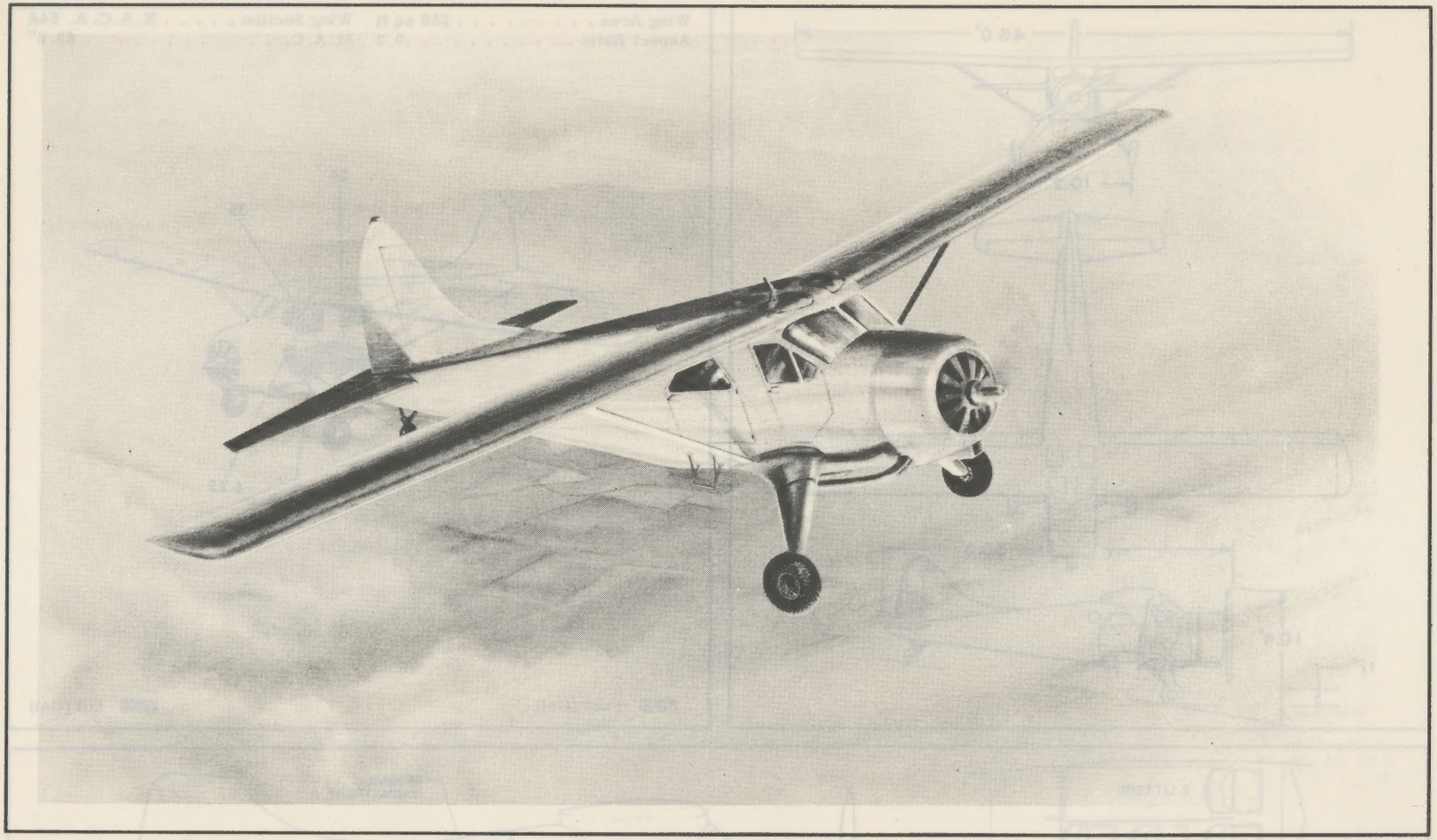


Standard Aircraft Characteristics

BY AUTHORITY OF
THE SECRETARY
OF THE AIR FORCE

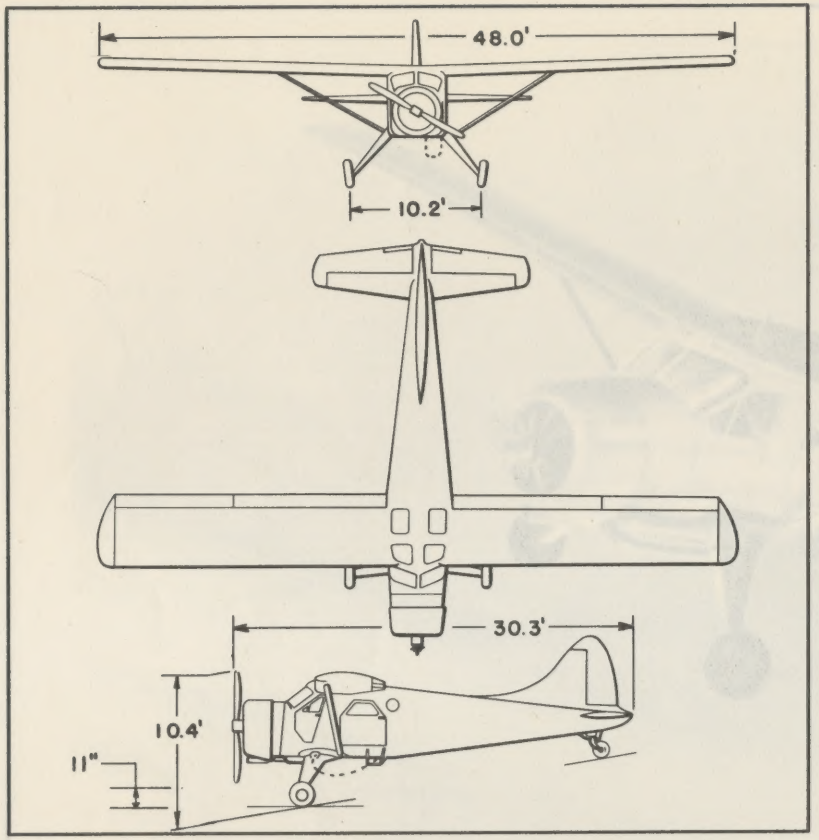
L-20A

BEAVER

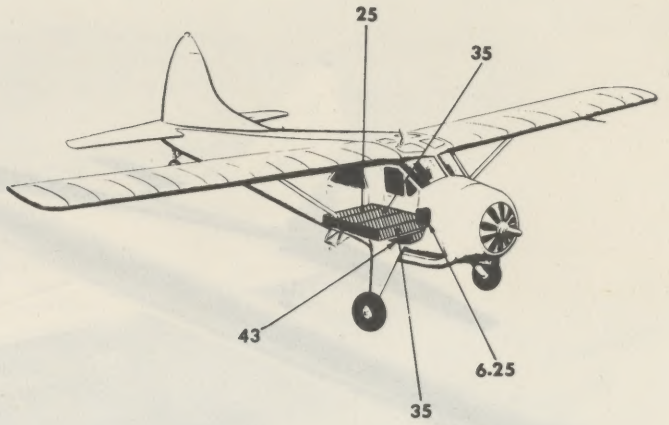
De Havilland

ONE R-985-AN-1,OR AN-3

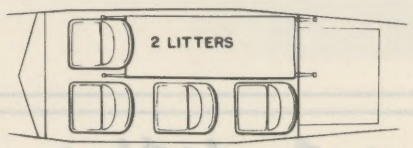
PRATT & WHITNEY



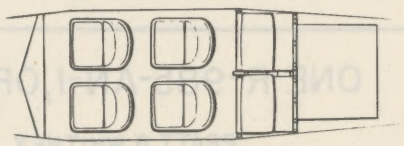
Wing Area	250 sq ft	Wing Section	N. A. C. A. 64A
Aspect Ratio	9.2	M. A. C.	62.5"



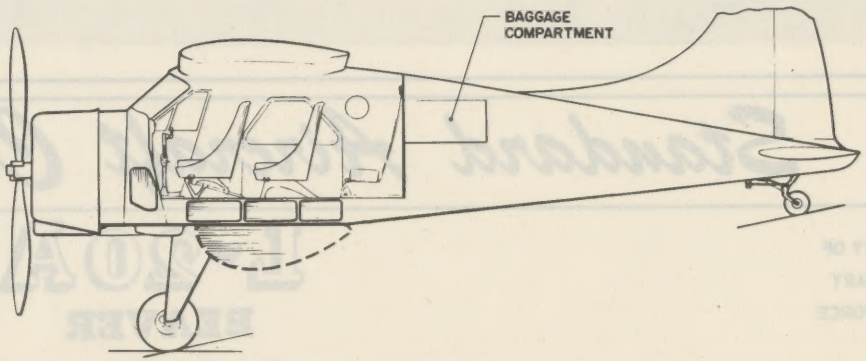
▨ Fuel (Gal) ■ Oil (Gal)



LITTER ARRANGEMENT



SEATING ARRANGEMENT



POWER PLANT

Nr. & Model (1) R-985-AN-1, or AN-3
Mfr . . . . . Pratt & Whitney
Engine Spec Nr. . . . . No. 2035
Superch . . . . . 1 stg, 1 spd
Red. Gear Ratio . . . . . D. D.
Prop Mfr . . . . . Hamilton Standard
Blade Design Nr. 6101A-18
Prop Type . . . . . C. S.
Nr. Blades 2
Prop Dia . . . . . 8'6"

ENGINE RATINGS

	BHP	RPM	ALT	MIN
T.O:	450	2300	SL	5
Nor:	450	2300	SL	Cont

Mission and Description

Navy Equivalent: None Mfr's Model: DHC2

The principal mission of the L-20A airplane is the aerial evacuation of litter and ambulatory patients. It is designed to carry a pilot and five (5) passengers one of whom may act as co-pilot. Alternate missions include courier service, passenger service, light cargo hauling, supply dropping, reconnaissance, light photographic duties, wire laying, and spraying or dusting.

It is an all-metal, high-wing, single-engine monoplane with a fixed landing gear which may be interchanged with twin floats for operation from water and/or with skis for operation from snow or ice.

There are provisions for two (2) racks under each wing, each rack capable of carrying one (1) 250 lb bomb or a chemical tank.

Other features include slotted flaps, throw-over controls and dual rudder controls.

Development

USAF Acceptance: . . . . . Oct 51

Production quantities being delivered to USAF and U. S. Army

Production completed . . . . . .

WEIGHTS

Loading	Lb	L. F.
Empty	3193	
Basic	3203	
Design	4820	3.5
Combat	*4559	
Max T. O. (overload)	†5100	3.3
Max T. O. (normal)	†5100	3.3
Max in Flt	ǂ5100	3.3
Max Land	ǂ5100	3.3

(A) Actual
* For Basic Mission
† Limited by Space
ǂ Limited by max T. O. wt.

FUEL

Location	Gal
Fuselage(fwd)	35
(ctr)	35
(aft)	25
*Fus, Ext	43
Total	138

*Some aircraft have wing tip tanks in lieu of ext. fuselage tanks
Grade 91/96
Specification MIL-F-5572

OIL

Fuselage (fwd) . . . 1 . . (tot) 6.25
Grade 1100
Specification MIL-L-6082

DIMENSIONS

Wing
Span . . . . . 48.0'
Incidence(root) . . . . . 0°
(tip) . . . . . 0°
Dihedral . . . . . 2°
Sweepback(LE) . . . . . 0°
Length . . . . . 30.3'
Height . . . . . 10.4'
Tread . . . . . 10.2'
Prop Ground Clearance . . . . 11"

CAPACITIES

Crew: 1
Passengers (max): 5
or
Passengers: 4
plus
Baggage: . . . . 222 lb and full fuel
or
Litters: 2
and
Ambulatory Patients: 2
and
Attendant: 1

FEATURES

Throw-over Controls
Dual Rudder
Provisions for (2) racks under each wing, each rack capable of carrying (1) 250 lb bomb or chemical tank.

ELECTRONICS

Aircraft Radio Corporation
Communication Equipment

VHF Receiver R-19
LF Receiver R-11A
VHF Transmitter T-11A
VHF Transmitter T-13
Omni-Direct Receiver 15C
Marker Beacon *ARC/R-20
Auto. Direct. Finder . . **ADF-14
Marker Beacon **AN/ARN-12
*USAF only
**U. S. Army only

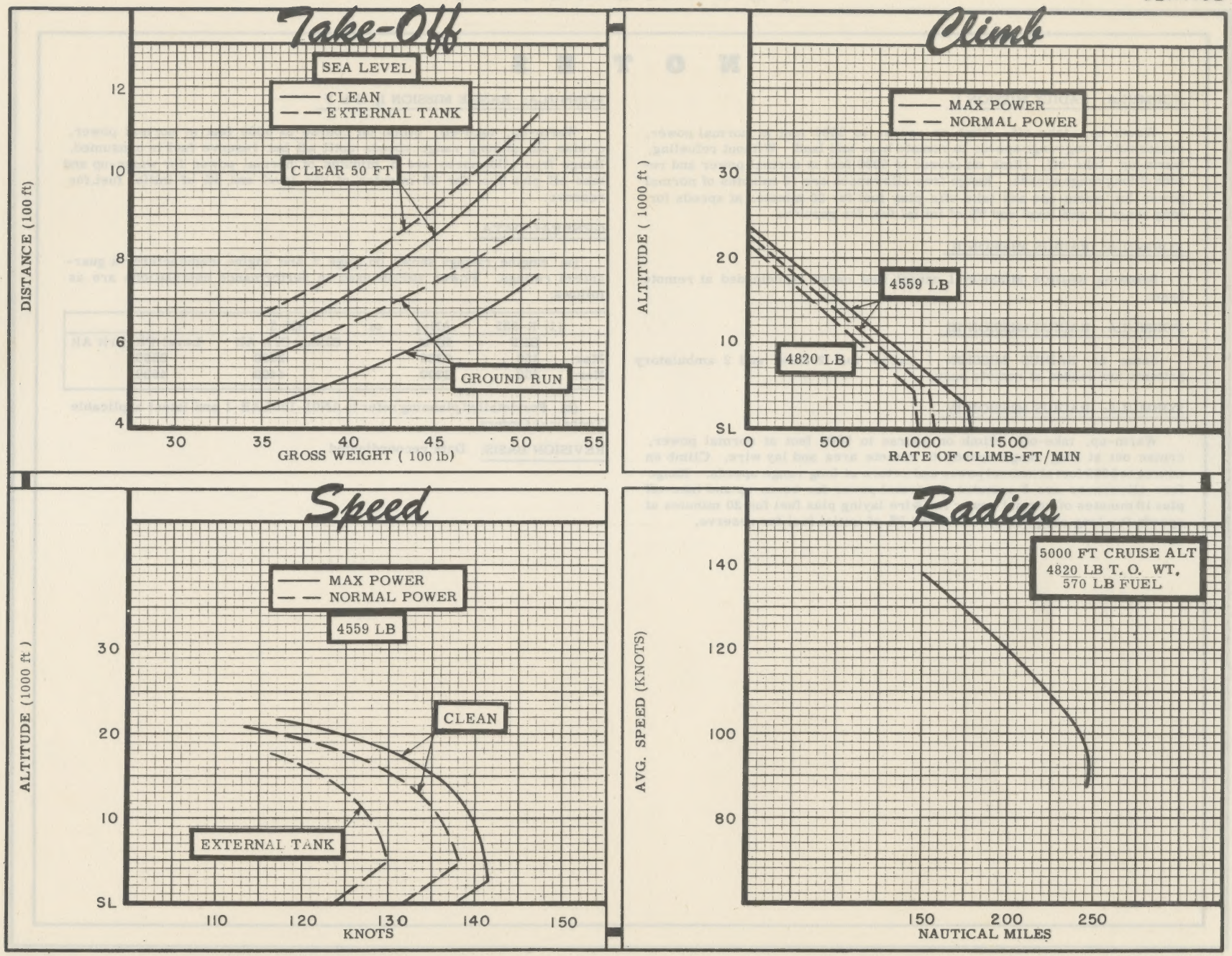
Loading and Performance—Typical Mission

CONDITIONS			BASIC MISSION	OVERLOAD	EVACUATION RADIUS	WIRE LAY RADIUS	FERRY RANGE
TAKE-OFF WEIGHT		(lb)	I 4820 ⑤	II 5100 ⑤	III 4499 ⑥	IV 4246 ⑤	V 4299 ⑤
Fuel at 6.0 lb/gal (grade 91/96)		(lb)	570	570	828	570	828
Payload (Outbound)		(lb)	800	1080	None	216	None
Payload (Inbound)		(lb)	800	None	900	None	——
Wing loading		(lb/sq ft)	19.3	20.4	18.0	17.0	17.2
Stall speed (power off)		(kn)	45	46	44	43	43
Take-off ground run at SL	①	(ft)	680	760	740	560	695
Take-off to clear 50 ft	①	(ft)	960	1080	920	770	860
Rate of climb at SL	②	(fpm)	985	890	1050	1220	1145
Time: SL to 10,000 ft	②	(min)	11.5	13.5	10.5	9.0	9.5
Time: SL to 20,000 ft	②	(min)	31.2 ⑦	32.2 ⑦	35	27.2	30.3
Service ceiling (100 fpm)	②	(ft)	19,900	18,650	20,450	22,400	21,400
COMBAT RANGE	③	(n. mi.)	531	508	——	——	824
Average cruising speed		(kn)	97	98	——	——	91
Cruising altitude		(ft)	5000	5000	——	——	5000
Total mission time		(hr)	5.5	5.2	——	——	9.1
COMBAT RADIUS	③	(n. mi.)	246	260	340	260	——
Average cruising speed		(kn)	97	95	95	92	——
Initial cruising altitude		(ft)	5000	5000	5000	5000	——
Total mission time		(hr)	5.1	5.6	7.2	5.7	——
FIRST LANDING WEIGHT	④	(lb)	4559	4814	4140	——	——
Ground roll at SL		(ft)	650	710	525	——	——
Total from 50 ft		(ft)	1240	1315	1070	——	——
COMBAT WEIGHT	④	(lb)	4559	3734	5040	3742	3540
Combat altitude		(ft)	5000	5000	5000	5000	5000
Combat speed	①	(kn)	141	141	132	141	132
Combat climb	①	(fpm)	1110	1510	865	1510	1590
Combat ceiling (500 fpm)	①	(ft)	15,200	19,800	11,450	19,700	20,150
Service ceiling (100 fpm)	②	(ft)	21,000	24,600	17,900	24,600	24,950
Take-off ground run at SL	①	(ft)	620	470	875	475	——
Take-off to clear 50 ft	①	(ft)	865	645	1130	650	——
Max rate of climb at SL	①	(fpm)	1280	1735	1040	1730	1830
Max speed at 2800 ft	①	(kn)	142	142	132	142	132
Basic speed at 5000 ft	①	(kn)	141	141	132	141	132
LANDING WEIGHT	④	(lb)	4309	3506	4644	3517	3540
Ground roll at SL		(ft)	605	495	610	495	455
Total from 50 ft		(ft)	1180	1015	1190	1020	965

NOTES

① Max power
② Normal power
③ Detailed descriptions of RADIUS and RANGE missions are given on page 6.
④ For Radius Mission if Radius is shown.
⑤ Includes crew of 1 @ 200 lb
⑥ Includes crew of 2 @ 400 lb
⑦ Time to service ceiling

PERFORMANCE BASIS:
(a) Data source: Flight test
(b) Performance is based on powers shown on page 6


Take-Off
SEA LEVEL
CLEAN
EXTERNAL TANK
CLEAR 50 FT
GROUND RUN
DISTANCE (100 ft)
12
10
8
6
4
30
35
40
45
50
55
GROSS WEIGHT (100 lb)
Climb
MAX POWER
NORMAL POWER
4559 LB
4820 LB
ALTITUDE (1000 ft)
30
20
10
SL
0
500
1000
1500
RATE OF CLIMB-FT/MIN
Speed
MAX POWER
NORMAL POWER
4559 LB
CLEAN
EXTERNAL TANK
ALTITUDE (1000 ft)
30
20
10
SL
110
120
130
140
150
KNOTS
Radius
5000 FT CRUISE ALT
4820 LB T. O. WT.
570 LB FUEL
AVG. SPEED (KNOTS)
140
120
100
80
150
200
250
NAUTICAL MILES

NOTES

FORMULA: RADIUS MISSION I

Warm-up, take-off, climb on course to 5000 feet at normal power, cruise out at long range speeds to remote base and land. Without refueling, warm-up, take-off, climb on course to 5000 feet at normal power and return at long range speeds. Range free allowances are 10 minutes of normal power for warm-ups and take-offs plus fuel for 20 minutes at speeds for long range at sea level and 5% of initial fuel for reserve.

FORMULA: RADIUS MISSION II

Same as RADIUS MISSION I except that cargo is unloaded at remote base.

FORMULA: RADIUS MISSION III

Same as RADIUS MISSION I except that 2 litter and 2 ambulatory patients are loaded at remote base.

FORMULA: RADIUS MISSION IV

Warm-up, take-off, climb on course to 5000 feet at normal power, cruise out at long range speeds to remote area and lay wire. Climb on course to 5000 feet at normal power and return at long range speeds. Range free allowances are 5 minutes of normal power for warm-up and take-off plus 10 minutes of normal power for wire laying plus fuel for 20 minutes at speeds for long range at sea level and 5% of initial fuel for reserve.

FORMULA: RANGE MISSION I, II & V

Warm-up, take-off, climb on course to 5000 feet at normal power, cruise out at long range speeds until all but reserve fuel is consumed. Range free allowances are 5 minutes of normal power for warm-up and take-off plus fuel for 20 minutes at sea level and 5% of initial fuel for reserve.

GENERAL DATA

(a) Engine ratings shown on page 3 are engine manufacturer's guaranteed ratings. Power values used in performance calculations are as follows:

	(1) R-985 AN-1 or AN-3			
	BHP	RPM	Climb-Crit Alt	Level Flt-Crit Alt
Max:	450	2300	2600	2800
Nor:	400	2200	4400	4600

(b) For detailed planning refer to AN01-150LAB-1 and latest applicable Technical Orders.

REVISION BASIS: Data recoordinated.