11-10-42

AIRPLANE MODELS

P-40N

NO EXTERNAL LOAD ITEMS

TAKE-OFF, CLIMB & LANDING CHART

ENGINE MODELS

ALLISON V-1710-81 (F20R)

TAKE-OFF DISTANCE (IN FEET)

GROSS WEIGHT (IN LBS.)	HEAD WIND (MPH)	HARD SURFACE RUNWAY						SOD-TURF RUNWAY						SOFT SURFACE RUNWAY					
		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.	
		GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.
8000	0	1050	1750	1200	2000	1450	2450	1050	1750	1250	2050	1500	2500	1100	1800	1350	2150	1600	2600
	20	650	1200	750	1400	950	1750	650	1200	800	1450	1000	1800	700	1250	850	1500	1050	1850
	40	350	800	400	900	550	1150	350	800	450	950	550	1150	400	850	500	1000	600	1200
7500	0	900	1500	1000	1650	1200	2000	900	1500	1050	1700	1250	2050	950	1550	1100	1750	1300	2100
	20	500	950	650	1200	800	1450	500	950	650	1200	800	1450	550	1000	700	1250	850	1500
	40	250	600	300	700	450	1050	250	600	350	750	450	1050	300	650	350	750	500	1100
7000	0	700	1200	800	1350	1000	1650	700	1200	800	1350	1000	1650	750	1250	900	1450	1050	1700
	20	400	750	500	900	600	1100	400	750	500	900	600	1100	450	800	550	950	650	1150
	40	200	500	250	550	300	650	200	500	250	550	300	650	200	500	300	600	350	700

NOTE: INCREASE DISTANCE % FOR EACH 10°C ABOVE 0°C & % FOR EACH 20°F ABOVE 32°F) ENGINE LIMITS FOR TAKE-OFF 3000 RPM & 52 IN. HG

CLIMB DATA

COMBAT MISSIONS USE 3000 RPM & 44.2 IN. HG*

FERRY MISSIONS USE 2280 RPM & 30.7 IN. HG

GROSS WEIGHT (IN LBS.)	TYPE OF CLIMB	S.L. TO 3000 FT. ALT.			AT 10000 FT. ALT.				AT 15000 FT. ALT.				AT 20000 FT. ALT.				AT 25000 FT. ALT.				BLOWER CHANGE
		BEST I.A.S.	FT./MIN.	TIME FROM S.L.	BEST I.A.S.	FT./MIN.	TIME FROM S.L.	FUEL FROM S.L.	BEST I.A.S.	FT./MIN.	TIME FROM S.L.	FUEL FROM S.L.	BEST I.A.S.	FT./MIN.	TIME FROM S.L.	FUEL FROM S.L.	BEST I.A.S.	FT./MIN.	TIME FROM S.L.	FUEL FROM S.L.	
8000	COMBAT	150	2200	1.4	145	2200	4.5	28	145	2000	6.9	34	140	1400	9.8	40	140	800	14.2	47	
	FERRY	140	1100	2.7	140	1100	9.0	28	140	1000	13.6	34	135	600	19.8	42					
7500	COMBAT	145	2400	1.3	145	2400	4.2	27	145	2200	6.4	33	140	1550	9.0	38	135	950	12.9	44	
	FERRY	135	1200	2.5	135	1200	8.3	26	135	1100	12.0	32	135	700	17.3	39					
7000	COMBAT	140	2600	1.2	140	2600	3.8	26	140	2400	5.8	32	135	1650	8.3	36	135	1050	11.7	41	
	FERRY	130	1300	2.3	130	1300	7.7	25	130	1200	10.5	31	130	800	15.0	36					

NOTE: INCREASED ELAPSED CLIMBING TIME % FOR EACH 10°C ABOVE 0°C FREE AIR TEMPERATURE & % FOR EACH 20°F ABOVE 32°F) FUEL INCLUDES WARM-UP AND TAKE-OFF ALLOWANCE

* 15 MIN. ONLY - THEN USE 2600 RPM & 38.3 IN. HG.

LANDING DISTANCE (IN FEET)

GROSS WEIGHT (IN LBS.)	BEST I. A. S. Approach	HARD DRY SURFACE						FIRM DRY SOD						WET OR SLIPPERY					
		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.	
		TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL
7500	95	1550	950	1700	1050	1800	1150	1650	1050	1800	1150	1900	1250	2800	2200	3000	2350	3250	2600
6500	90	1400	800	1550	900	1650	1000	1500	900	1600	950	1700	1050	2600	2000	2750	2100	2950	2350

NOTE: FOR GROUND TEMPERATURES ABOVE 35°C (95°F) INCREASE APPROACH I.A.S. 10% AND ALLOW 20% INCREASE IN GROUND ROLL.

REMARKS

LEGEND

I. A. S.: Indicated Air Speed

NOTE: All distances are average, and subject to considerable variations because of differences in pilot technique, load, C.G., etc.

RED FIGURES HAVE NOT BEEN FLIGHT CHECKED.

11-20-42

AIRPLANE MODELS

P-40N

ONE 75 GAL. AUXILIARY TANK OR
ONE 500 LB. BOMB

TAKE-OFF, CLIMB & LANDING CHART

ENGINE MODELS

ALLISON V-1710-81 (F-20R)

TAKE-OFF DISTANCE (IN FEET)

GROSS WEIGHT (IN LBS.)	HEAD WIND (MPH)	HARD SURFACE RUNWAY						SOD-TURF RUNWAY						SOFT SURFACE RUNWAY					
		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.	
		GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.	GROUND RUN	TO CLEAR 50' OBJ.
8500	0	1400	2350	1650	2750	2000	3300	1450	2400	1700	2800	2050	3350	1550	2500	1800	2900	2200	3500
	20	850	1650	1050	1950	1300	2350	900	1700	1100	2000	1350	2400	950	1750	1150	2050	1450	2500
	40	450	1050	600	1300	750	1550	450	1050	600	1300	800	1600	500	1100	650	1350	850	1650
7500	0	1000	1700	1150	1900	1400	2300	1050	1750	1200	1950	1450	2350	1100	1800	1250	2000	1500	2400
	20	600	1150	750	1350	900	1650	600	1150	750	1350	900	1650	650	1200	800	1400	950	1700
	40	300	700	400	850	500	1050	300	700	400	850	500	1050	350	750	450	900	550	1100
	0																		
	20																		
	40																		

NOTE: INCREASE DISTANCE % FOR EACH 10°C ABOVE 0°C (% FOR EACH 20°F ABOVE 32°F)

ENGINE LIMITS FOR TAKE-OFF 3000 RPM & 52 IN. HG

COMBAT MISSIONS USE 3000 RPM & 44.2 IN. HG*

CLIMB DATA

FERRY MISSIONS USE 2280 RPM & 30.7 IN. HG

GROSS WEIGHT (IN LBS.)	TYPE OF CLIMB	S.L. TO 3000 FT. ALT.			AT 10000 FT. ALT.				AT 15000 FT. ALT.				AT 20000 FT. ALT.				AT 25000 FT. ALT.				BLOWER CHANGE
		BEST I.A.S.	FT./MIN.	TIME FROM S.L.	BEST I.A.S.	FT./MIN.	TIME FROM S.L.	FUEL FROM S.L.	BEST I.A.S.	FT./MIN.	TIME FROM S.L.	FUEL FROM S.L.	BEST I.A.S.	FT./MIN.	TIME FROM S.L.	FUEL FROM S.L.	BEST I.A.S.	FT./MIN.	TIME FROM S.L.	FUEL FROM S.L.	
8500	COMBAT	140	1900	1.6	140	1850	5.3	29	145	1700	8.0	37	140	1150	11.6	44	135	350	19	56	
	FERRY	130	900	3.3	135	900	11.0	31	135	800	17.1	39	130	400	26.1	48					
7500	COMBAT	135	2200	1.4	135	2150	4.6	27	140	2000	7.0	34	135	1400	9.3	39	130	850	13.6	45	
	FERRY	130	1100	2.7	130	1100	9.1	28	130	1000	13.7	33	130	600	19.7	42					
	COMBAT																				
	FERRY																				

NOTE: INCREASED ELAPSED CLIMBING TIME % FOR EACH 10°C ABOVE 0°C FREE AIR TEMPERATURE (% FOR EACH 20°F ABOVE 32°F) FUEL INCLUDES WARM-UP AND TAKE-OFF ALLOWANCE

* FOR 15 MIN. ONLY - THEN USE 2600 RPM & 38.3 IN. HG.

LANDING DISTANCE (IN FEET)

GROSS WEIGHT (IN LBS.)	BEST I. A. S. Approach	HARD DRY SURFACE						FIRM DRY SOD						WET OR SLIPPERY					
		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.		AT SEA LEVEL		AT 3,000 FT.		AT 6,000 FT.	
		TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL	TO CLEAR 50' OBJ.	GROUND ROLL
7500	100	1450	950	1550	1000	1700	1100	1550	1050	1650	1100	1800	1200	2550	2050	2800	2250	3000	2400
6500	95	1300	850	1400	900	1550	950	1400	950	1500	1000	1650	1050	2250	1800	2450	1950	2700	2100

NOTE: FOR GROUND TEMPERATURES ABOVE 35°C (95°F) INCREASE APPROACH I.A.S. 10% AND ALLOW 20% INCREASE IN GROUND ROLL.

REMARKS

LEGEND

I. A. S.: Indicated Air Speed

NOTE: All distances are average, and subject to considerable variations because of differences in pilot technique, load, C.G., etc.

RED FIGURES HAVE NOT BEEN FLIGHT CHECKED.

speed fuel (961x743x256 jpeg)

R20-4E

MODEL (S) P-40N

FLIGHT OPERATION INSTRUCTION CHART

SHEET 1 OF 3 SHEETS

GR. WT. 8000 TO 6500 POUNDS

EXTERNAL LOAD ITEMS

NONE

CONDITION	R.P.M.	M.P. (IN. HG.)	BLOWER POSITION	MIXTURE POSITION	DURATION IN MIN.	U.S. G.P.H.	IMP. G.P.H.
TAKE-OFF	3000	52		A. R.	5	148	123
MILITARY POWER	3000	44.2		A. R.	15	135	112
ENGINE (S)	ALLISON V-1710-81 (F-20R)						

INSTRUCTIONS FOR USING CHART: Select figure in fuel column equal to or less than total amount of fuel in airplane. Move horizontally to the right or left and select a figure equal to or greater than the air miles to be flown. Vertically below and opposite desired cruising altitude read optimum cruising conditions. *NOTES:* (A) Avoid continuous cruising in Column I except in emergency. (B) Columns (II, III, IV & V) toward the right progressively give increase in range at sacrifice in speed. (C) Manifold Pressure (M.P.), Gallons Per Hour (G.P.H.), are approximate maximum values for reference. (D) For quick reference, take-off and military power data are listed in the upper left corner of chart.

ALTERNATE CRUISING CONDITIONS

(NO WIND) (NO RESERVE FUEL ALLOWANCE)

I (MAX. CONT. POWER) RANGE IN AIR MILES		FUEL U.S. GALS. (2)	II RANGE IN AIR MILES		III RANGE IN AIR MILES		IV RANGE IN AIR MILES		FUEL IMP. GALS. (1)	V (MAX. RANGE) RANGE IN AIR MILES	
STATUTE	NAUTICAL		STATUTE	NAUTICAL	STATUTE	NAUTICAL	STATUTE	NAUTICAL		STATUTE	NAUTICAL
SPECIAL	P-40N	158	(FOR AIRPLANES WITH		FRONT WING TANK INSTALLED)				132		
350	305	130	490	425	610	530	690	600	108	800	695
325	280	120	460	390	565	490	635	550	100	735	640
295	260	110	415	360	515	450	585	505	92	675	585
STANDARD	P-40N	120	(30 GAL. FOR WARM-UP, TAKE-OFF AND CLIMB, NOT AVAILABLE IN FLIGHT)						100		
245	210	90	340	295	420	365	475	415	75	550	480
215	185	80	300	260	375	325	425	370	67	490	425
190	165	70	265	230	330	285	370	320	58	430	370
160	140	60	225	195	280	245	320	275	50	370	320
135	115	50	190	165	235	205	265	230	42	305	265
110	95	40	150	130	190	165	210	185	33	245	215
80	70	30	115	100	140	120	160	140	25	185	160
55	45	20	75	65	95	80	105	90	17	125	105
25	25	10	35	30	45	40	55	45	8	60	55

OPERATING DATA						(1) DENSITY ALT. IN FEET	OPERATING DATA						OPERATING DATA						OPERATING DATA						(1) DENSITY ALT. IN FEET	OPERATING DATA					
R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.		R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.	R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.	R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.		R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.
						30000																			30000					
2600	198	172	F.T.	69	57	25000																			25000	2250	170	147	F.T.	44	37
2600	226	196	F.T.	91	76	20000	2600	220	191	31	84	70							2250	201	174	F.T.	55	46	20000	1950	178	154	F.T.	42	35
2600	254	220	F.T.	115	96	15000	2300	228	198	31	80	67	2300	218	189	29	61	51	2000	209	181	F.T.	52	43	15000	1800	179	155	24	39	33
2600	261	226	38.3	119	99	12000	2300	230	200	31	77	64	2300	219	190	29	59	49	1900	209	181	29	50	42	12000	1800	176	153	24	36	30
2600	264	229	38.3	116	97	9000	2300	232	201	31	74	62	2300	220	191	29	56	46	1850	209	181	29	47	39	9000	1800	170	147	23	34	28
2600	266	231	38.3	113	94	6000	2300	234	203	31	71	59	2250	221	192	29	54	45	1850	209	181	29	45	37	6000	1800	161	140	23	31	26
2600	268	232	38.3	109	91	3000	2300	234	203	31	68	57	2200	220	191	29	52	43	1850	207	179	29	43	36	3000						
2600	270	234	38.3	106	88	S.L.	2300	234	203	31	65	54	2150	219	190	29	49	41	1800	205	178	29	41	34	S.L.						

LEGEND

(1) INDICATED ALTITUDE CORRECTED FOR FREE AIR TEMPERATURE.

(2) ALLOW 30 U. S. GALS. 25 IMP. GALS. FOR WARM UP.
TAKE-OFF AND CLIMB TO 9000 FEET ALTITUDE
RETURN FUEL FLOWS TO TANK FUSELAGE
USE FUEL FROM TANKS IN THE FOLLOWING ORDER

BOLD NUMBERS: Use Auto-Rich
LIGHT NUMBERS: Use Auto-Lean
WITH TWO SPEED BLOWER: Use high blower above heavy line only

I.A.S.: Indicated Air Speed
M.P.: Manifold Pressure (In. Hg.)
U.S.G.P.H.: U. S. Gallons Per Hour
IMP.G.P.H.: Imperial Gallons Per Hour
F.T.: Full Throttle

EDITOR'S NOTE: AAF inspectors at modification centers will strike out columns not matching calibration of instruments in the airplane at time of delivery.

REFER TO "SPECIFIC ENGINE FLIGHT CHART" FOR ADDITIONAL ENGINE OPERATION DATA.

RED FIGURES ARE PRELIMINARY: SUBJECT TO REVISION AFTER FLIGHT CHECK

RESTRICTED

11-29-42

MODEL (S) P-40N

FLIGHT OPERATION INSTRUCTION CHART

SHEET 2 OF 3 SHEETS

GR. WT. 8500 TO 7500 POUNDS

EXTERNAL LOAD ITEMS

ONE 75 GAL. AUXILIARY TANK OR ONE 500 LB. BOMB

CONDITION	R.P.M.	M.P. (IN. HG.)	BLOWER POSITION	MIXTURE POSITION	DURATION IN MIN.	U.S. G.P.H.	IMP. G.P.H.
TAKE-OFF	3000	52		A. R.	5	148	123
MILITARY POWER	3000	44.2		A. R.	15	135	112
ENGINE (S)	ALLISON V-1710-81 (F-20R)						

INSTRUCTIONS FOR USING CHART: Select figure in fuel column equal to or less than total amount of fuel in airplane. Move horizontally to the right or left and select a figure equal to or greater than the air miles to be flown. Vertically below and opposite desired cruising altitude read optimum cruising conditions. **NOTES:** (A) Avoid continuous cruising in Column I except in emergency. (B) Columns (II, III, IV & V) toward the right progressively give increase in range at sacrifice in speed. (C) Manifold Pressure (M.P.), Gallons Per Hour (G.P.H.), are approximate maximum values for reference. (D) For quick reference, take-off and military power data are listed in the upper left corner of chart.

(NO WIND) **ALTERNATE CRUISING CONDITIONS** (NO RESERVE FUEL ALLOWANCE)

I (MAX. CONT. POWER) RANGE IN AIR MILES		FUEL U.S. GALS. ①	II RANGE IN AIR MILES		III RANGE IN AIR MILES		IV RANGE IN AIR MILES		FUEL IMP. GALS. ①	V (MAX. RANGE) RANGE IN AIR MILES	
STATUTE	NAUTICAL		STATUTE	NAUTICAL	STATUTE	NAUTICAL	STATUTE	NAUTICAL		STATUTE	NAUTICAL
SPECIAL	P-40N	233	I FOR	AIRPLANES	WITH FRONT	WING TANK	INSTALLED)		194		
490	425	200	700	610	880	765	980	850	167	1095	950
465	405	190	665	580	835	725	930	805	158	1040	905
440	385	180	630	545	790	685	880	765	150	985	855
STANDARD	P-40N	195	(35 GAL. FOR	WARM-UP,	TAKE-OFF, AND	CLIMB. NOT	AVAILABLE IN	FLIGHT)	162		
390	340	160	560	485	705	610	780	680	133	875	760
370	320	150	525	455	660	575	735	635	125	820	715
345	300	140	490	425	615	535	685	595	117	765	665
320	275	130	455	395	570	495	635	550	108	710	620
295	255	120	420	365	530	460	585	510	100	655	570
270	235	110	385	335	485	420	540	465	92	600	525
245	210	100	350	305	440	380	490	425	83	550	475
220	190	90	315	275	395	345	440	380	75	495	430
195	170	80	280	245	350	305	390	340	67	440	380
170	150	70	245	215	310	265	340	295	58	385	335
145	130	60	210	185	265	230	295	255	50	330	285

OPERATING DATA						① DENSITY ALT. IN FEET	OPERATING DATA						OPERATING DATA						OPERATING DATA						① DENSITY ALT. IN FEET	OPERATING DATA					
R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.		R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.	R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.	R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.		R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.
						30000																			30000						
2600	180	156	F. T.	69	57	25000																			25000	2300	158	137	F. T.	46	39
2600	207	180	F. T.	91	76	20000	2500	202	175	30	82	68							2250	185	161	F. T.	55	46	20000	2050	170	147	F. T.	45	38
2600	232	201	F. T.	115	96	15000	2250	210	182	31	79	66	2300	200	174	29	61	51	2000	193	167	F. T.	52	43	15000	1800	172	149	25	42	35
2600	238	206	38.3	119	99	12000	2250	212	184	31	76	63	2300	201	175	29	59	49	1900	193	167	29	50	42	12000	1800	170	147	25	40	33
2600	241	209	38.3	116	97	9000	2250	213	185	31	73	61	2250	202	176	29	56	47	1850	193	167	29	47	39	9000	1800	167	145	25	37	31
2600	243	211	38.3	113	94	6000	2250	215	187	31	70	58	2200	202	176	29	53	44	1850	192	167	29	45	37	6000	1800	158	137	24	34	28
2600	245	213	38.3	109	91	3000	2250	215	187	31	67	56	2150	202	176	29	51	42	1850	191	166	29	43	36	3000						
2600	247	214	38.3	106	88	S. L.	2250	215	187	31	64	53	2150	200	175	29	48	40	1800	189	164	29	41	34	S. L.						

LEGEND

① INDICATED ALTITUDE CORRECTED FOR FREE AIR TEMPERATURE.

② ALLOW 30 U. S. GALS., 25 IMP. GALS. FOR WARM UP, TAKE-OFF AND CLIMB TO 9000 FEET ALTITUDE

RETURN FUEL FLOWS TO TANK FUSELAGE

USE FUEL FROM TANKS IN THE FOLLOWING ORDER

BOLD NUMBERS: Use Auto-Rich

LIGHT NUMBERS: Use Auto-Lean

WITH TWO SPEED BLOWER: Use high blower above heavy line only

I.A.S.: Indicated Air Speed

M.P.: Manifold Pressure (In. Hg.)

U.S.G.P.H.: U. S. Gallons Per Hour

IMP.G.P.H.: Imperial Gallons Per Hour

F.T.: Full Throttle

EDITOR'S NOTE: AAF inspectors at modification centers will strike out columns not matching calibrations of instruments in the airplane at time of delivery.

REFER TO "SPECIFIC ENGINE FLIGHT CHART" FOR ADDITIONAL ENGINE OPERATION DATA.

RED FIGURES ARE PRELIMINARY: SUBJECT TO REVISION AFTER FLIGHT CHECK

MODEL (S) P-40N

FLIGHT OPERATION INSTRUCTION CHART

SHEET 3 OF 3 SHEETS

GR. WT. 7500 TO 6500 POUNDS

EXTERNAL LOAD ITEMS

ONE 75 GAL. AUXILIARY TANK OR
ONE 500 LB. BOMB

CONDITION	R.P.M.	M.P. (IN. HG.)	BLOWER POSITION	MIXTURE POSITION	DURATION IN MIN.	U.S. G.P.H.	IMP. G.P.H.
TAKE-OFF	3000	52		A. R.	5	148	123
MILITARY POWER	3000	44.2		A. R.	15	135	112
ENGINE (S)	ALLISON V-1710-81 (F-20R)						

INSTRUCTIONS FOR USING CHART: Select figure in fuel column equal to or less than total amount of fuel in airplane. Move horizontally to the right or left and select a figure equal to or greater than the air miles to be flown. Vertically below and opposite desired cruising altitude read optimum cruising conditions. *NOTES:* (A) Avoid continuous cruising in Column I except in emergency. (B) Columns (II, III, IV & V) toward the right progressively give increase in range at sacrifice in speed. (C) Manifold Pressure (M.P.), Gallons Per Hour (G.P.H.), are approximate maximum values for reference. (D) For quick reference, take-off and military power data are listed in the upper left corner of chart.

ALTERNATE CRUISING CONDITIONS

(NO WIND) (NO RESERVE FUEL ALLOWANCE)

I (MAX. CONT. POWER) RANGE IN AIR MILES		FUEL U.S. GALS. (1)	II RANGE IN AIR MILES		III RANGE IN AIR MILES		IV RANGE IN AIR MILES		FUEL IMP. GALS. (2)	V (MAX. RANGE) RANGE IN AIR MILES	
STATUTE	NAUTICAL		STATUTE	NAUTICAL	STATUTE	NAUTICAL	STATUTE	NAUTICAL		STATUTE	NAUTICAL
345	300	140	490	425	615	535	695	605	117	835	725
320	275	130	455	395	570	495	645	560	108	775	670
295	255	120	420	365	530	460	595	520	100	715	620
270	235	110	385	335	485	420	545	475	92	655	570
245	210	100	350	305	440	380	495	430	83	595	515
220	190	90	315	275	395	345	445	390	75	535	465
195	170	80	280	245	350	305	400	345	67	475	415
170	150	70	245	215	310	265	350	300	58	415	360
145	130	60	210	185	265	230	300	260	50	355	310
125	105	50	175	150	220	190	250	215	42	300	260
100	85	40	140	120	175	155	200	175	33	240	205
75	65	30	105	90	130	115	150	130	25	180	155
50	45	20	70	60	90	75	100	85	17	120	105
25	20	10	35	30	45	40	50	45	8	60	50

OPERATING DATA						(1) DENSITY ALT. IN FEET	OPERATING DATA						OPERATING DATA						OPERATING DATA						(1) DENSITY ALT. IN FEET	OPERATING DATA					
R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.		R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.	R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.		R.P.M.	I.A.S. M.P.H.	I.A.S. KNOTS	M.P. IN. Hg	U.S. G.P.H.	IMP. G.P.H.
						30000														30000						
2600	185	160	F.T.	69	57	25000														25000	2200	161	140	F.T.	43	36
2600	211	183	F.T.	91	76	20000	2600	206	179	30	84	70							2250	190	165	F.T.	55	46	20000	1900	166	144	F.T.	41	34
2600	234	203	F.T.	115	96	15000	2300	213	185	31	80	67	2300	204	177	29	62	52	2000	196	170	F.T.	52	43	15000	1800	166	144	23	37	31
2600	240	208	38.3	119	99	12000	2300	215	187	31	77	64	2300	205	178	29	59	49	1900	196	170	29	50	42	12000	1800	163	142	23	35	29
2600	243	211	38.3	116	97	9000	2300	216	187	31	74	62	2300	206	179	29	57	47	1850	196	170	29	47	39	9000	1800	158	137	23	32	27
2600	246	213	38.3	113	94	6000	2300	217	188	31	71	59	2250	206	179	29	54	45	1850	196	170	29	45	37	6000	1800	144	125	21	28	23
2600	248	215	38.3	109	91	3000	2300	218	189	31	68	57	2250	206	179	29	52	43	1850	194	168	29	43	36	3000						
2600	250	217	38.3	106	88	S.L.	2300	218	189	31	65	54	2150	204	177	29	49	41	1800	193	167	29	41	34	S.L.						

LEGEND

(1) INDICATED ALTITUDE CORRECTED FOR FREE AIR TEMPERATURE.

(2) ALLOW 30 U. S. GALS. 25 IMP. GALS. FOR WARM UP,
TAKE-OFF AND CLIMB TO 9000 FEET ALTITUDE
RETURN FUEL FLOWS TO TANK FUSELAGE
USE FUEL FROM TANKS IN THE FOLLOWING ORDER

REFER TO "SPECIFIC ENGINE FLIGHT CHART" FOR ADDITIONAL ENGINE OPERATION DATA.

BOLD NUMBERS: Use Auto-Rich
LIGHT NUMBERS: Use Auto-Lean
WITH TWO SPEED BLOWER: Use high blower above heavy line only

I.A.S.: Indicated Air Speed
M.P.: Manifold Pressure (In. Hg.)
U.S.G.P.H.: U. S. Gallons Per Hour
IMP.G.P.H.: Imperial Gallons Per Hour
F.T.: Full Throttle

EDITOR'S NOTE: AAF inspectors at modification centers will strike out columns not matching calibration of instruments in the airplane at time of delivery.

RED FIGURES ARE PRELIMINARY: SUBJECT TO REVISION AFTER FLIGHT CHECK

T. O. No. 01-25CN-1