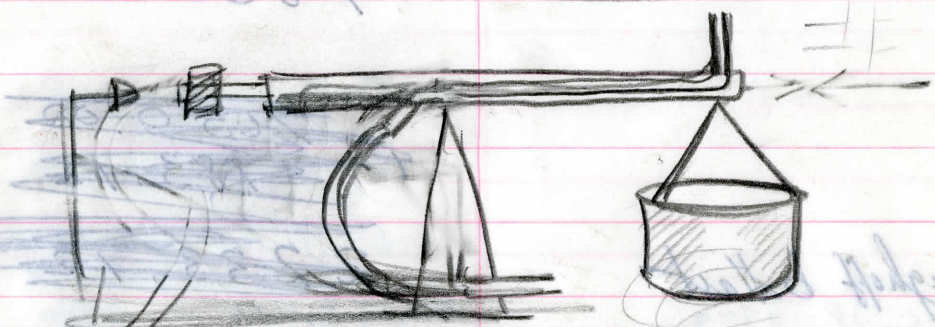
@ 9 P.M. April 14

Balloons (Gases)

5050 gm.



539
5588
80
18315



Weight

539
18315
455.15

+ Balloon (Gases)

431.65

- Balloon (Gases)

416.15 gm.

8th Launch - Tateno

Launch 2034 APRIL 16, 1964

Flight Gwenn-G-2 - dhdhd d

First helium flight

Balloon Raven - \approx $\frac{2020 \text{ grams}}{\text{Assume this mass}}$

Timer No. 1

for all RAVEN balloons.

240hrs.

Calculation

Balloon	2020	Balloon - 2020
Electronics	241	Timer - 408 421
Spider	409.6	Electronics - 241
Flight total gross \approx 2660	2671.6	Total - 2669 grams

Flight total gross \approx 2660

Free lift = 187 grams (7%) ~~187~~ 188 2682

Timer = ~~408~~ Corrected to 421

Electronics = 241 241

Weight off weight = ~~836~~ ~~849~~ 850

- Filler fixture 21.5 - 6

+ Balloon Plug + 15.5

~~843~~

844 gm

Weight off sack = ~~830~~ grams

= ~~830~~ grams

He 9th Launch - Tateno

Launch time:

FLIGHT: URSULA di di da

BALLOON: RAVEN 2020 gm.

SPIDER: ~~#3 (600)~~

#10 243 1/3 turns (10 days)

~~Calculation~~ CALCULATION

Balloon 2020.0 gm.

Electronics 241.6

Spider 409.6

2671.2 2671.2

7% Free Lift ~~185.6~~ 187

~~2836.8~~

Weighoff Calculation

Electronics 241.6 gm 241.6

Spider 409.6 409.6

Free Lift 187.6 187.0

~~836.8~~ 838.2

Fittings Correction

- 6 - 832.2

Weighoff Sack

830.8 gm
832.2 gm

He

10th Flight - Tateo

~~FLIGHT: WINNIE W2~~

Changed to THELMA (T-1) da
Launched 0734 \approx APRIL 19, 1964

Raven Balloon 2020.0 gm.

Electronics 241.3

Spider #3 (Green) 414.4

2675.7 gm

x .07

7% Free Lift 187.299

Weighoff Ballast

Electronics 241.3

Spider 414.4

Free Lift 187.3

843.0

Fixture Correction - 6

837 gm

He

11th. Tatus

FLIGHT DIANNE (D-2)

Launched 07:23 (4:23) APRIL 21, 1964

Raven Balloon	2020.0 gm
Electronics	243.5
Spider #11	412.5
	<hr/>
	2676.0 gm
	.07
	<hr/>
7% Free Lft	187.32

~~A.B.~~

E. 243.5

S. 412.5

F.L. 187.3

843.3

F.C. — 826.

837.3 gm

Ballast
Jack

Helcom

12th - Tafeno

From

23

APRIL

FLIGHT RUTH (R-2)

Launch 10 17

'64

Launched 1020 Z APRIL 22, 1964
7:20 P.M.

RAVEN BALLOON	2020.0 gm.
Electronics	245.0
Spider # 8	406.0
	<hr/>
	2671. gm.
	<hr/>
	.07
	<hr/>
7% Free Lift	186.97

E.	245.
S.	406
F.L.	<hr/> 187
	838
F.C	6

832 gm

Weighoff
sack

Twin Flight From 23 APRIL
 Launch 1024Z Tatenob Launch 1017 '64

Flight # 13 Kathy
 schjeldahl Balloon #4 2176
 + Ravin cap - schjcap 10.5

Flight # 14 Nancy
 schjeldahl Balloon #13 2199
 —

Electronics (K) 245

Electronics N 238

Timer #14 411.5

Timer #13 408

Ballast ^{tape} on timer 2

Ballast —

Total weight 2845

Total weight 2845

1 Date Time Temperature Pressure O.P. Lift

7% Free lift 199

7% Free Lift 199

Electronics (K) 245

Electronics (N) 238

Timer #14 411.5

Timer #13 408

Ballast 2

Total 857.5

Total 845.0

- inflation fitting -18.5

-inflation fitting -18.5

839.0

826.5

+ Ravin cap + 15.5

+ schjeldahl cap + 5.0

Weigh of Bag 854.5

weigh of Bag 831.5

Inflation Test

Schjeldahl Balloon No. 18

weight 2152 grams

Temperature —

Pressure —

<u>Date</u>	<u>Time</u>	<u>Temperature</u>	<u>Pressure</u>	<u>O.P.</u>	<u>Lift.</u>