

SPEC. MODEL DEC. 16, 1942		MODEL (S)		FLIGHT OPERATION INSTRUCTION CHART						EXTERNAL LOAD ITEMS																					
FORM ASC-311		P-39Q-1-BE		SHEET _____ OF _____ SHEETS						NONE																					
GE. WT.		7600		TO		7200		POUNDS																							
CONDITION	R.P.M.	M.P. (IN. HG.)	BLOWER POSITION	MIXTURE POSITION	DURATION IN MIN.	U.S. G.P.H.	IMP. G.P.H.	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 alt., to read optimum cruising conditions. <b>NOTES:</b> (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.																							
TAKE-OFF	3000	80.5	-	F.R.	5	142	118																								
MILITARY POWER	3000	84.5	-	A.R.	15	138	116																								
ENGINE IN	Y-1710-85																														
ALTERNATE CRUISING CONDITIONS													NO RESERVE FUEL ALLOWANCE																		
I (MAX. CONT. POWER)			FUEL U.S. GALS.	II		III		IV		FUEL IMP. GALS.	V (MAX. RANGE)																				
RANGE IN AIR MILES				RANGE IN AIR MILES		RANGE IN AIR MILES		RANGE IN AIR MILES			RANGE IN AIR MILES																				
STATUTE	NAUTICAL		STATUTE	NAUTICAL	STATUTE	NAUTICAL	STATUTE	NAUTICAL	STATUTE	NAUTICAL	STATUTE	NAUTICAL																			
AT 51.	AT 13,000	AT 51.	AT 13,000	AT 51.	AT 13,000	AT 51.	AT 13,000	AT 51.	AT 13,000	AT 51.	AT 13,000	AT 51.	AT 13,000																		
			88	NO U.S. (13.3 IMP.) GALLONS NOT AVAILABLE IN FLIGHT						71.6																					
	215		70	280	225	300	260	345	300	88.3	430	375																			
	175		60	220	190	265	220	295	265	60	370	320																			
	145		50	185	160	215	185	245	215	42	310	270																			
	115		40	150	130	170	150	195	170	33	245	215																			
	85		30	110	95	130	115	145	125	25	185	160																			
	60		20	75	65	85	75	100	85	17	125	110																			
	30		10	35	30	40	35	50	45	8.3	60	50																			
OPERATING DATA				OPERATING DATA				OPERATING DATA				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.								
2600	330	287	F.T.	62	52																										
				30000																											
2600	345	300	F.T.	82	68	2600	224	195	30	77	64	2400	223	194	28	66	55	2600	222	192	26	60	50	20000	2200	200	174	24	41	24	
2600	254	308	F.T.	104	87	15000	2600	247	215	30	78	65	2400	240	209	28	65	54	2600	219	190	24	52	43	15000	2000	204	177	24	39	32
2800	297	302	F.T.	107	89	12000	2600	247	215	30	78	62	2400	244	212	28	63	53	2400	221	192	25	50	42	12000	2000	208	181	24	37	31
2800	335	292	F.T.	104	87	9000	2800	249	217	30	71	59	2400	245	213	28	60	50	2200	248	214	30	53	44	9000	1800	207	180	26	35	29
2800	323	281	F.T.	102	85	6000	2600	252	219	30	69	58	2400	244	212	28	58	48	2000	245	213	31	50	42	6000	1600	207	180	28	34	28
2800	312	272	F.T.	98	82	3000	2600	257	224	30	67	56	2400	243	211	28	55	46	2000	247	215	31	48	40	3000	1600	211	183	29	33	29
2800	300	261	F.T.	96	80	S.L.	2600	258	224	31	64	53	2400	239	208	28	51	42	2000	245	213	31	46	29	S.L.	1600	211	183	29	32	27

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- ① INDICATED ALTITUDE CORRECTED FOR FREE AIR TEMPERATURE.  
 ② ALLOW 16 U.S. GALS. 13.3 IMP. GALS. FOR WARM UP.  
 TAKE-OFF AND CLIMB TO 5,000 FEET ALTITUDE.  
 RETURN FUEL FLOWS TO TANK.  
 USE FUEL FROM TANKS IN THE FOLLOWING ORDER:

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

**BOLD NUMBERS:** Use Auto-Block  
**SMALL NUMBERS:** Use Auto-Less  
 WITH 1700 5000 6000 PSI. 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  
 S.L.: See Level