

Name: _____

Datum: _____

PA 34-200 T – Musterberechtigung (IR)

TEST

zum Nachweis der theoretischen Systemkenntnisse
und Flugplanung anhand des Flughandbuches
für eine PA34-200 T
Seneca II

1. What is the MTOW ?

a) 4407 lbs

b) 5240 lbs

c) 5400 lbs

2. What is the MLW

a) 4342 lbs

b) 5400 lbs

c) 4900 lbs

3. What is the ZFW for the D-GAIR

a) 4000 lbs

b) 4200 lbs

c) 4057,7 lbs

4. The single engine service ceiling with 4407 lbs gross weight and an OAT of 0° F (Altimeter setting standard) is

a) 13200 ft

b) 16000 ft

c) 19250 ft

5. What type of engine is installed in the PA 34-200 T

6. Should a decrease in manifold pressure be experienced when flying in icing conditions the _____ should be manually opened.
7. The auxiliary fuel pumps are located in the
- a) Auxiliary tanks
 - b) Main tanks
 - c) Wing lockers
8. When fuel selector valve handles are changed from one position to another, the auxiliary fuel pumps should be switched to
- a) Low position
 - b) On position
 - c) Off position
9. For heater operation the _____ and/or _____ knob must be open.
10. Using the heater for ventilation on the ground works by placing the cabin heat toggle switch in the _____ position.

11. What is the max. oxygen using duration with 63 cu ft capacity and 1850 psi by using of 3 passengers – pilot at 20.000 ft

Flow rate per passenger 125 psi/hr

Flow rate pilot: 195 psi/hr

a) 5:30 hours

b) 3.16 hours

c) 2.10 hours

12. List the parts of the de-icing-system

➤ _____

➤ _____

➤ _____

➤ _____

13. The fully retractable landing gear system is

a) electrically operated

b) hydraulic operated

c) mechanic operated

14. The landing gear warning horn ist controlled by _____ and sounds when

- a) airspeed indicator / when IAS ist below 92 kt
- b) throttles / when retarded approximately 14 in. Hg.
- c) flaps selector / when positioned to 30 °

15. The rudder and trim-system is operating

- a) hydraulically
- b) mechanically
- c) electrically

16. What is the rating of the batteries ?

- a) 12 volts DC
- b) two 12-volt connected in serie
- c) 24 volts, 44 ah

17. If the main voltage regulator fails the voltage regulator switch must be positioned to

- a) main, for reseting the main regulator
- b) standby, for manually selecting the standby regulator
- c) off

18. Where is the external power receptacle installed

- a) in the cabin forward compartment left side of the nose
- b) in the right wing near the cabin body
- c) in the left wing, just under the batteries

19. If the external power for engine start is used, the alternator switches and batterie switch must be

- a) alternator switch off, batterie off
- b) alternator switch off, batterie on
- c) alternator switch on, batterie on

20. What is the flap operating airspeed (CAS) for 40 ° ?

- a) 107 kt
- b) 138 kt
- c) 121 mph

21. The minimum control speed is (red line)

- a) 76 kt
- b) 66 kt
- c) 63 kt

22. What is the maximal allowable manifold pressure at 20.000 ft

a) 28,0 in. Hg.

b) 26,4 in. Hg

c) 32 in. Hg

23. With a gross weight of 4.407 lbs and clean configuration, bank 0° a stall speed is to expect at

a) 63 kt IAS

b) 66 kt IAS

c) 76 kt IAS

24. Reference POH 5-16, Normal Takeoff Distance (total distance to clear 50 ft)

GIVEN: pressure altitude 2.000 ft
OAT 80° F
gross weight 4.407 lbs
headwind 0 kt
level hard surface runway

FIND: distance to clear 50 ft

a) 1700 ft

b) 1750 ft

c) 2400 ft

25. What is the minimum multi-engine approach speed ?

- a) 89 kt
- b) 110 kt
- c) 108 mph

26. If engine failure happens on Take-Off below 85 kt IAS (with sufficient runway remaining) your action should be

- a) continue T/O, climb with best rate of single engine climb speed
- b) disconnect T/O, throttles closed, brake
- c) full power, increase speed to normal T/O speed

27. With engine failure after T/O above 90 kt IAS, obstacles cleared you should climb out with

- a) 89 kt IAS best single engine rate of climb speed
- b) 110 kt IAS best single engine rate of climb speed
- c) 105 kt IAS minimum control speed

28. What's to be done to perform an emergency descent ?

- _____
- _____
- _____
- _____
- _____

29. How do you close the door during flight ?

- _____
- _____
- _____
- _____

30. Weight and balance:

D-GAIR	Gewicht/lbs	Hebelarm/inch	Moment
Leermasse	3227	85,24	275069,5
Pilot u. vorderer Fluggast	340	85,5	
Mittlere Fluggäste	-	119,1	-
Hintere Fluggäste	-	157,6	-
Gepäck (vorne)	-	22,5	-
Gepäck (hinten)	100	178,7	
Leergewicht ohne Kraftstoff Maximal jedoch 4057,7 lbs			
Kraftstoff (123 gal./466 l/ 738lbs)	700	93,6	
Startgewicht (max. 1999 kg)			

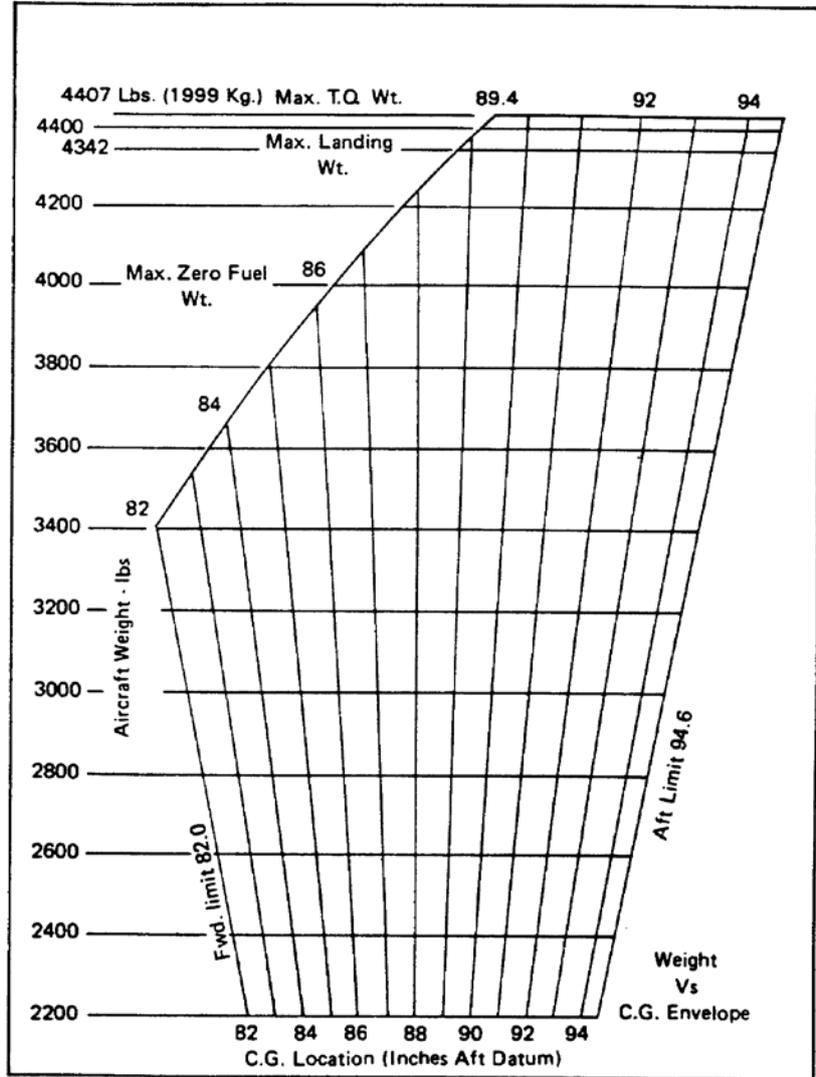
31. Large tanks (128 USG) are installed in the airplane. How many liters of fuel are you able to refill in order to use the entire tank capacity ?

- _____ liters or
- _____ lbs

32. Are you able to complete T/O under conditions according to 30. an 31. ?

- YES
- NO

To explain your decision use the enclosed diagramm next page. Please mark the C.G. Range and weight.



Moment change due to retracting Landing Gear = - 32 in.-lbs.

C. G. RANGE AND WEIGHT

Figure 6-15

33. Flight Log

GIVEN:

IFR-Flight (overhead-overhead)

Duration: 2:20 h

Power setting: 65%

Fuel flow: _____

From destination to alternate:

Duration: 0:35 h

Power setting: 55%

Fuel flow: _____

Flightlevel to destination and alternate F080;

Holding: 0:45 h

Power setting: 45%

Fuel flow: _____

PIC & CO: 370 lbs

1 PAX with 170 lbs in the third row.

Baggage: 15 kg in the afterward compartment

Taxy fuel: 30 lbs

Contingency: 10 %

FIND:

Fuel calculation according to IFR-flight-log (use enclosed form) with MTOW:

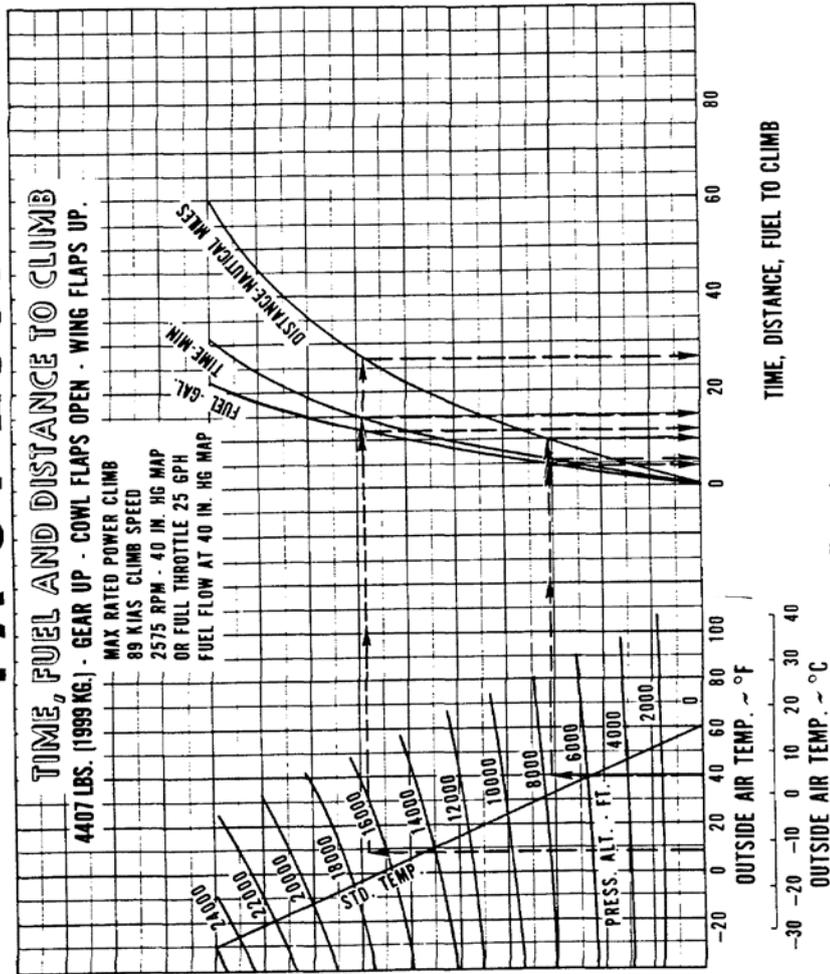
➤ **Minimum TOF** _____ **lbs**

➤ **Extra fuel** _____ **lbs**

BEW	3.227
PIC & CO	370
DOW	
PAYLOAD	203
ZFW	

MTOW	4.407
ZFW	
TOF	
TXY	30
BLOCK	

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Example:
Takeoff pressure altitude: 7586 ft. Cruise OAT: 8°F
Takeoff OAT: 40°F
Cruise pressure altitude: 16,500 ft. Power: Maximum power climb
Time to climb: (15 minus 6) = 9 min.
Fuel to climb: (12 minus 4) = 8 gal.
Distance to climb: (26 minus 10) = 16 nautical miles.

TIME, FUEL AND DISTANCE TO CLIMB

Figure 5-21

ISSUED: SEPTEMBER 12, 1980

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POWER SETTING TABLE -- T.C.M. TSIO 360E SERIES

PRESS. ALT. FEET	STD. ALT. TEMP. °C	45% POWER (APPROX. 16.1 GPH FUEL CONS.)					55% POWER (APPROX. 18 GPH FUEL CONS.)					
		RPM	2000	2100	2200	2300	2000	2200	2300	2400	2500	2575
MANIFOLD PRESSURE -- INCHES MERCURY												
S.L.	15		27.6	26.4	25.6	24.6	31.8	29.6	28.4	27.0	26.0	25.6
2000	11		26.8	25.6	25.0	24.0	30.8	28.5	27.6	26.4	25.4	25.0
4000	7		26.0	25.0	24.0	23.4	29.8	28.0	27.0	25.8	25.0	24.6
6000	3		25.0	24.4	23.6	22.8	29.0	27.4	26.4	25.2	24.4	24.0
8000	-1		24.6	23.6	22.8	22.3		26.6	25.6	24.8	24.0	23.8
10000	-5		23.8	23.0	22.4	21.8		26.0	25.0	24.2	23.6	23.2
12000	-9		23.0	22.4	21.7	21.0		25.0	24.4	23.8	23.0	22.8
14000	-13		22.6	21.8	21.0	20.6		24.5	23.8	23.0	22.6	22.4
16000	-17			21.0	20.4	20.0		24.0	23.4	22.6	22.0	22.0
18000	-21				19.8	19.4			22.8	22.0	21.0	21.7
20000	-25					18.8			21.6	20.8	21.0	21.0
22000	-28								20.6	20.6	20.8	20.8
24000	-33								20.4	20.4	20.4	20.4
25000	-34								20.0	20.0	20.0	20.0

To maintain constant power, add approximately 1% for each 6°C above standard, subtract approximately 1% for each 6°C below standard.

NOTE: Full throttle manifold pressure values may not be obtainable when atmospheric conditions are non-standard.

POWER SETTING TABLE (45% AND 55%)

Figure 5-23

POWER SETTING TABLE - T.C.M. TSIO 360E SERIES

PRESS. ALT. FEET	STD. ALT. TEMP. °C	65% POWER (APPROX. 20.5 GPH FUEL CONS.)					75% POWER (APPROX. 23.6 GPH FUEL CONS.)				
		RPM	2200	2300	2400	2500	2575	2300	2400	2500	2575
MANIFOLD PRESSURE -- INCHES MERCURY											
S.L.	15		33.5	32.0	30.6	29.8	29.2	35.5	34.0	33.0	32.8
2000	11		32.8	31.5	30.0	29.0	28.8	35.0	33.4	32.6	32.0
4000	7		32.0	30.8	29.6	28.6	28.2	34.4	32.8	32.0	31.6
6000	3		31.4	30.0	29.0	28.0	27.8	33.6	32.0	31.4	30.9
8000	-1		30.6	29.6	28.4	27.6	27.4	33.0	31.6	30.8	30.3
10000	-5			28.8	27.8	27.0	27.0	32.4	31.0	30.2	29.8
12000	-9			28.0	27.2	26.6	26.4	31.6	30.4	29.8	29.3
14000	-13			27.4	26.6	26.0	26.0		29.8	29.2	29.0
16000	-17			26.7	26.0	25.8	25.6		29.4	28.8	28.6
18000	-21				25.6	25.2	25.0			28.4	28.3
20000	-25				24.8	24.8	24.8				
22000	-28				24.4	24.4	24.4				
24000	-33										
25000	-34					24.0	24.0				28.0

To maintain constant power, add approximately 1% for each 6°C above standard, subtract approximately 1% for each 6°C below standard.
NOTE: Full throttle manifold pressure values may not be obtainable when atmospheric conditions are non-standard.

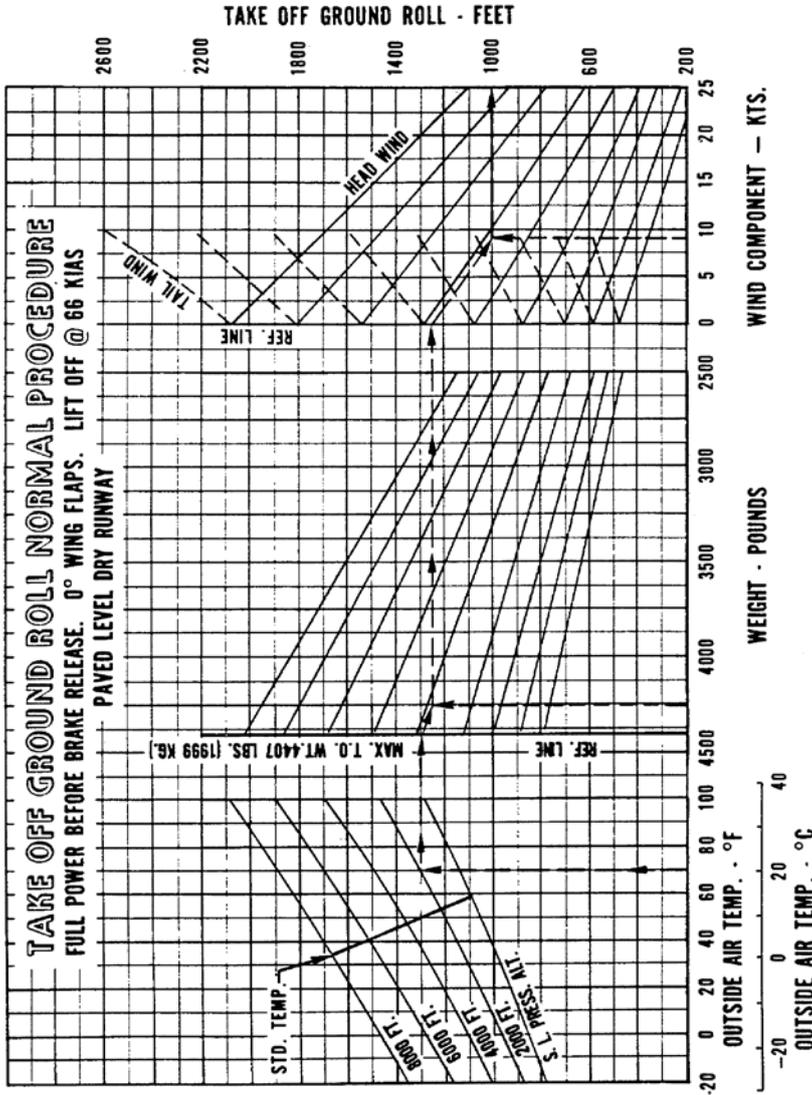
POWER SETTING TABLE (65% AND 75%)

Figure 5-25

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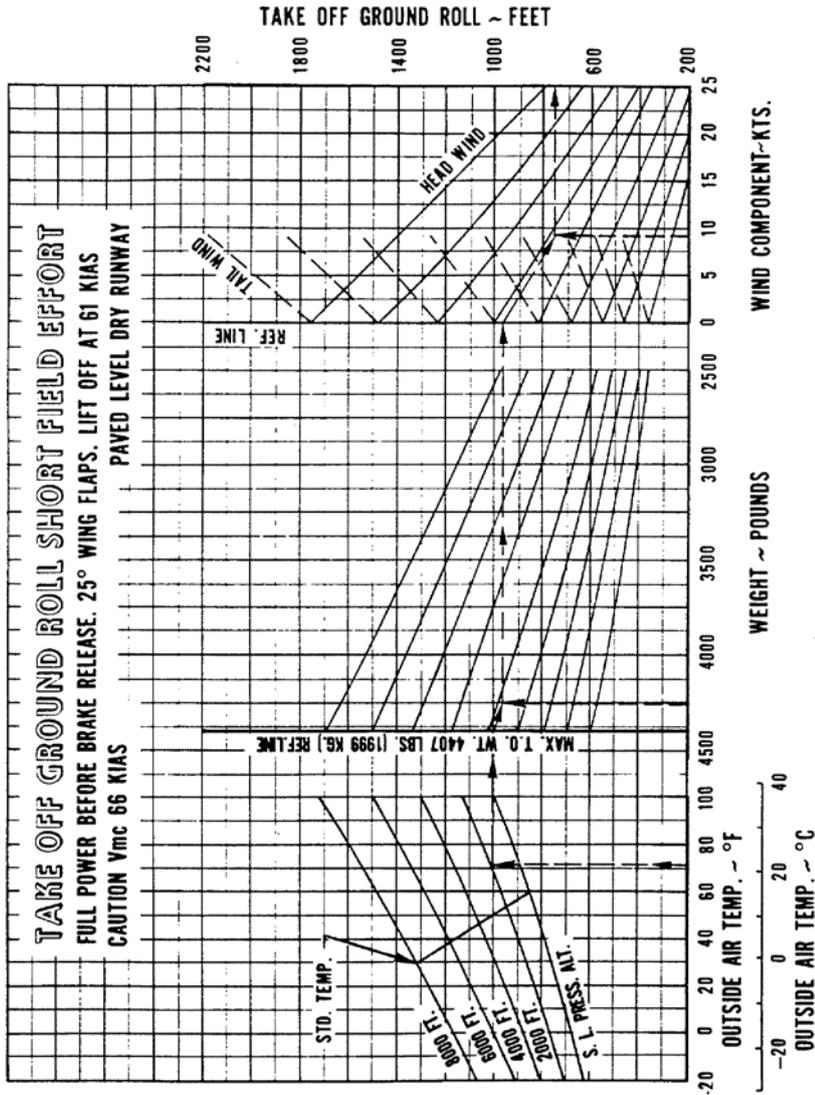
PA-34-200T



Example:
OAT: 70°F
Pressure altitude: 2000 ft.
Gross weight: 4250 lbs.
Headwind: 9 knots
Takeoff ground roll: 1000 ft.

TAKEOFF GROUND ROLL - NORMAL PROCEDURE
Figure 5-11

PA-34-200T



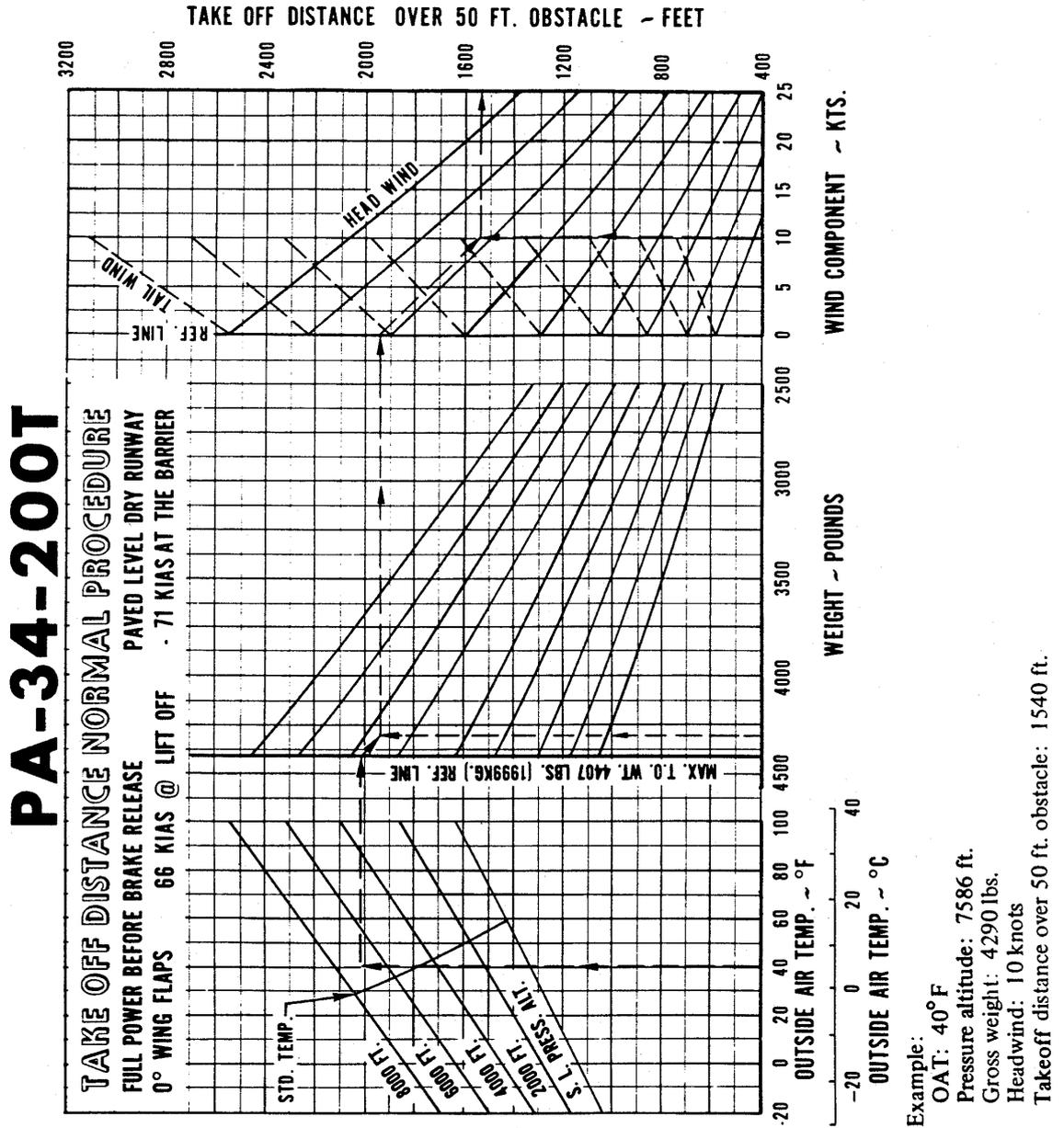
Example:
 OAT: 70°F
 Pressure altitude: 2000 ft.
 Gross weight: 4250 lbs.
 Headwind: 9 knots
 Takeoff ground roll: 750 ft.

TAKEOFF GROUND ROLL - SHORT FIELD EFFORT

Figure 5-13

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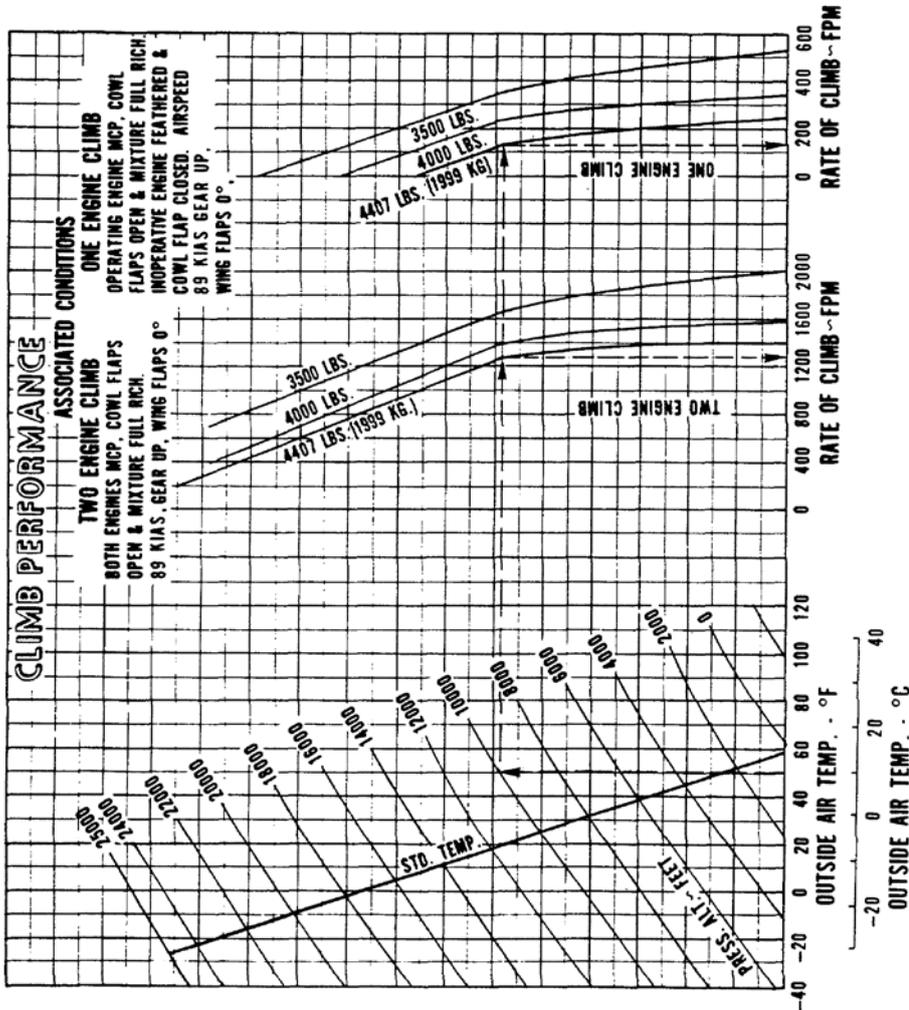
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TAKEOFF DISTANCE - NORMAL PROCEDURE

Figure 5-15

PA-34-200T



Example:
OAT: 50°F
Pressure altitude: 10,000 ft.
Gross Weight: 4407 lbs.

Two engine rate of climb: 1290 F.P.M.
One engine rate of climb: 130 F.P.M.

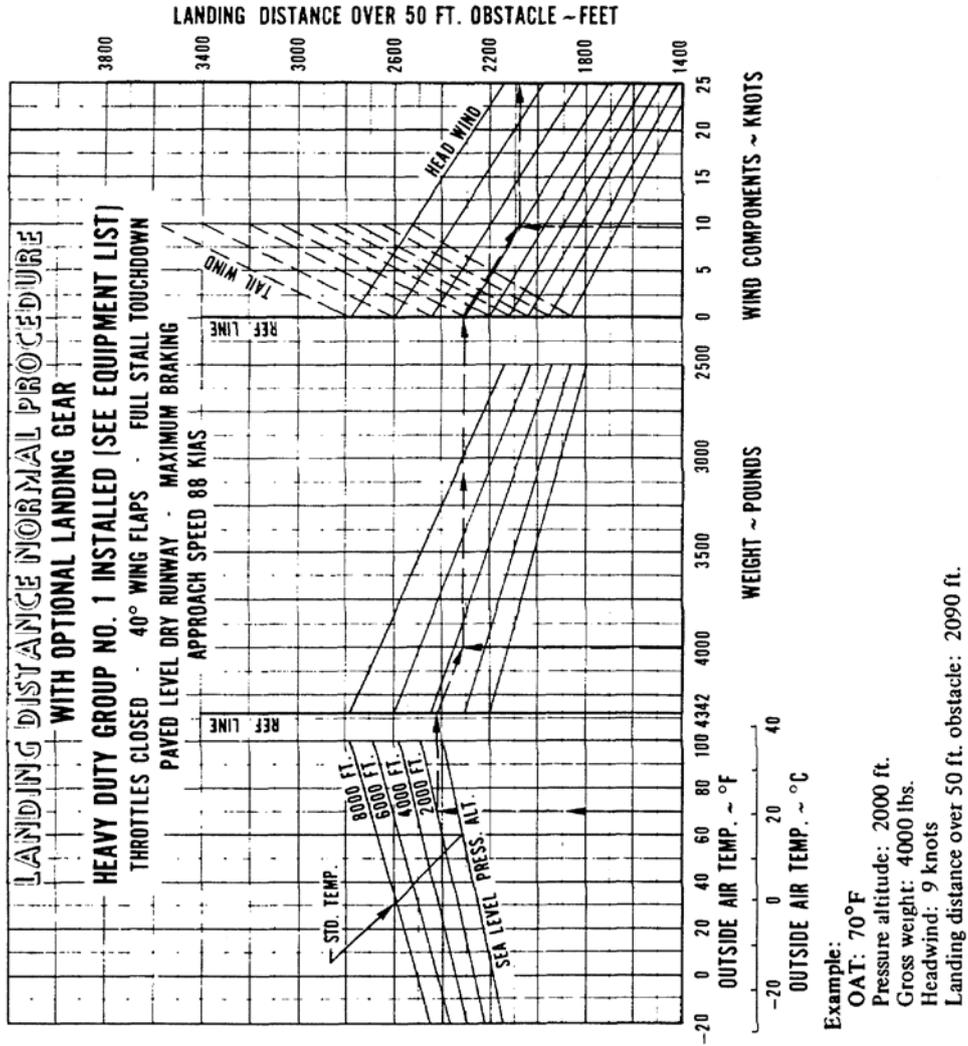
CLIMB PERFORMANCE

Figure 5-19

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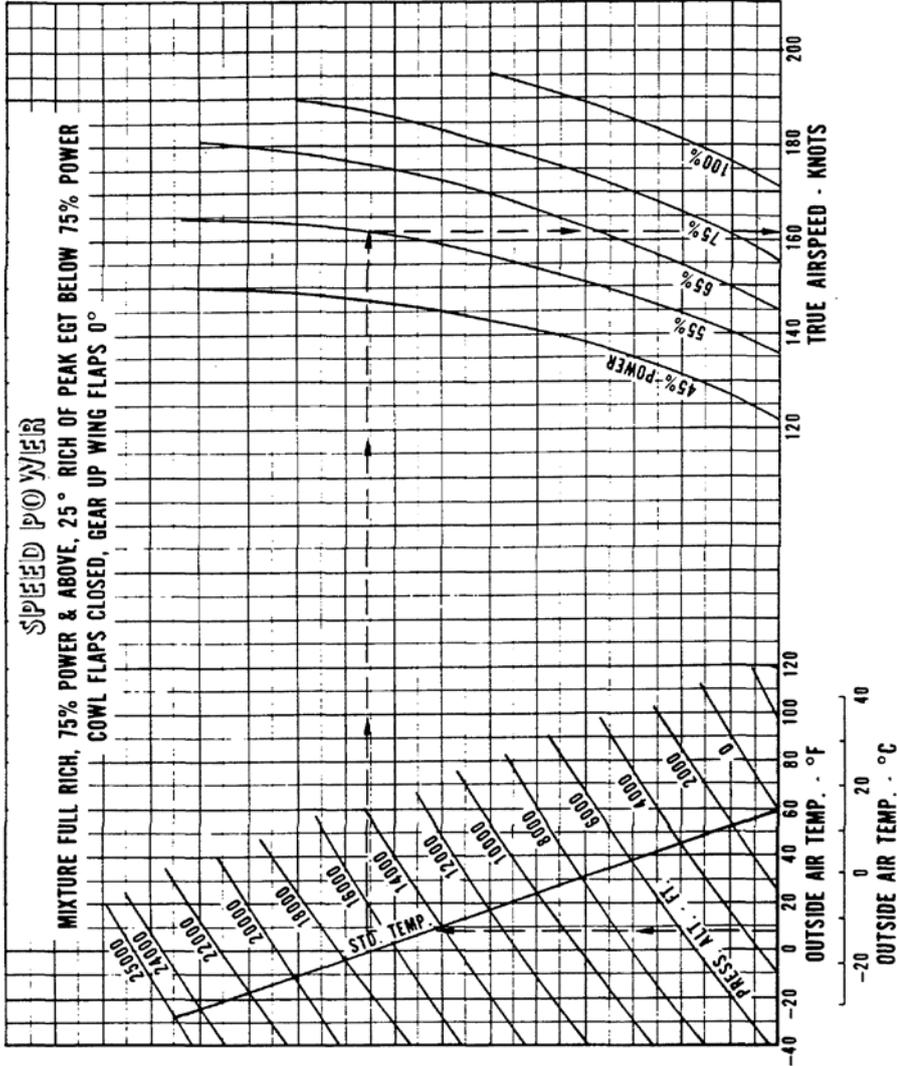
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LANDING DISTANCE - NORMAL PROCEDURE (HEAVY DUTY GROUP 1)

Figure 5-43

PA-34-200T



Example:
OAT: 8°F
Pressure altitude: 16,500 ft.
Power: 55%
True airspeed: 161 knots

SPEED POWER
Figure 5-35