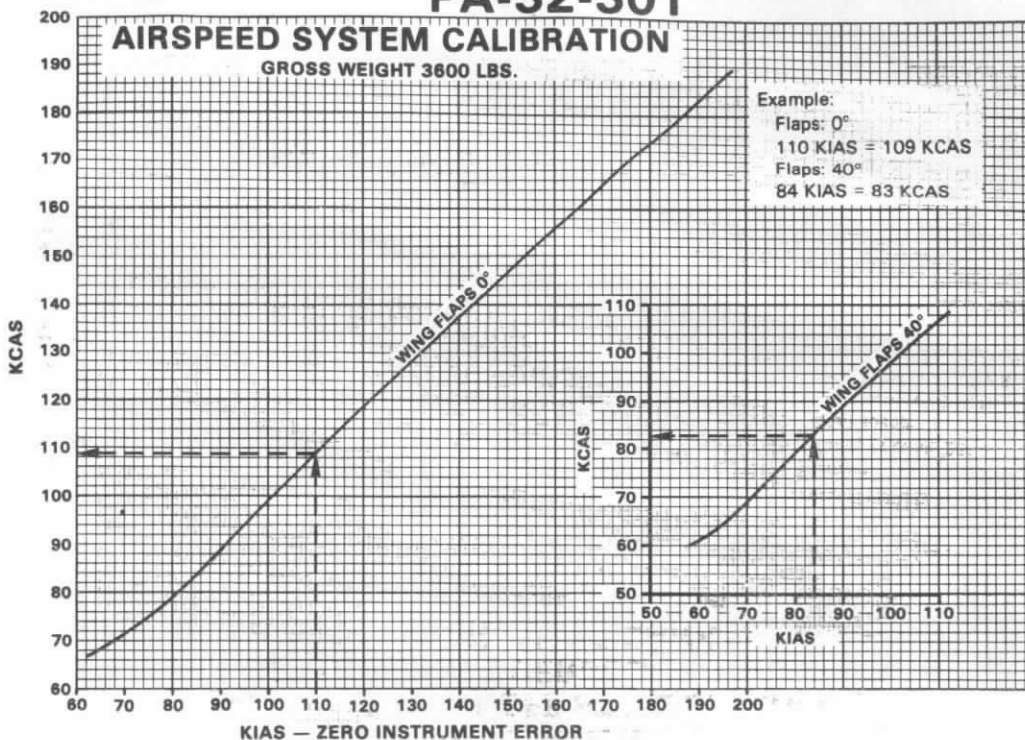
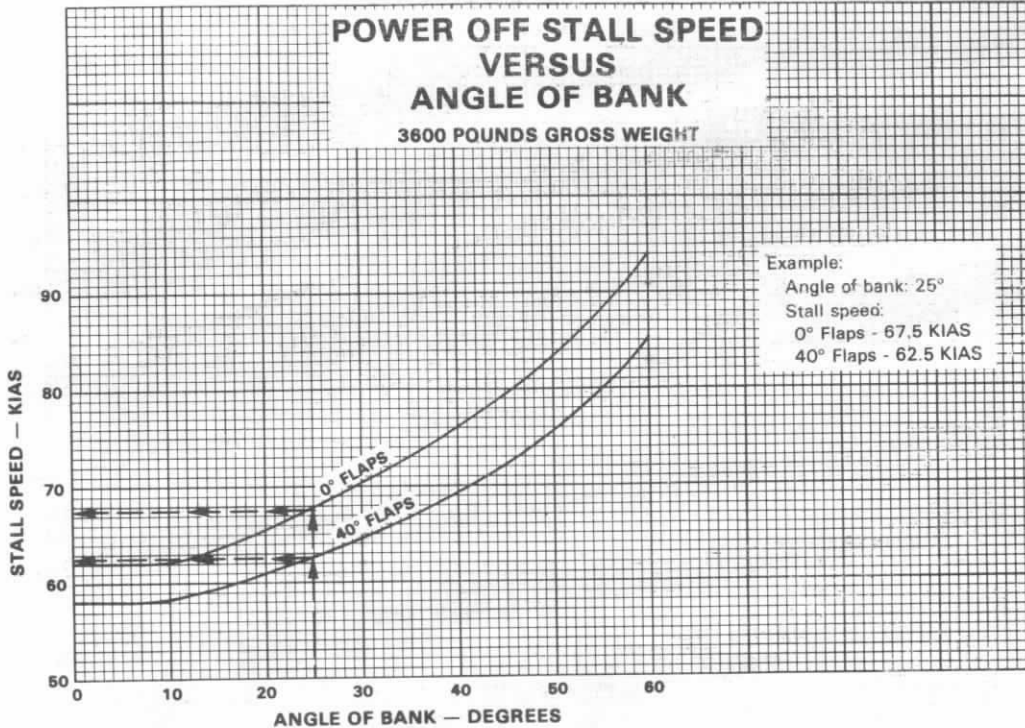


# PA-32-301



AIRSPEED SYSTEM CALIBRATION  
Figure 5-3

# PA-32-301

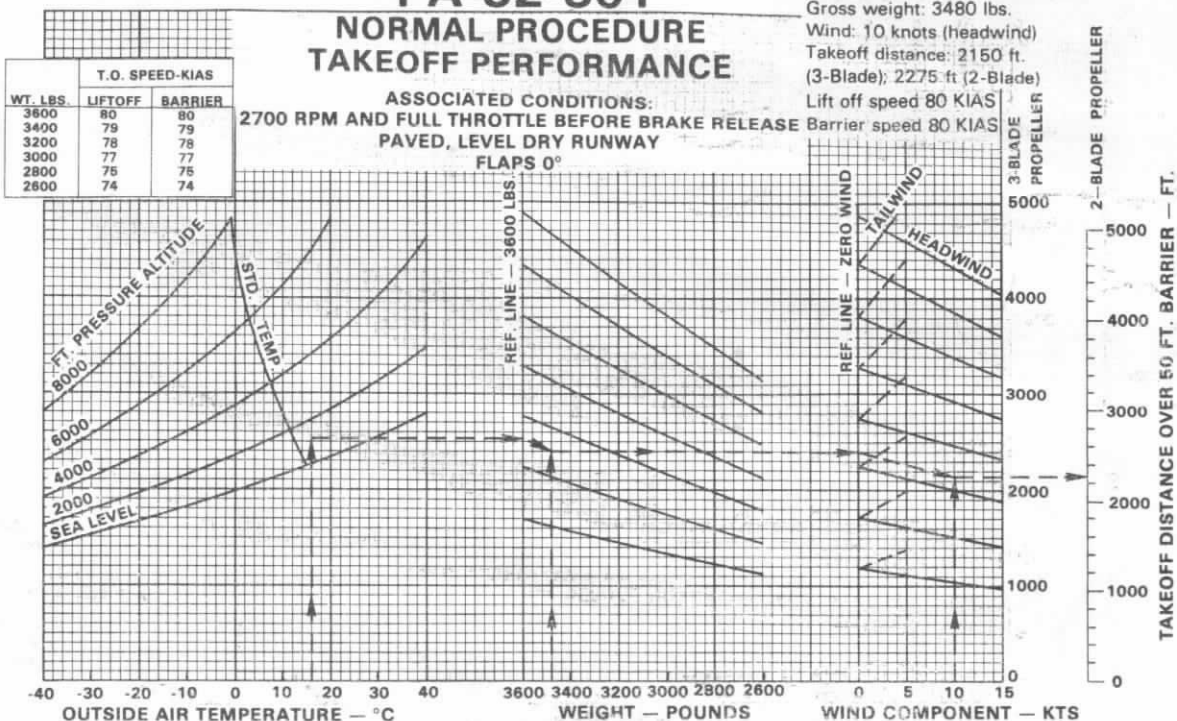


POWER OFF STALL SPEED VERSUS ANGLE OF BANK  
Figure 5-5

Example:  
Pressure altitude: 1200 ft.  
O.A.T.: 16°C.  
Gross weight: 3480 lbs.  
Wind: 10 knots (headwind)  
Takeoff distance: 2150 ft.  
(3-Blade); 2275 ft (2-Blade)  
Lift off speed 80 KIAS  
Barrier speed 80 KIAS

### PA-32-301 NORMAL PROCEDURE TAKEOFF PERFORMANCE

ASSOCIATED CONDITIONS:  
2700 RPM AND FULL THROTTLE BEFORE BRAKE RELEASE  
PAVED, LEVEL DRY RUNWAY  
FLAPS 0°



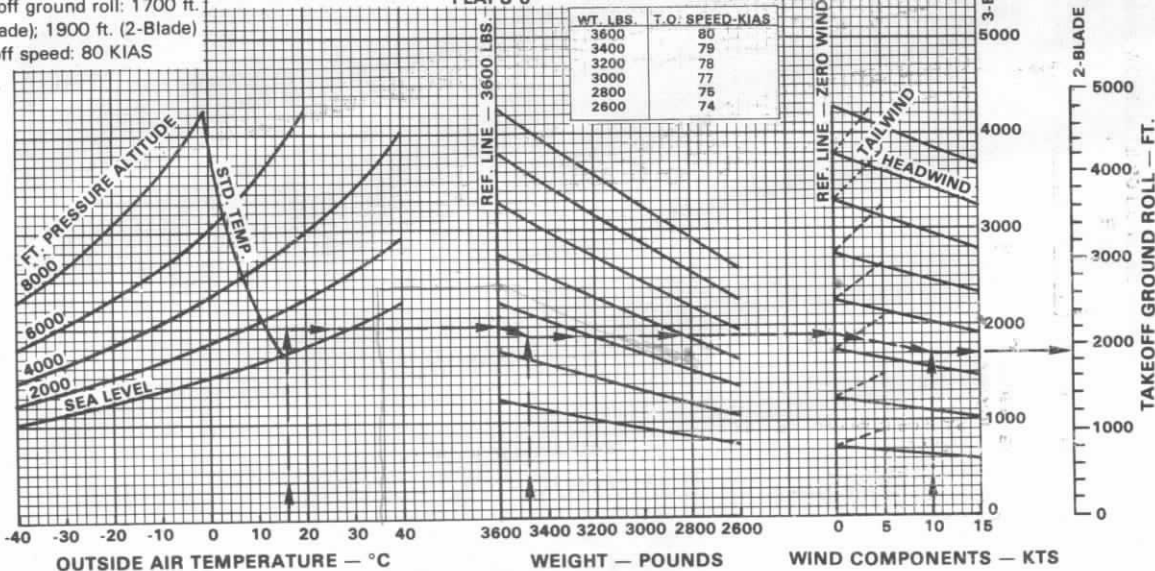
NORMAL PROCEDURE TAKEOFF PERFORMANCE  
Figure 5-7

### PA-32-301

#### NORMAL PROCEDURE TAKEOFF GROUND ROLL

ASSOCIATED CONDITIONS:  
2700 RPM AND FULL THROTTLE BEFORE BRAKE RELEASE  
PAVED, LEVEL DRY RUNWAY  
FLAPS 0°

Example:  
Pressure altitude: 1200 ft.  
O.A.T.: 16°C  
Gross Weight: 3480 lbs.  
Wind: 10 knots (headwind)  
Takeoff ground roll: 1700 ft.  
(3-Blade); 1900 ft. (2-Blade)  
Lift off speed: 80 KIAS



NORMAL PROCEDURE TAKEOFF GROUND ROLL  
Figure 5-9

# PA-32-301

## MAXIMUM EFFORT TAKEOFF PERFORMANCE — FLAPS 0°

Example:

Pressure altitude: 1200 ft.  
O.A.T.: 16°C.  
Gross weight: 3480 lbs.  
Wind: 10 knots (headwind)  
Takeoff distance: 1750 ft.  
(3-Blade); 1900 ft. (2-Blade)  
Lift off speed: 68 KIAS  
Barrier speed: 74 KIAS

ASSOCIATED CONDITIONS:  
2700 RPM AND FULL THROTTLE BEFORE BRAKE RELEASE  
PAVED, LEVEL DRY RUNWAY

WT. LBS.	T.O. SPEED-KIAS	
	LIFTOFF	BARRIER
3600	68	74
3400	67	73
3200	66	72
3000	65	70
2800	64	69
2600	63	67

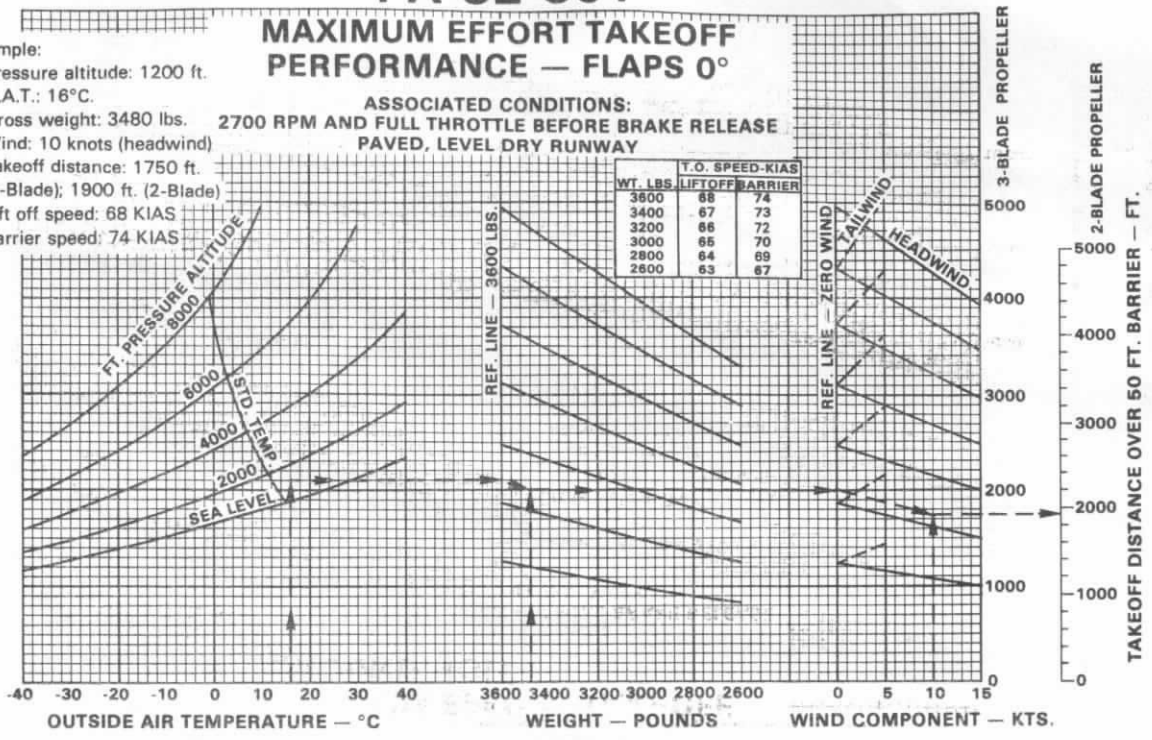


Figure 5-11

MAXIMUM EFFORT TAKEOFF PERFORMANCE - FLAPS 0°

# PA-32-301

## MAXIMUM EFFORT TAKEOFF GROUND ROLL — FLAPS 0°

ASSOCIATED CONDITIONS:  
2700 RPM AND FULL THROTTLE BEFORE BRAKE RELEASE  
PAVED, LEVEL, DRY RUNWAY

Example:

Pressure altitude: 1200 ft.  
O.A.T.: 16°C.  
Gross weight: 3480 lbs.  
Wind: 10 knots (headwind)  
Takeoff ground roll: 1050 ft.  
(3-Blade); 1200 ft. (2-Blade)  
Lift off speed: 68 KIAS

WT. LBS.	T.O. SPEED-KIAS	
	LIFTOFF	BARRIER
3600	68	74
3400	67	73
3200	66	72
3000	65	70
2800	64	69
2600	63	67

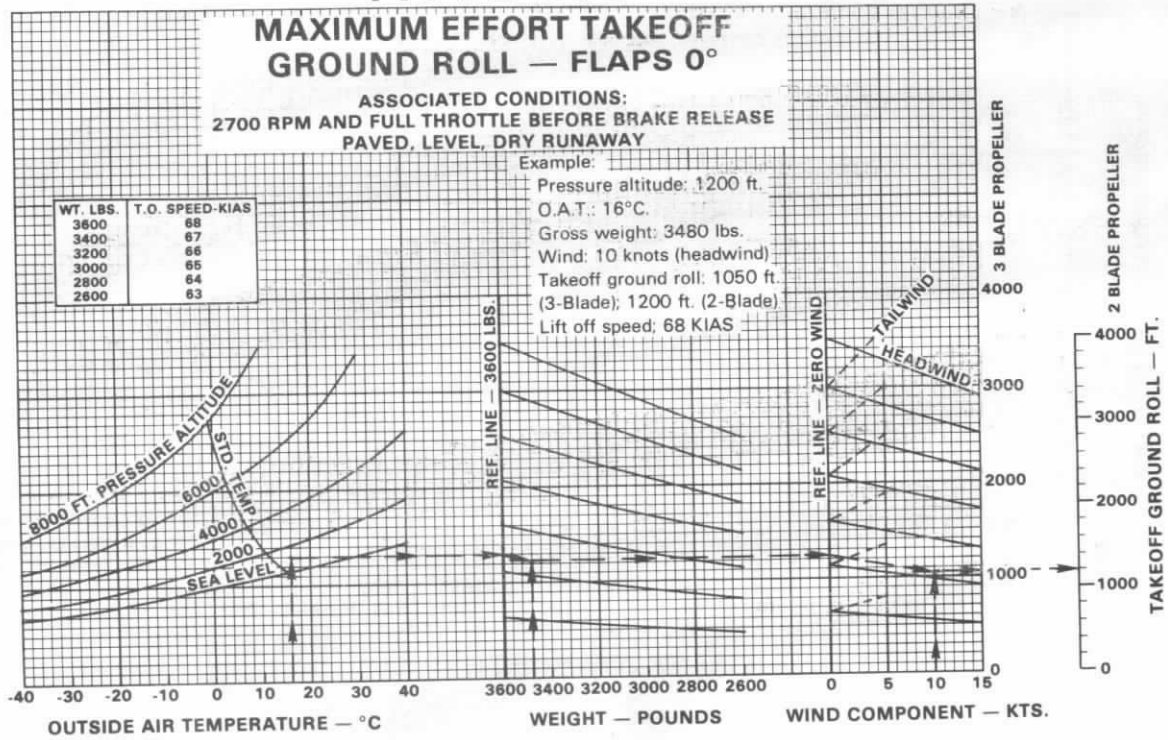


Figure 5-13

MAXIMUM EFFORT TAKEOFF GROUND ROLL - FLAPS 0°

# PA-32-301

## MAXIMUM EFFORT TAKEOFF PERFORMANCE — FLAPS 25°

Example:

Pressure altitude: 1200 ft.  
O.A.T.: 16°C.  
Gross weight: 3480 lbs.  
Takeoff distance: 1450 ft.  
(3-Blade); 1600 ft. (2-Blade)  
Lift off speed: 65 KIAS  
Barrier speed: 70 KIAS

ASSOCIATED CONDITIONS:  
2700 RPM AND FULL THROTTLE BEFORE BRAKE RELEASE  
PAVED, LEVEL DRY RUNWAY

WT. LBS.	T.O. SPEED-KIAS	
	LIFTOFF	BARRIER
3600	66	71
3400	64	69
3200	63	67
3000	61	65
2800	60	63
2600	58	61

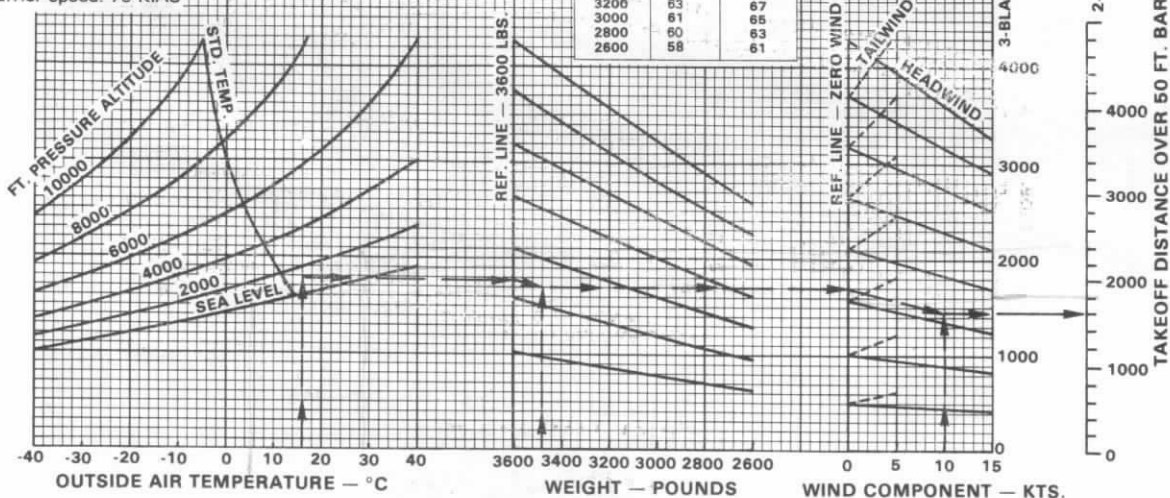


Figure 5-15

MAXIMUM TAKEOFF PERFORMANCE - FLAPS 25°

# PA-32-301

## MAXIMUM EFFORT TAKEOFF GROUND ROLL — FLAPS 25°

Example:

Pressure altitude: 1200 ft.  
O.A.T.: 16°C.  
Gross weight: 3480 lbs.  
Takeoff ground roll: 950 ft.  
(3-Blade); 1100 ft. (2-Blade)  
Lift off speed: 65 KIAS

ASSOCIATED CONDITIONS:  
2700 RPM AND FULL THROTTLE BEFORE BRAKE RELEASE  
PAVED, LEVEL DRY RUNWAY

WT. LBS.	T.O. SPEED-KIAS
3600	66
3400	64
3200	63
3000	61
2800	60
2600	58

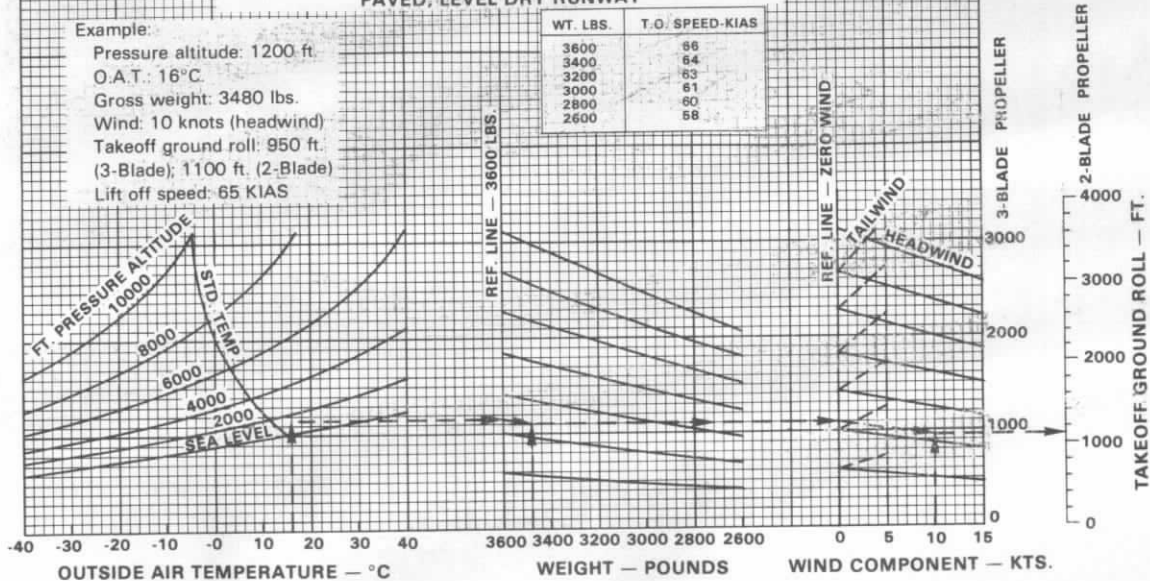


Figure 5-17

MAXIMUM EFFORT TAKEOFF GROUND ROLL - FLAPS 25°

# PA-32-301

## CLIMB PERFORMANCE

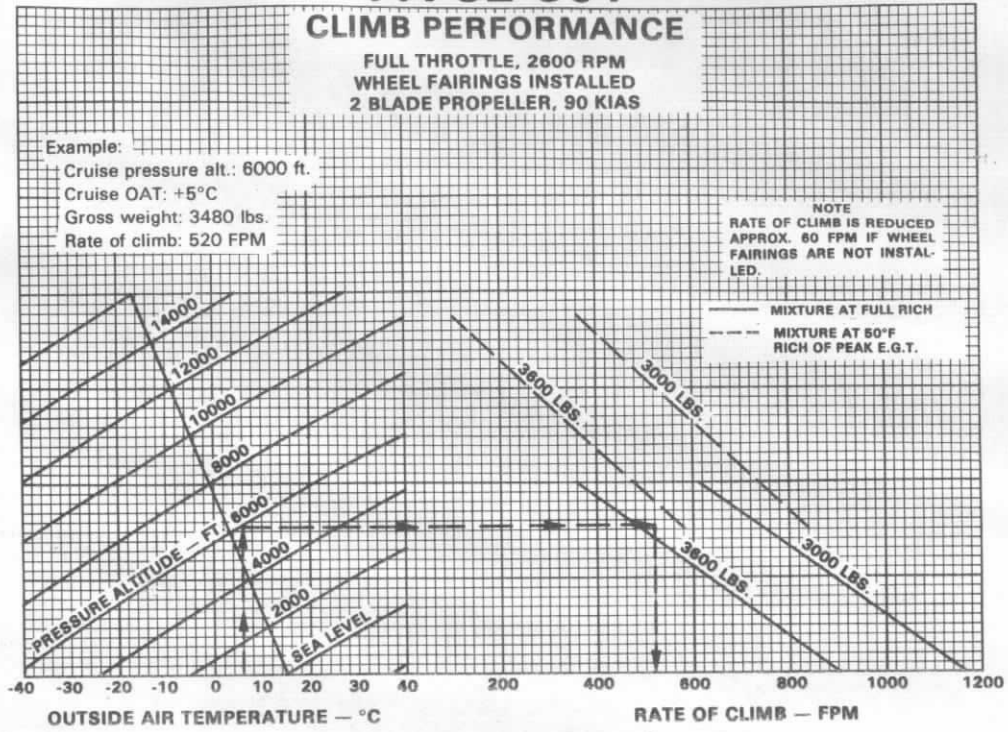
FULL THROTTLE, 2600 RPM  
WHEEL FAIRINGS INSTALLED  
2 BLADE PROPELLER, 90 KIAS

Example:

Cruise pressure alt.: 6000 ft.  
Cruise OAT: +5°C  
Gross weight: 3480 lbs.  
Rate of climb: 520 FPM

NOTE  
RATE OF CLIMB IS REDUCED  
APPROX. 60 FPM IF WHEEL  
FAIRINGS ARE NOT INSTAL-  
LED.

— MIXTURE AT FULL RICH  
- - - MIXTURE AT 50°F  
RICH OF PEAK E.G.T.



CLIMB PERFORMANCE (2 BLADE PROPELLER - 2600 RPM)

Figure 5-19

REPORT: VB-1060  
5-20

ISSUED: JANUARY 9, 1980  
REVISED: OCTOBER 3, 1980

# PA-32-301

## CLIMB PERFORMANCE

FULL THROTTLE, 2700 RPM  
WHEEL FAIRINGS INSTALLED 90 KIAS  
2 & 3 BLADE PROPELLER

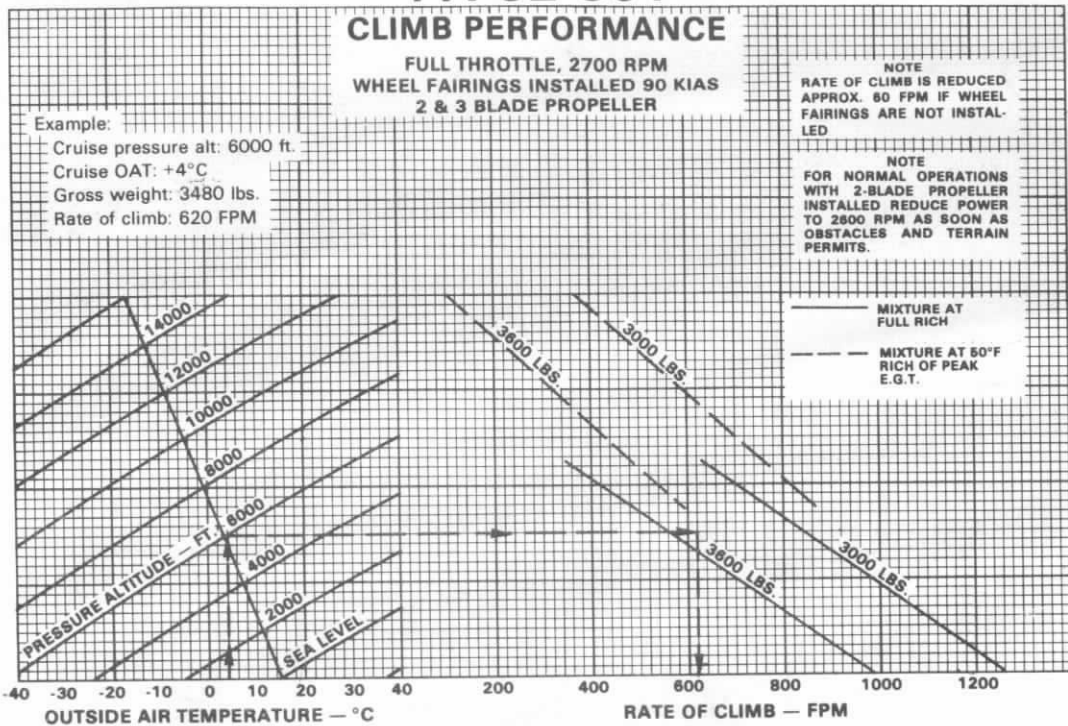
Example:

Cruise pressure alt.: 6000 ft.  
Cruise OAT: +4°C  
Gross weight: 3480 lbs.  
Rate of climb: 620 FPM

NOTE  
RATE OF CLIMB IS REDUCED  
APPROX. 60 FPM IF WHEEL  
FAIRINGS ARE NOT INSTAL-  
LED

NOTE  
FOR NORMAL OPERATIONS  
WITH 2-BLADE PROPELLER  
INSTALLED REDUCE POWER  
TO 2600 RPM AS SOON AS  
OBSTACLES AND TERRAIN  
PERMITS.

— MIXTURE AT  
FULL RICH  
- - - MIXTURE AT 50°F  
RICH OF PEAK  
E.G.T.



CLIMB PERFORMANCE (2 BLADE PROPELLER - 5 MIN LIMIT)  
(3 BLADE PROPELLER - NO TIME LIMIT)

Figure 5-21

ISSUED: JANUARY 9, 1980

REPORT: VB-1060  
5-21

# PA-32-301

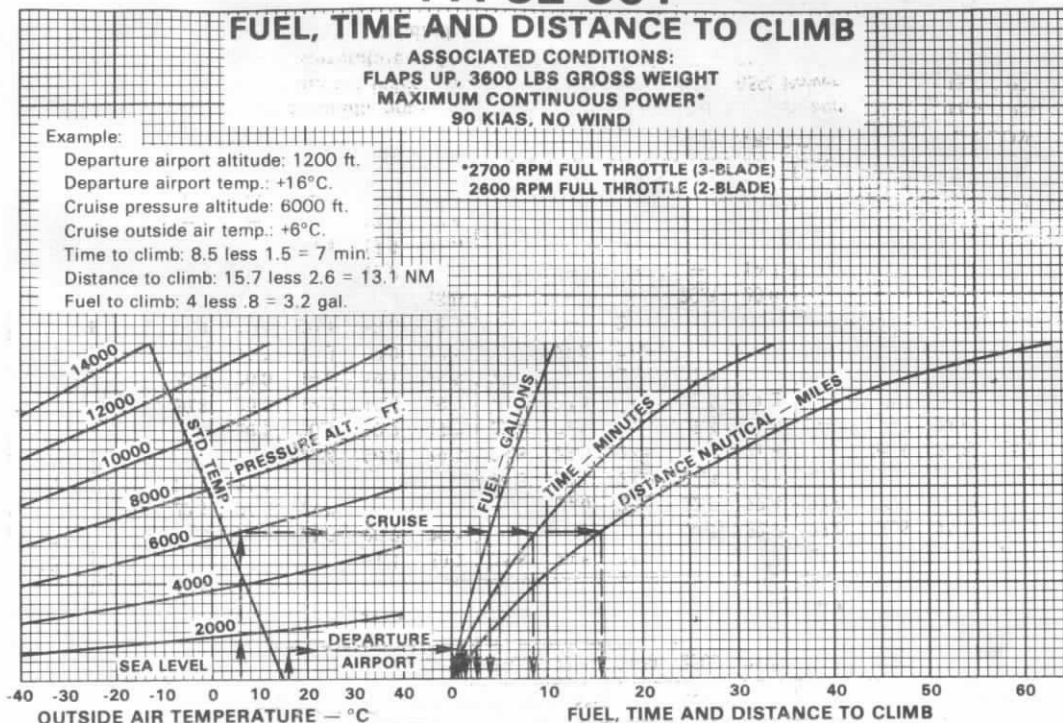
## FUEL, TIME AND DISTANCE TO CLIMB

ASSOCIATED CONDITIONS:  
FLAPS UP, 3600 LBS GROSS WEIGHT  
MAXIMUM CONTINUOUS POWER\*  
90 KIAS, NO WIND

Example:

Departure airport altitude: 1200 ft.  
Departure airport temp.: +16°C.  
Cruise pressure altitude: 6000 ft.  
Cruise outside air temp.: +6°C.  
Time to climb: 8.5 less 1.5 = 7 min.  
Distance to climb: 15.7 less 2.6 = 13.1 NM  
Fuel to climb: 4 less .8 = 3.2 gal.

\*2700 RPM FULL THROTTLE (3-BLADE)  
2600 RPM FULL THROTTLE (2-BLADE)



FUEL, TIME AND DISTANCE TO CLIMB

Figure 5-23

## POWER SETTING TABLE — LYCOMING IO-540K ENGINE

PRESS. ALT. FEET	STD. ALT. TEMP. °C	55% POWER					65% POWER					75% POWER					
		RPM	2200	2300	2400	2500	2600	2200	2300	2400	2500	2600	2200	2300	2400	2500	2600
		MANIFOLD PRESSURE — INCHES MERCURY															
S.L.	15		22.9	22.1	21.6	21.1	20.7	25.8	24.8	24.0	23.5	23.1	28.2	27.1	26.4	25.7	25.1
1000	13		22.5	21.8	21.3	20.7	20.4	25.3	24.4	23.7	23.1	22.7	27.6	26.6	25.9	25.3	24.8
2000	11		22.1	21.4	21.0	20.5	20.1	24.8	24.0	23.3	22.8	22.4	27.0	26.2	25.5	25.0	24.5
3000	9		21.8	21.1	20.7	20.2	19.8	24.3	23.6	23.0	22.4	22.1	26.5	25.8	25.2	24.7	24.2
4000	7		21.5	20.8	20.4	20.0	19.5	23.8	23.3	22.6	22.1	21.8	—	25.5	24.8	24.4	24.0
5000	5		21.2	20.5	20.1	19.7	19.3	23.4	22.9	22.3	21.8	21.5	—	—	24.6	24.1	23.7
6000	3		20.8	20.3	19.9	19.4	19.0	23.0	22.5	22.0	21.5	21.2	—	—	—	23.9	23.5
7000	1		20.5	20.0	19.6	19.1	18.8	22.6	22.2	21.7	21.2	20.9	—	—	—	—	23.3
8000	-1		20.2	19.7	19.3	18.9	18.5	22.2	21.8	21.4	20.9	20.6	—	—	—	—	—
9000	-3		19.9	19.5	19.1	18.6	18.3	—	—	21.1	20.6	20.3	—	—	—	—	—
10000	-5		19.6	19.2	18.8	18.4	18.0	—	—	—	20.3	20.0	—	—	—	—	—
11000	-7		19.3	19.0	18.6	18.2	17.8	—	—	—	—	19.7	—	—	—	—	—
17000	-9		—	18.7	18.4	17.9	17.6	—	—	—	—	—	—	—	—	—	—
13000	-11		—	—	—	17.7	17.4	—	—	—	—	—	—	—	—	—	—
14000	-13		—	—	—	—	17.2	—	—	—	—	—	—	—	—	—	—

POWER SETTING TABLE

Figure 5-25

### APPROXIMATE FUEL FLOW

55% Power	11.9 GPH
65% Power	13.8 GPH
75% Power	16.0 GPH

To maintain constant power, correct manifold pressure approximately 0.15" Hg for each 5°C variation in induction air temperature from standard altitude temperature. Add manifold pressure for air temperature above standard; subtract for temperature below standard.

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

THIS PAGE INTENTIONALLY LEFT BLANK

### PA-32-301

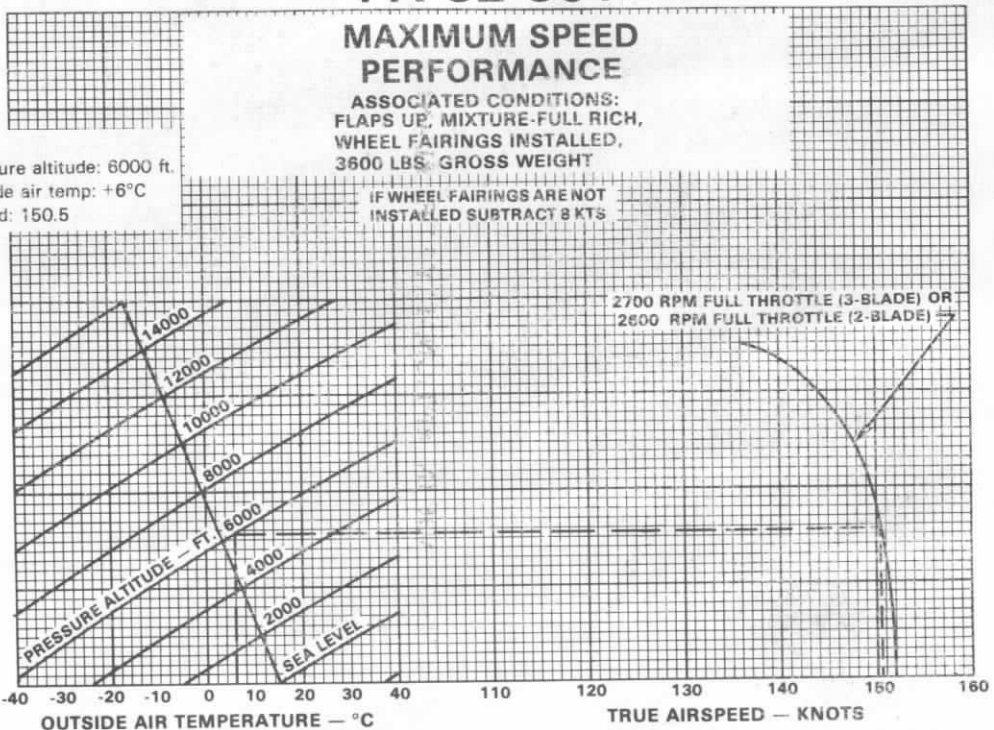
#### MAXIMUM SPEED PERFORMANCE

ASSOCIATED CONDITIONS:  
FLAPS UP, MIXTURE-FULL RICH,  
WHEEL FAIRINGS INSTALLED,  
3600 LBS. GROSS WEIGHT

IF WHEEL FAIRINGS ARE NOT  
INSTALLED SUBTRACT 8 KTS

Example:

Cruise pressure altitude: 6000 ft.  
Cruise outside air temp: +6°C  
True airspeed: 150.5



MAXIMUM SPEED PERFORMANCE

Figure 5-27

# PA-32-301

## SPEED — CRUISE POWER

ASSOCIATED CONDITIONS:  
FLAPS UP, MIXTURE LEANED TO PEAK E.G.T.  
WHEEL FAIRINGS INSTALLED, 3600 LBS. GROSS WEIGHT

IF WHEEL FAIRINGS ARE NOT  
INSTALLED SUBTRACT 8 KTS

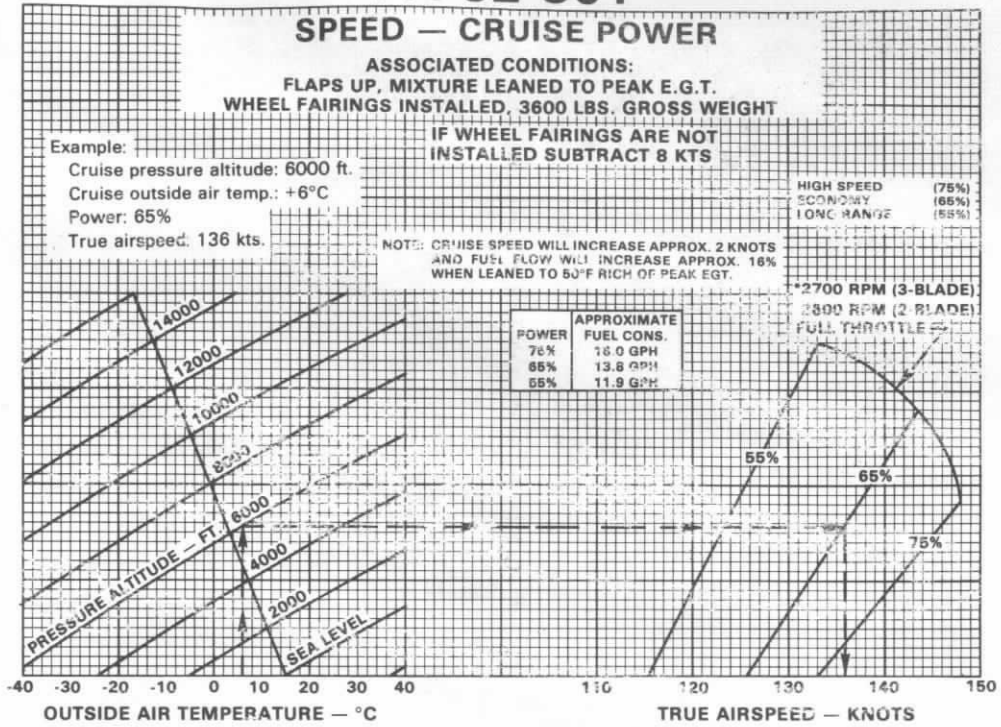
Example:  
Cruise pressure altitude: 6000 ft.  
Cruise outside air temp.: +6°C  
Power: 65%  
True airspeed: 136 kts.

NOTE: CRUISE SPEED WILL INCREASE APPROX. 2 KNOTS  
AND FUEL FLOW WILL INCREASE APPROX. 16%  
WHEN LEANED TO 50°F RICH OF PEAK EGT.

HIGH SPEED (75%)  
ECONOMY (65%)  
LONG RANGE (55%)

\*2700 RPM (3-BLADE)  
2800 RPM (2-BLADE)  
FULL THROTTLE

POWER	APPROXIMATE FUEL CONS.
75%	16.0 GPH
65%	13.8 GPH
55%	11.9 GPH



SPEED - CRUISE POWER

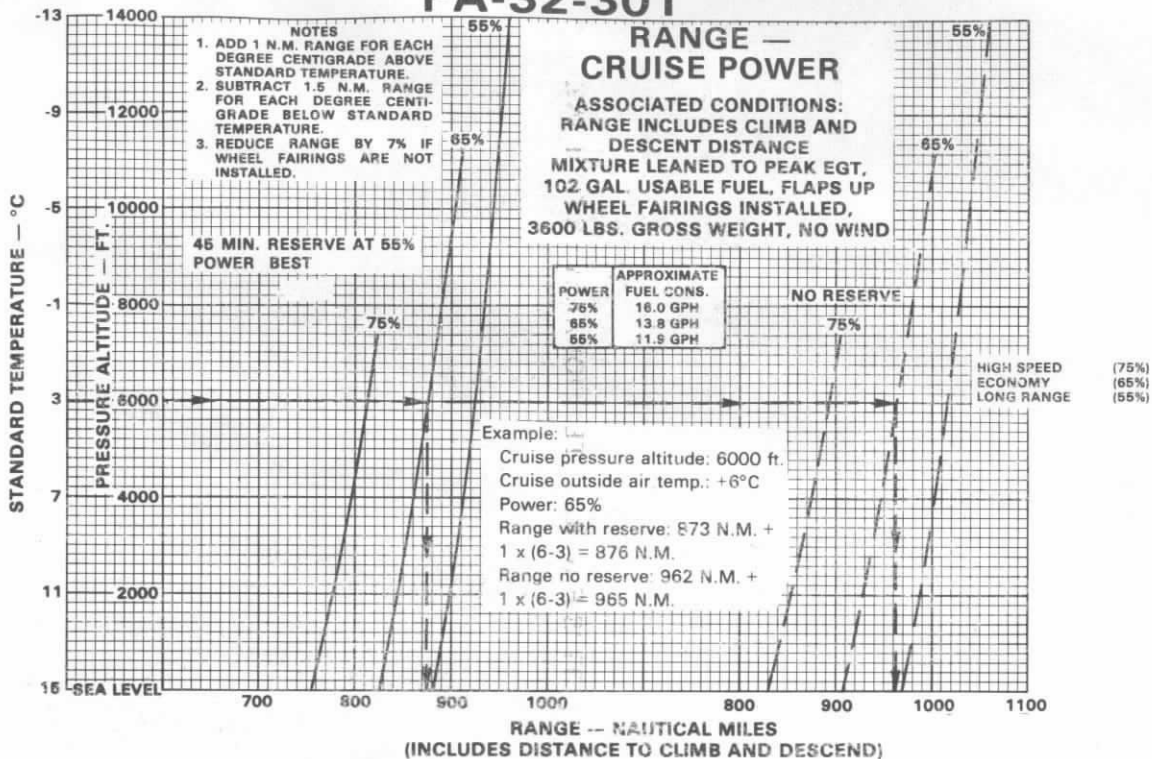
Figure 5-29

THIS FIGURE INTENTIONALLY LEFT BLANK

Figure 5-31



# PA-32-301



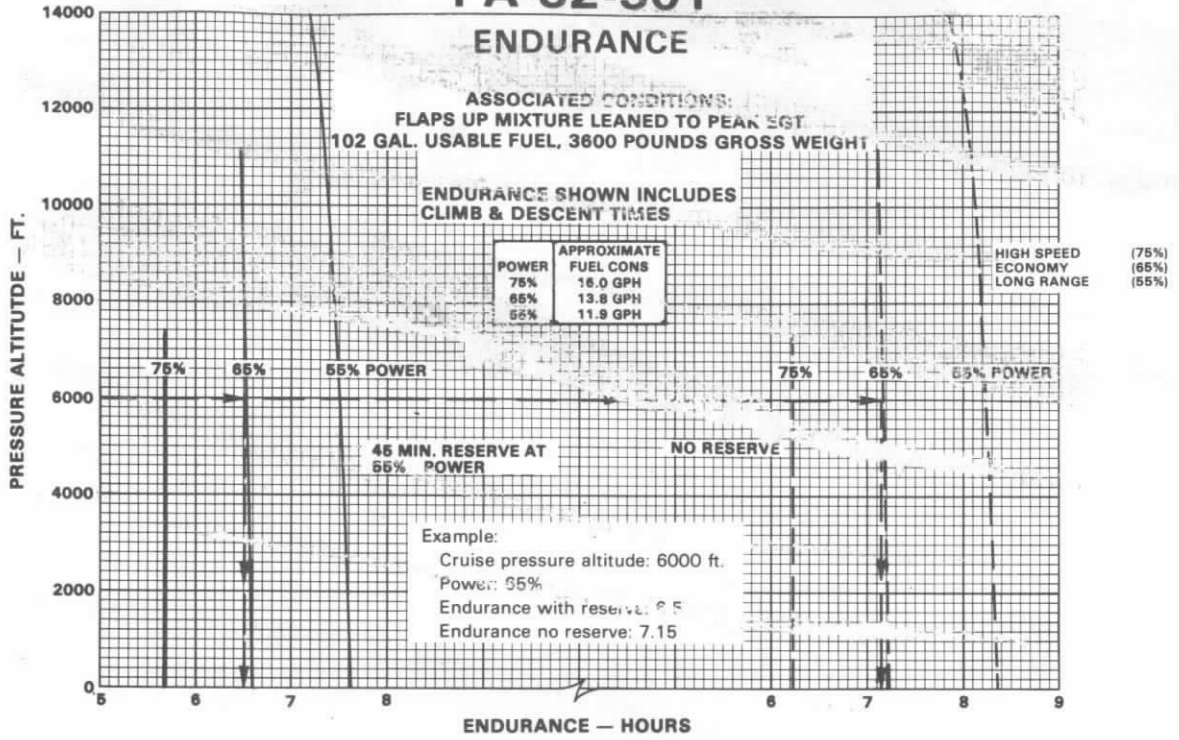
RANGE - CRUISE POWER  
Figure 5-33

THIS FIGURE INTENTIONALLY LEFT BLANK

Figure 5-35

# PA-32-301

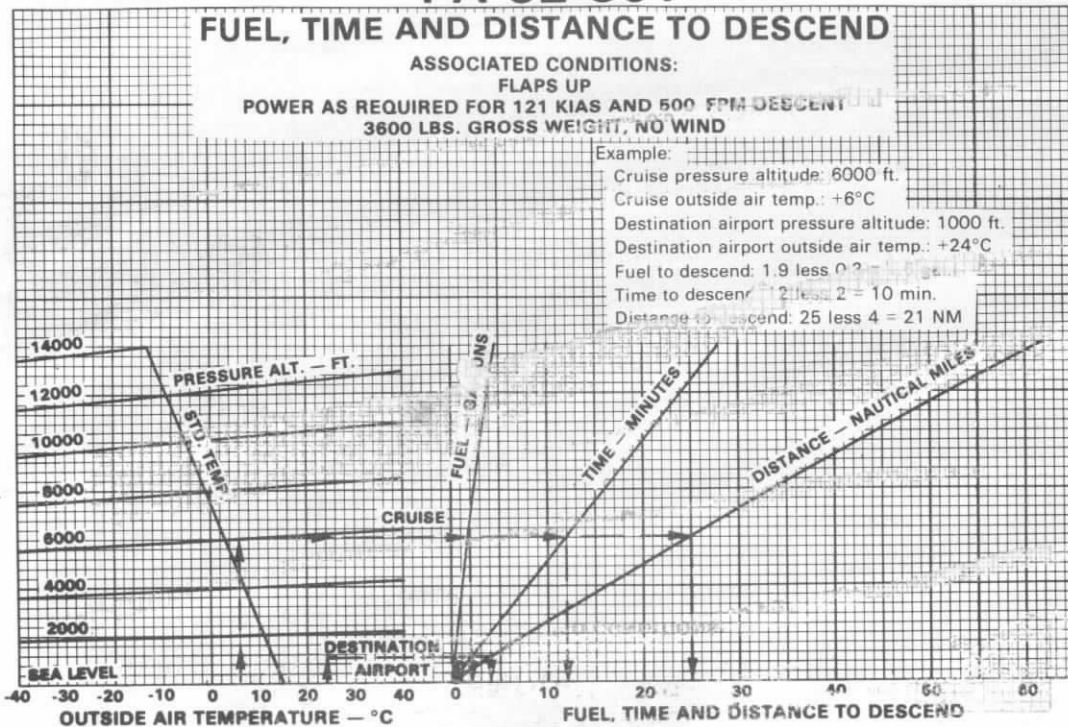
## ENDURANCE



ENDURANCE  
Figure 5-37

# PA-32-301

## FUEL, TIME AND DISTANCE TO DESCEND



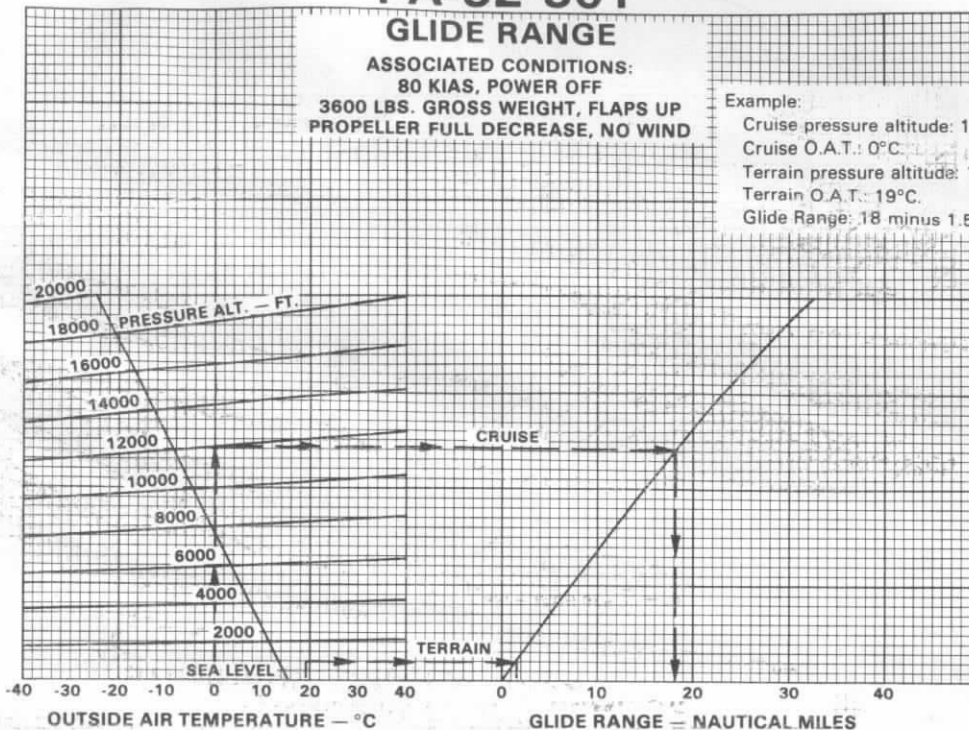
FUEL, TIME AND DISTANCE TO DESCEND  
Figure 5-39

# PA-32-301

## GLIDE RANGE

ASSOCIATED CONDITIONS:  
80 KIAS, POWER OFF  
3600 LBS. GROSS WEIGHT, FLAPS UP  
PROPELLER FULL DECREASE, NO WIND

Example:  
Cruise pressure altitude: 12000 ft.  
Cruise O.A.T.: 0°C  
Terrain pressure altitude: 1000 ft.  
Terrain O.A.T.: 19°C  
Glide Range: 18 minus 1.5 = 16.5 N.M.

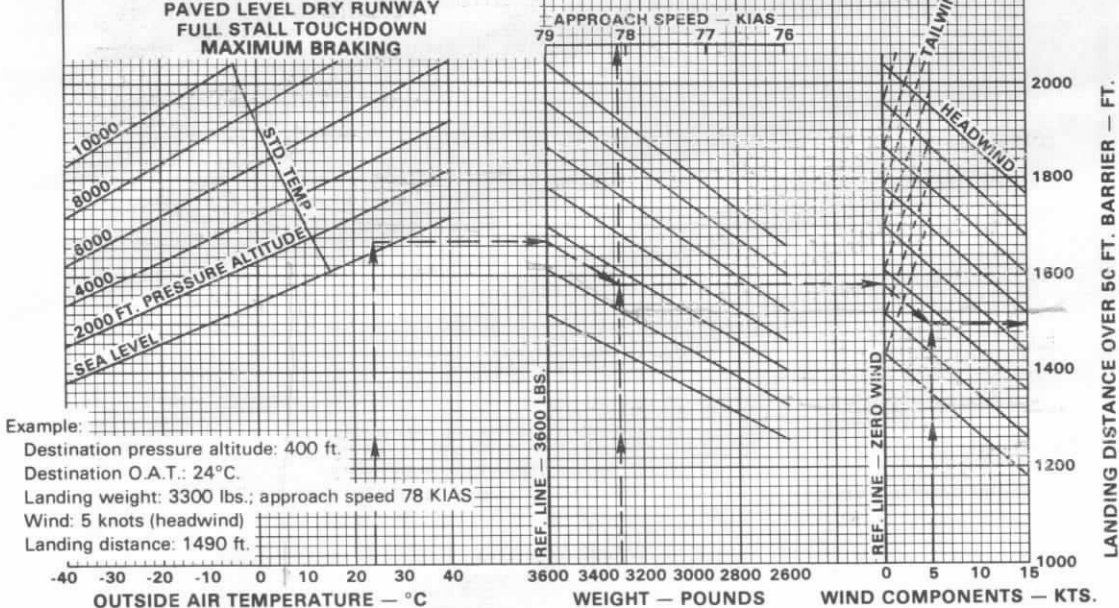


GLIDE RANGE  
Figure 5-41

# PA-32-301

## LANDING PERFORMANCE STANDARD WHEELS, TIRES AND BRAKES

ASSOCIATED CONDITIONS:  
WING FLAPS 40°, POWER OFF  
PAVED LEVEL DRY RUNWAY  
FULL STALL TOUCHDOWN  
MAXIMUM BRAKING

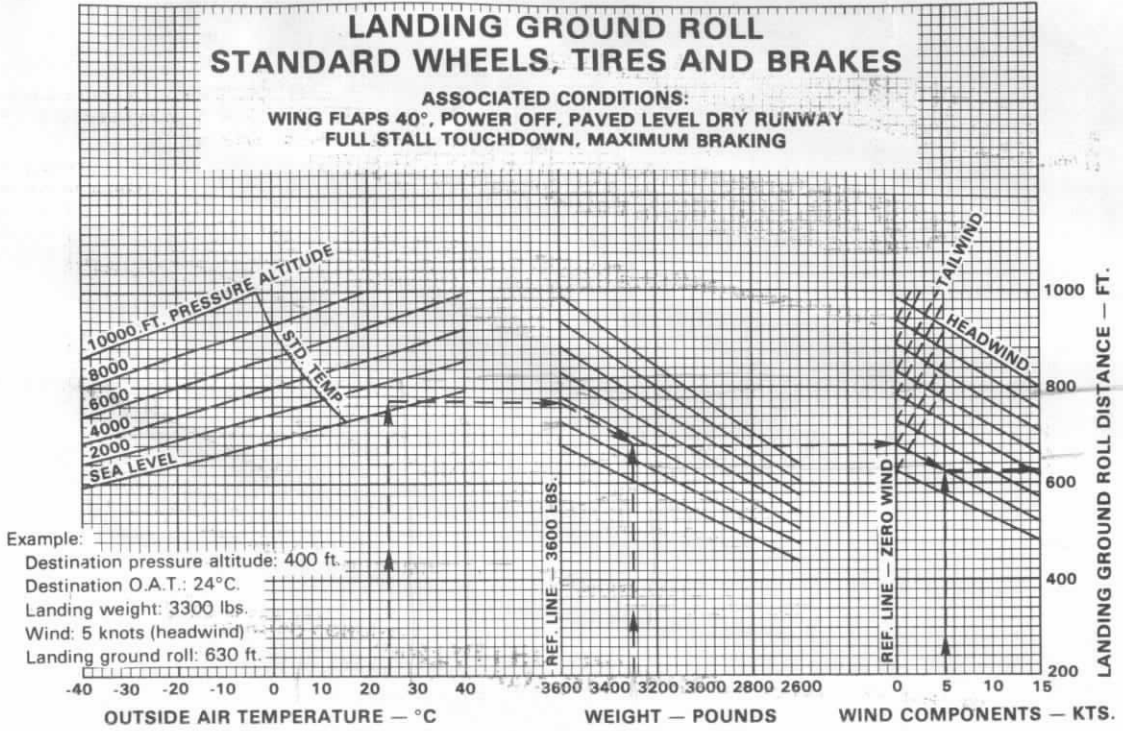


LANDING PERFORMANCE - STANDARD WHEELS,  
TIRES AND BRAKES  
Figure 5-43

# PA-32-301

## LANDING GROUND ROLL STANDARD WHEELS, TIRES AND BRAKES

ASSOCIATED CONDITIONS:  
WING FLAPS 40°, POWER OFF, PAVED LEVEL DRY RUNWAY  
FULL STALL TOUCHDOWN, MAXIMUM BRAKING



LANDING GROUND ROLL - STANDARD WHEELS,  
TIRES AND BRAKES

Figure 5-45