

INFORMATION LEAFLET

PC-12/45

HIGH TEMPERATURE PERFORMANCE

LEAFLET NO. 02233

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GENERAL

The PC-12/45 Pilot's Operating Handbook (POH) provides performance data for takeoff and landing distances for temperatures up to ISA + 30° C. This Information Leaflet gives high temperature performance information and static torque data for temperatures of ISA + 35° and 40° C.

The existing approved performance data for takeoff and landing was re-run for temperatures of ISA + 35° and 40° C. OAT temperatures above the Maximum Outside Air Temperature of +50° C given in the POH Section 2, are shown by shaded areas in the Tables and are for interpolation purposes only. The results are presented in the Tables below. The Tables are related to the equivalent Titled Chart in the POH Section 5.

TABLES

The distances given in the tables are all based on a zero wind speed, zero uphill component and an aircraft weight of 9921 lbs (4500 kg).

To find the required distance for varying factors of wind speed, uphill component, aircraft weight and OAT, first find the equivalent Titled Chart in the POH Section 5 and:

- follow the curve and extend the top and bottom pressure altitude grid lines sufficiently to mark the ISA + 35 and 40° C points
- follow the curve and draw the grid lines for the ISA + 35 and 40° C points
- follow the curves and extend the remainder of the pressure altitude grid lines to the ISA + 40° C line
- then use data from the local conditions and follow the example given on the chart to obtain the required distance for the local conditions

FIGURES

Figure 1 gives the static takeoff torque values for temperatures up to ISA +40° C and can be used to check that the engine is giving the minimum expected performance level for the information given in this leaflet.

TABLE 1 - ACCELERATE-STOP DISTANCE – FLAPS 15°

ISA °C	PRESSURE ALTITUDE - FT	OAT °C	ACCELERATE/STOP DISTANCE	
			FEET	METER
35	0	50	4030	1228.3
35	2000	46	4445	1354.8
35	4000	42	4924	1500.8
35	6000	38	5496	1675.3
35	8000	34	6254	1906.2
35	10000	30	7421	2261.9
40	0	55	4240	1292.5
40	2000	51	4652	1417.9
40	4000	47	5119	1560.2
40	6000	43	5706	1739.1
40	8000	39	6503	1982.1
40	10000	35	7746	2360.9

TABLE 2 - ACCELERATE-STOP DISTANCE – FLAPS 30°

ISA °C	PRESSURE ALTITUDE - FT	OAT °C	ACCELERATE/STOP DISTANCE	
			FEET	METER
35	0	50	3449	1051.4
35	2000	46	3815	1162.9
35	4000	42	4244	1293.5
35	6000	38	4760	1451.0
35	8000	34	5444	1659.4
35	10000	30	6495	1979.7
40	0	55	3630	1106.5
40	2000	51	3989	1216.0
40	4000	47	4410	1344.3
40	6000	43	4946	1507.5
40	8000	39	5666	1727.1
40	10000	35	6786	2068.5

TABLE 3 – TAKEOFF GROUND ROLL – FLAPS 15°

ISA °C	PRESSURE ALTITUDE - FT	OAT °C	TAKEOFF GROUND ROLL	
			FEET	METER
35	0	50	2088	636.3
35	2000	46	2366	721.1
35	4000	42	2690	820.0
35	6000	38	3090	941.9
35	8000	34	3623	1104.3
35	10000	30	4438	1352.7
40	0	55	2273	692.9
40	2000	51	2543	775.2
40	4000	47	2848	868.0
40	6000	43	3254	991.8
40	8000	39	3820	1164.3
40	10000	35	4696	1431.4

TABLE 4 - TAKEOFF GROUND ROLL – FLAPS 30°

ISA °C	PRESSURE ALTITUDE - FT	OAT °C	TAKEOFF GROUND ROLL	
			FEET	METER
35	0	50	1937	590.3
35	2000	46	2192	668.0
35	4000	42	2491	759.4
35	6000	38	2862	872.2
35	8000	34	3356	1022.8
35	10000	30	4115	1254.3
40	0	55	2105	641.5
40	2000	51	2350	716.2
40	4000	47	2632	802.3
40	6000	43	3011	917.8
40	8000	39	3535	1077.4
40	10000	35	4352	1326.6

TABLE 5 – TAKEOFF TOTAL DISTANCE – FLAPS 15° - OVER 50 FT (15 M)

ISA °C	PRESSURE ALTITUDE - FT	OAT °C	TAKEOFF TOTAL DISTANCE	
			FEET	METER
35	0	50	3550	1082.0
35	2000	46	4088	1246.0
35	4000	42	4687	1428.6
35	6000	38	5421	1652.2
35	8000	34	6474	1973.3
35	10000	30	8135	2479.6
40	0	55	3986	1215.0
40	2000	51	4590	1398.9
40	4000	47	5124	1561.9
40	6000	43	5808	1770.2
40	8000	39	6932	2113.0
40	10000	35	8789	2678.9

TABLE 6 – TAKEOFF TOTAL DISTANCE – FLAPS 30° - OVER 50 FT (15 M)

ISA °C	PRESSURE ALTITUDE - FT	OAT °C	TAKEOFF TOTAL DISTANCE	
			FEET	METER
35	0	50	3193	973.2
35	2000	46	3692	1125.4
35	4000	42	4256	1297.3
35	6000	38	4970	1515.0
35	8000	34	5998	1828.2
35	10000	30	7678	2340.3
40	0	55	3603	1098.1
40	2000	51	4150	1264.8
40	4000	47	4655	1418.7
40	6000	43	5348	1630.0
40	8000	39	6485	1976.6
40	10000	35	8389	2557.1

TABLE 7 – LANDING TOTAL DISTANCE — FLAPS 40° - FROM 50 FT (15 M)

ISA °C	PRESSURE ALTITUDE - FT	OAT °C	LANDING TOTAL DISTANCE	
			FEET	METER
35	0	50	2364	720.6
35	2000	46	2478	755.2
35	4000	42	2601	792.7
35	6000	38	2735	833.6
35	8000	34	2909	886.7
35	10000	30	3189	972.0
40	0	55	2393	729.3
40	2000	51	2508	764.5
40	4000	47	2634	802.7
40	6000	43	2770	844.4
40	8000	39	2947	898.4
40	10000	35	3232	985.1

TABLE 8 - LANDING GROUND ROLL — FLAPS 40°

ISA °C	PRESSURE ALTITUDE - FT	OAT °C	LANDING GROUND ROLL	
			FEET	METER
35	0	50	1465	446.5
35	2000	46	1572	479.2
35	4000	42	1689	514.8
35	6000	38	1818	554.0
35	8000	34	1977	602.6
35	10000	30	2211	673.8
40	0	55	1493	455.2
40	2000	51	1602	488.4
40	4000	47	1722	524.8
40	6000	43	1853	564.9
40	8000	39	2016	614.4
40	10000	35	2255	687.2

TABLE 9 – LANDING TOTAL DISTANCE WITH REVERSE THRUST – FLAPS 40°

ISA °C	PRESSURE ALTITUDE - FT	OAT °C	LANDING TOTAL DISTANCE	
			FEET	METER
35	0	50	1979	603.3
35	2000	46	2065	629.5
35	4000	42	2158	657.9
35	6000	38	2260	688.8
35	8000	34	2393	729.4
35	10000	30	2613	796.4
40	0	55	2000	609.6
40	2000	51	2088	636.3
40	4000	47	2183	665.3
40	6000	43	2285	696.6
40	8000	39	2421	737.9
40	10000	35	2644	806.0

TABLE 10 – LANDING GROUND ROLL WITH REVERSE THRUST – FLAPS 40°

ISA °C	PRESSURE ALTITUDE - FT	OAT °C	LANDING GROUND ROLL	
			FEET	METER
35	0	50	1079	328.8
35	2000	46	1159	353.2
35	4000	42	1246	379.9
35	6000	38	1342	409.1
35	8000	34	1461	445.2
35	10000	30	1633	497.6
40	0	55	1099	335.1
40	2000	51	1181	360.0
40	4000	47	1271	387.3
40	6000	43	1368	417.1
40	8000	39	1489	453.9
40	10000	35	1665	507.4

STATIC TAKEOFF TORQUE

TORQUE WILL INCREASE
WITH INCREASING AIRSPEED

PROPELLER SPEED 1700 RPM

INERTIAL SEPARATOR CLOSED

MAXIMUM TORQUE REDUCTION WITH

- INERTIAL SEPERATOR OPEN:
- 1.2 PSI IN NON ICING CONDITIONS
- 2.1 PSI IN ICING CONDITIONS

EXAMPLE:

ALTITUDE	8000 FT
OAT	26 °C
ENGINE TORQUE	35.5 PSI

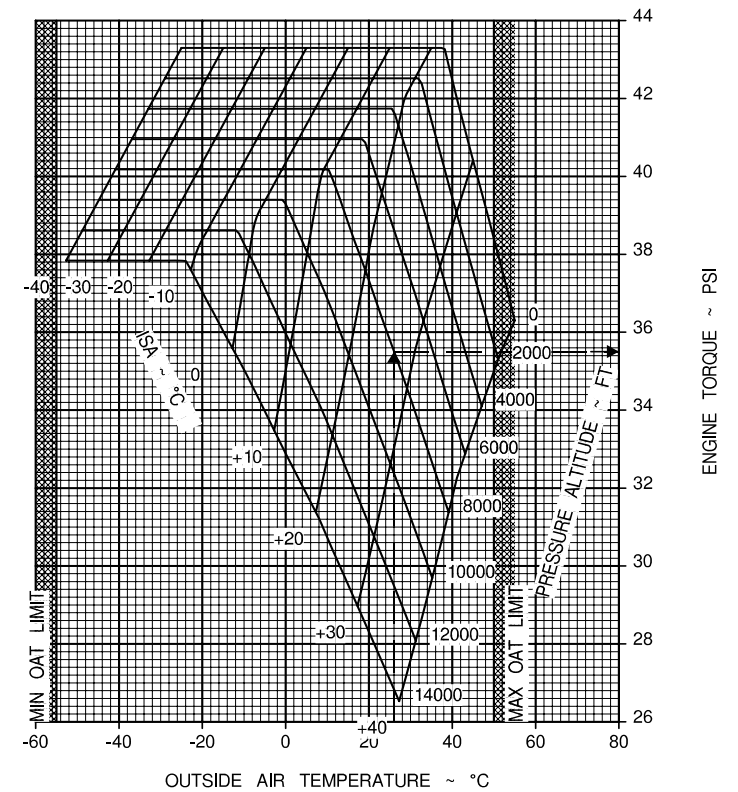


Figure 1. Static Takeoff Torque