


Temporary AIRCRAFT WEIGHT AND BALANCE COMPUTATION

Kenmore Air Harbor		1		DESCRIPTION OF AIRCRAFT	MANUFACTURER de Havilland	MODEL DHC-3
		2		OWNERSHIP	SERIAL NO. 59	NATIONALITY AND REGISTRATION USA, N708KA
				3		WORK ORDER
4		PREVIOUS EMPTY WEIGHT	NUMBER 50299			DATE 1/25/2023
		5		COMPUTED TOTAL WEIGHT CHANGE	5036.5	
6				COMPUTED NEW TOTAL MOMENT	687482	
		7		GROSS WEIGHT	LBS	
8				COMPUTED NEW EMPTY WEIGHT	LBS	
		9		COMPUTED NEW USEFUL LOAD	LBS	
10				COMPUTED NEW CENTER OF GRAVITY	INCHES	
		11		SIGNATURE AND DATE	COMPUTED BY: 	

11 SIGNATURE AND DATE

COMPUTED BY:

DATE

1/25/23

AIRCRAFT WEIGHT AND BALANCE COMPL

Weight and Balance

**Kenmore
Air Harbor**

6321 NE 175th ST
Kenmore, WA 98028

GJRR163A

	1	DESCRIPTION OF AIRCRAFT	MANUFACTURER de Havilland	MODEL DHC-3	
			SERIAL NO. 59	NATIONAL USA, N708KA	
	2	OWNERSHIP	NAME (AS SHOWN ON REGISTRATION CERTIFICATE) Kenmore Air Harbor LLC		ADDRESS (AS SHOWN ON REGISTRATION CERTIFICATE) 6321 NE 175th St. Kenmore, WA 98028
	3	WORK ORDER	NUMBER 50299	DATE 1/20/2023	SUPERSEDES PREVIOUS W&B DATED: 11/16/2021
4 PREVIOUS EMPTY WEIGHT			5036.5	136.50	687482

Removed	Installed	9 DESCRIPTION OF CHANGE	± WEIGHT	± ARM	± MOMENT
X		Kenwood TK980 UHF	-2.0	66.00	-132.0
X		NAT AA34-300 Audio Adapter	-0.4	73.00	-29.2
X		DMP 300 Narration	-0.8	72.00	-57.6
X		Antenna UHF	-0.4	190.50	-76.2
X		EDO 7490	-836.0	133.09	-111263.2
X		Carpet	-22.7	185.00	-4199.5
X		Standard Wing Struts	-46.4	150.20	-6969.3
X		KAH Seats	-172.1	160.70	-27656.5
	X	9000LBS Gross Weight Wing Struts	59.2	150.20	8891.8
	X	Vazar Fueslage Strengthening Kit	10.0	78.00	780.0
	X	Main Gear L/R and Tail Wheel	424.0	152.30	64575.2
	X	Stolairus Leading Edge	54.0	122.00	6588.0
	X	Stolairus Nose Rib Assy	8.0	120.00	960.0
	X	Stolairus Wing Tips	5.0	162.00	810.0
	X	9000LBS Gross Weight Increase	38.8	146.75	5693.9
	X	Light Weight Seats	118.1	147.20	17384.3

5	COMPUTED TOTAL WEIGHT CHANGE	LBS	-363.7
6	COMPUTED NEW TOTAL MOMENT		642782.0
7	GROSS WEIGHT	LBS	9000
8	COMPUTED NEW EMPTY WEIGHT	LBS	4672.8
9	COMPUTED NEW USEFUL LOAD	LBS	4327.2
10	COMPUTED NEW CENTER OF GRAVITY	INCHES	137.6

11 SIGNATURE AND DATE	COMPUTED BY: 	DATE 1/20/23
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POWER SOURCE CAPACITY ANALYSIS
Kenmore Air Harbor, LLC.
FAA Approved Repair Station GJRR163A

DeHavilland DHC-3
N708KA
S/N 59

November 16, 2021

AIRCRAFT BATTERY CAPACITY 62 AMP HOUR (60 MINUTES) Model Two GE50E
AIRCRAFT ELECTRICAL LOAD 31.47 AMPS CONTINUOUS LOAD (NORMAL)
AIRCRAFT ELECTRICAL LOAD 31.47 AMPS IN EMERGENCY OPERATION (LANDING)
AIRCRAFT ELECTRICAL LOAD 31.47 AMPS IN EMERGENCY OPERATION (FLIGHT)

CALCULATION RESULTS

- 1 Battery Capacity: 62 X 0.75 (derating factor) = 46.5 Ah x 60 min = 2790.0 A-min.
- 2 Current drawn during (normal) Cruise: 31.465
- 3 Cruise consumption during recognition: 31.465 A x 5 min = 157.3 A-min.
- 4 Emergency (landing) Current : 31.465 Amps.
- 5 Emergency landing Consumption: 31.465 Amps X 10 min = 314.7 A-min.
- 6 Capacity remaining for cruise: 2790.0 - 157.3 - 314.7 = 2318.0 A-min.
- 7 Emergency Cruise in (flight): 31.465 Amps.
- 8 Cruise Duration 2318.0 A-min / 31.465 Amps = 73.7 minutes.
- 9 Total flight duration on emergency power 5 + 73.7 min. + 10 = **89** minutes.

EMERGENCY POWER DURATION MUST BE GREATER THAN 30 MINUTES
IN ACCORDANCE WITH 14 CFR 23.1353(h) and ASTM F 2490-5.

NOTE: The most severe operating conditions are considered to be night IFR
with the pitot heat operating.

EQUIPMENT LIST
KENMORE AIR HARBOR, INC.
FAA APPROVED REPAIR STATION GJRR163A

DeHavilland DHC-3 OTTER
N708KA s/n 59
January 20, 2023

	<u>Item</u>	<u>Weight</u>	<u>Arm</u>	<u>Moment</u>
<u>POWER PLANT</u>				
1	Engine - Pratt & Whitney PT6A-34A (Dry weight.)	331.0	9.0	2979.0
2	Propeller- Hartzell HC-B3TN-3DY	127.0	-42.5	-5397.5
3	Propeller Spinner for Hartzell	8.0	-42.5	-340.0
4	Propeller Governor	5.0	-33.5	-167.5
5	Starter/Generator Model 23048-016	30.5	17.0	518.5
6	NP Tach Generator MS28054-2	1.3	-34.0	-44.2
7	NG Tach Generator MS28054-2	1.3	16.0	20.8
8	High Torque Transmitter and line	0.2	-11.0	-2.2
9	Low Torque Transmitter and line	0.2	-11.0	-2.2
10	Oil Pressure Transmitter	0.2	13.0	2.6
11	Oil Temp Probe	0.1	13.0	1.3
12	Fuel Pressure Transmitter	0.2	73.0	14.6
13	OAT Temp Probe	0.1	13.0	1.3
14	Generator - Regulator VR-101-24-2AW	1.6	108.0	172.8
15	Battery- Gill GE50E (Two @ 80lbs each)	160.0	31.5	5040.0
16	Master Solenoid	2.0	41.0	82.0
17	Starter Solenoid	2.0	41.0	82.0
18	Aux Power Solenoid	2.0	118.0	236.0
19	Fuel Boost Pump (Two @ 11.2 lbs each)	22.4	96.0	2150.4
20	EPA Fuel Drain System SA00104SE	2.0	28.0	56.0
21	Cabin heater System (extra weight) SA3777NM	22.0	64.0	1408.0
22	Shadin Fuel Flow Transducer	1.0	14.0	14.0
<u>FUSELAGE</u>				
23	Single Control Yoke	7.0	83.7	585.9
24	Pilot seat with cushion	26.6	98.0	2606.8
25	Co-pilot seat with cushion	26.6	98.0	2606.8
26	First LH Cabin Seat with Cushion	13.8	138.0	1904.4
27	First RH Cabin Seat with Cushion	13.8	136.0	1876.8
28	Second LH Cabin Seat with Cushion	13.8	168.5	2325.3
29	Second RH Cabin Seat with Cushion	13.8	163.0	2249.4
30	Third LH Cabin Seat with Cushion	13.8	199.0	2746.2
31	Third RH Cabin Seat with Cushion	13.8	191.0	2635.8
32	Forth RH Cabin Seat with Cushion	13.8	218.0	3008.4
33	Rear LH Cabin Seat with Cushion	12.8	250.0	3200.0
34	Rear RH Cabin Seat with Cushion	12.8	250.0	3200.0
35	Upholstery	25.0	181.0	4525.0
36	Paint exterior surface	12.0	139.0	1668.0
37	Fire extinguisher - handheld (Cockpit)	3.0	96.0	288.0
38	Fire extinguisher - handheld (Baggage Compartment))	3.0	301.0	903.0
39	AOG 8367 lbs Gross weight kit SA00438NY	14.0	153.0	2142.0
40	Harbor Air Retract Handle	7.8	97.0	756.6
41	Rear Radio Shelf	11.2	298.0	3337.6
42	Fresh Air system (Fuselage)	7.6	131.2	997.1
43	Fresh Air system (Wing)	6.5	155.65	1011.7

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<u>FLOAT</u>				
44	Bristol / EDO 324-7490 Floats (Amph. Mod. to straight)	836.0	140.0	117040.0
45	Forward LH & RH Float Locker	29.3	71.1	2083.5
46	Ventral Fins	13.0	444.0	5772.0
<u>FUSELAGE LIGHTS</u>				
47	Aero LED 11-1060 Tail NAV/STROBE	0.3	501.5	125.4
48	Aero LED 11-1080 RH Wing Tip NAV/STROBE	0.3	150.0	37.5
49	Aero LED 11-1080 LH Wing Tip NAV/STROBE	0.3	133.0	33.3
50	Precise Flight Pulse light power supply 2410-2	1.0	151.0	151.0
51	Cabin Forward Light	0.7	132.0	92.4
52	Cabin Center Light	0.7	199.0	139.3
53	Cabin Rear Light	0.7	245.0	171.5
54	Baggage Compartment Light	0.2	274.5	54.9
55	RH Landing Light (Additional wt)	3.5	125.0	437.5
56	LED Landing Lamps (2 @ 1 Lbs each)	2.0	125.0	250.0
<u>INSTRUMENTS</u>				
57	MVP-50T Glass Engine Monitor	2.0	71.0	142.0
58	EDC-33T Engine Data Convertor	1.0	58.0	58.0
59	Volt/Amp Meter VA-1A 300	0.5	72.0	36.0
60	Hobb Meter	0.5	73.0	36.5
61	Magnetic Compass	0.5	80.0	40.0
62	Aspen EFD 1000 PFD	2.6	69.5	180.7
63	Airspeed Indicator	0.6	70.5	42.3
64	Altimeter	0.9	69.5	62.6
65	VSI	0.7	70.5	49.4
66	Turn Coordinator	1.2	69.5	83.4
67	Clock Chronometer M800/BAT	0.3	71.0	21.3
68	Outside Air Temp 2716-00	0.1	88.0	8.8
<u>AVIONICS</u>				
69	Garmin GMA 340 Audio Panel	1.7	72.0	118.8
70	Bendix/King KY 196A COM	2.8	68.5	191.8
71	Garmin GTN 635 GPS/COM	6.2	67.0	415.4
72	Garmin GTX 330ES Mode S Transponder/ADS-B	4.2	68.5	287.7
73	Garmin GTS 800 Traffic Advisory System (TAS)	11.3	301.0	3401.3
74	KGP 560 GA-EGPWS	1.5	303.0	454.5
75	MD 41-1208 GA-EGPWS Display	0.3	70.5	21.2
78	KGS Model RG28 14VDC Converter	1.2	66.0	79.2
79	Radio cooling fan AK950F3-28	1.2	66.0	79.2
80	Rear Radio cooling Fan	0.2	307.0	61.4
81	Cabin Speaker	1.0	114.0	114.0
82	Air Speed Switch Aero Meter	0.1	61.0	6.1
83	Artex ME406 ELT	2.1	302.0	634.2
84	NAT AA34-100 Phone Mixer Amp	0.9	61.0	54.9
	<u>Item</u>	<u>Weight</u>	<u>Arm</u>	<u>Moment</u>

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January 20, 2023

86	NAT AA82-060 Blind Intercom	0.7	61.0	42.7
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ANTENNAS

87	Antenna Com's CI109	0.6	145.0	87.0
88	Antenna Com's CI109	0.6	145.0	87.0
89	Antenna ELT 110-338	0.5	297.0	148.5
90	Antenna Transponder CI 105	0.2	63.0	12.6
91	Antenna GPS GA 35	0.3	257.0	64.3
92	Antenna GA-TAWS KA 92	0.3	188.3	56.5
94	Antenna TAS GA-58	0.9	115.0	97.8
95	Antenna TAS CI 105	0.2	312.0	62.4
96	Antenna PFD RSM	0.5	204.0	102.0

Robert Hammond
Avionics Department