

Weight & Balance Load Sheet VH -NRM

Position:

Front Left (Pilot)
 Front Right (Co-pilot)
 Passenger (Rear Left)
 Passenger (Rear Right)
 Luggage

Details:

Pilot	80
Pax 1	80
Pax 2	
Pax 3	0
Luggage	10

Weight (Kg):

Fuel (litres)

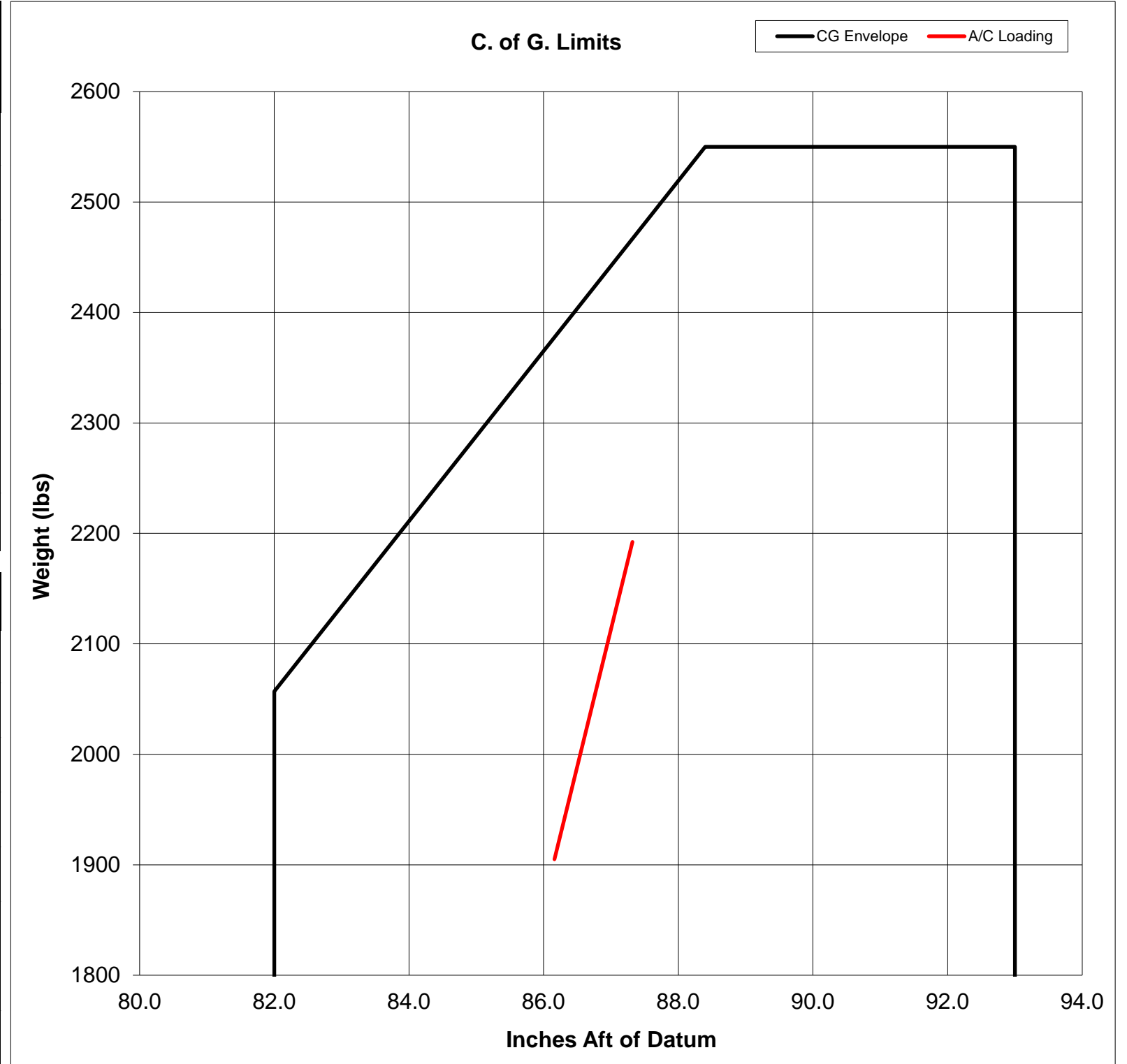
181

Full = 181

Tabs = 129

Weight & Balance Check Archer II (VH-NRM) (lb-in)				
Description	Item	Weight (lbs)	Arm (in)	Index Units (lb-in/1000)
	Basic Empty	1530	86.7	132.6
Kg => lbs (2.2046)	Oil	0		0.0
mm => in (div 25.4)	Pilot + Front Pax	353	80.5	28.4
	Rear Pax	0	118.1	0.0
	Baggage	22	142.8	3.1
	Zero Fuel	1905	86.2	164.1
	Fuel	287	95.0	27.3
Max=2550 lbs (1157 kg)	Max Fuel	2192	87.3	191.4

Description	Item	Weight (kg)	Arm (mm)	Index Units (kgmm/1000)
	Basic Empty	694.1	2201	1528
lbs => kgs (div 2.2046)	Oil	0.0	0	0
in => mm (x 25.4)	Pilot + Front Pax	160.0	2045	327
	Rear Pax	0.0	3000	0
	Baggage	10.0	3627	36
	Zero Fuel	864.1	2188	1891
0.72 x no. of litres	Fuel	130.3	2413	314
	Max Fuel	994.4	2218	2206



Arm (mm)		Arm (Inches)	
Wgt (Kg)	Min	Wgt (lbs)	Min
544	2082.8	1200	82.0
933	2082.8	2057	82.0
1157	2245.4	2550	88.4
1157	2362.2	2550	93.0
544	2362.2	1200	93.0
544	2082.8	1200	82.0

0.384615

**SECTION 6
WEIGHT AND BALANCE**

**PIPER AIRCRAFT CORPORATION
PA-28-181, CHEROKEE ARCHER II**

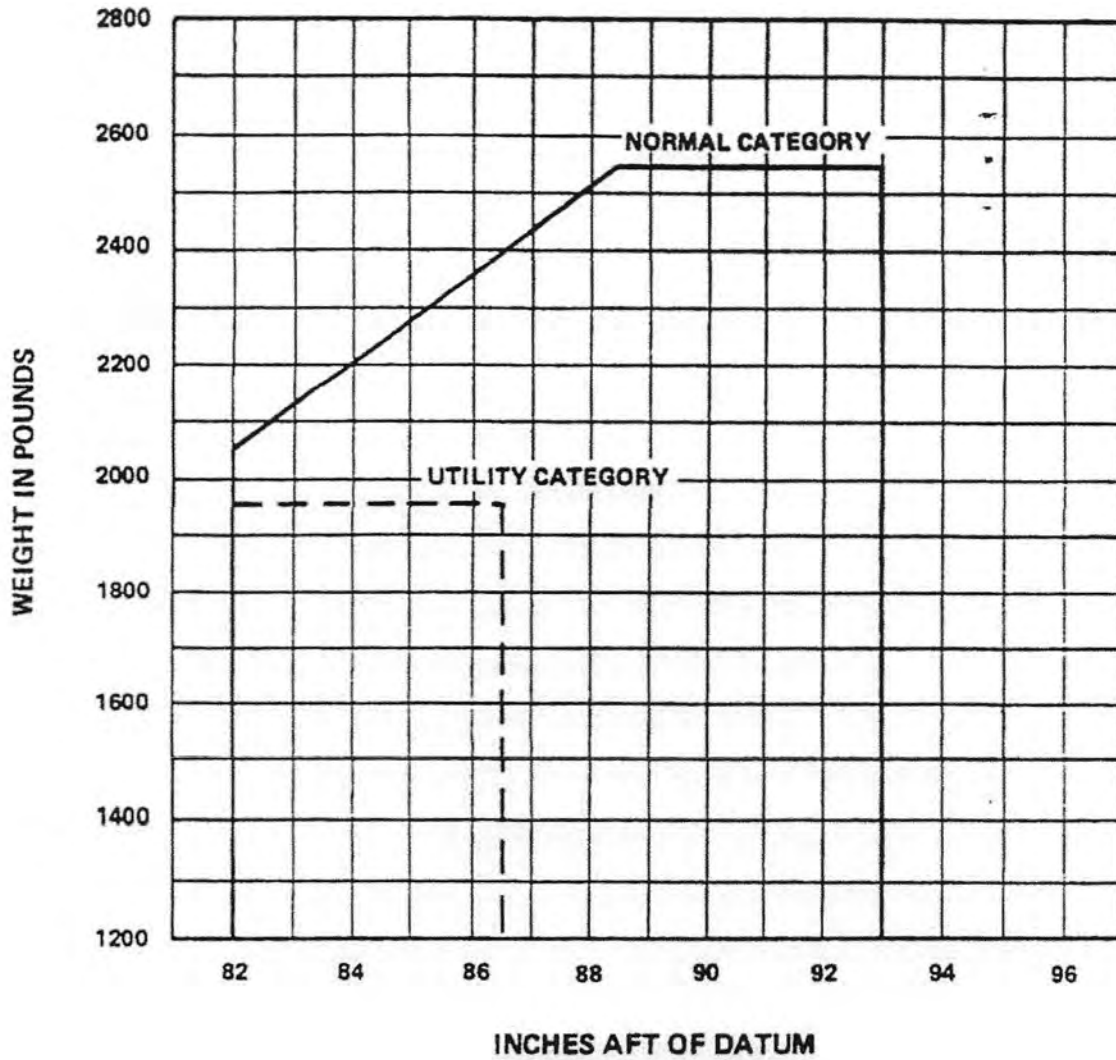
	Weight (Lbs)	Arm Aft Datum (Inches)	Moment (In-Lbs)
Basic Empty Weight			
Pilot and Front Passenger		80.5	
Passengers (Rear Seats)*		118.1	
Fuel (48 Gallon Maximum)		95.0	
Baggage*		142.8	
Total Loaded Airplane			

Totals must be within approved weight and C.G. limits. It is the responsibility of the airplane owner and the pilot to insure that the airplane is loaded properly. The Basic Empty Weight C.G. is noted on the Weight and Balance Data Form (Figure 6-00). If the airplane has been altered, refer to the Weight and Balance Record for this information.

*Utility Category Operation - No baggage or rear passengers allowed.

WEIGHT AND BALANCE LOADING FORM

Figure 6-11



C.G. RANGE AND WEIGHT

Figure 6-15

6.7 WEIGHT AND BALANCE DETERMINATION FOR FLIGHT

- (a) Add the weight of all items to be loaded to the basic empty weight.
- (b) Use the Loading Graph (Figure 6-13) to determine the moment of all items to be carried in the airplane.
- (c) Add the moment of all items to be loaded to the basic empty weight moment.
- (d) Divide the total moment by the total weight to determine the C.G. location.
- (e) By using the figures of item (a) and item (d) (above), locate a point on the C.G. range and weight graph (Figure 6-15). If the point falls within the C.G. envelope, the loading meets the weight and balance requirements.

	Weight (Lbs)	Arm Aft Datum (Inches)	Moment (In-Lbs)
Basic Empty Weight			
Pilot and Front Passenger	340.0	80.5	27370
Passengers (Rear Seats)*	340.0	118.1	40154
Fuel (48 Gallon Maximum)		95.0	
Baggage*		142.8	
Total Loaded Airplane			

The center of gravity (C.G.) of this sample loading problem is at _____ inches aft of the datum line. Locate this point () on the C.G. range and weight graph. Since this point falls within the weight - C.G. envelope, this loading meets the weight and balance requirements.

IT IS THE RESPONSIBILITY OF THE PILOT AND AIRCRAFT OWNER TO INSURE THAT THE AIRPLANE IS LOADED PROPERLY.

*Utility Category Operation - No baggage or rear passengers allowed.

SAMPLE LOADING PROBLEM (NORMAL CATEGORY)

Figure 6-9

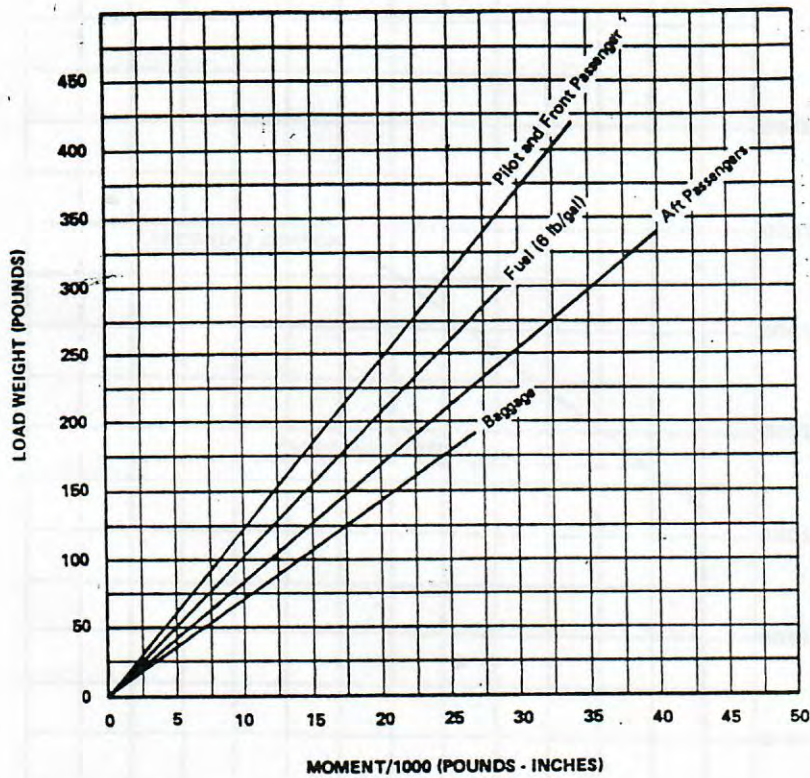
	Weight (Lbs)	Arm Aft Datum (Inches)	Moment (In-Lbs)
Basic Empty Weight			
Pilot and Front Passenger		80.5	
Passengers (Rear Seats)*		118.1	
Fuel (48 Gallon Maximum)		95.0	
Baggage*		142.8	
Total Loaded Airplane			

Totals must be within approved weight and C.G. limits. It is the responsibility of the airplane owner and the pilot to insure that the airplane is loaded properly. The Basic Empty Weight C.G. is noted on the Weight and Balance Data Form (Figure 6-5). If the airplane has been altered, refer to the Weight and Balance Record for this information.

*Utility Category Operation - No baggage or rear passengers allowed.

WEIGHT AND BALANCE LOADING FORM

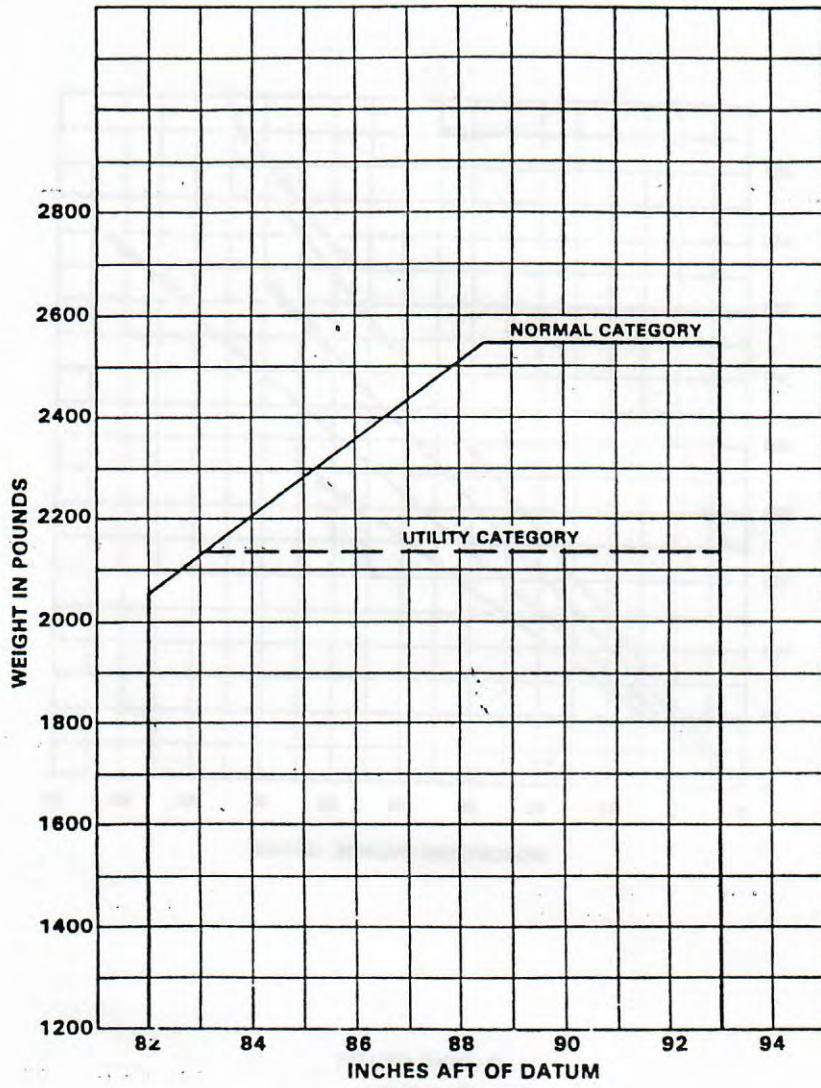
Figure 6-11



LOADING GRAPH
Figure 6-13

ISSUED: JUNE 18, 1976

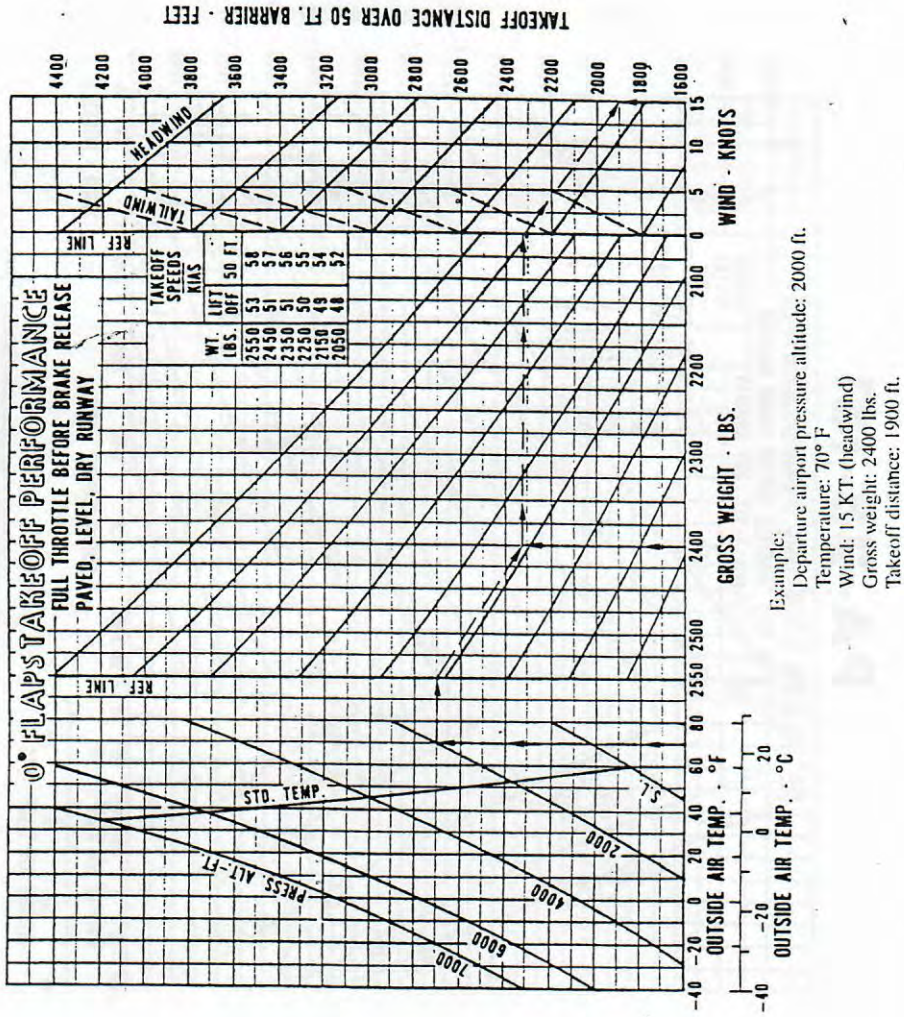
REPORT: VB-790
6-13



C. G. RANGE AND WEIGHT

Figure 6-15

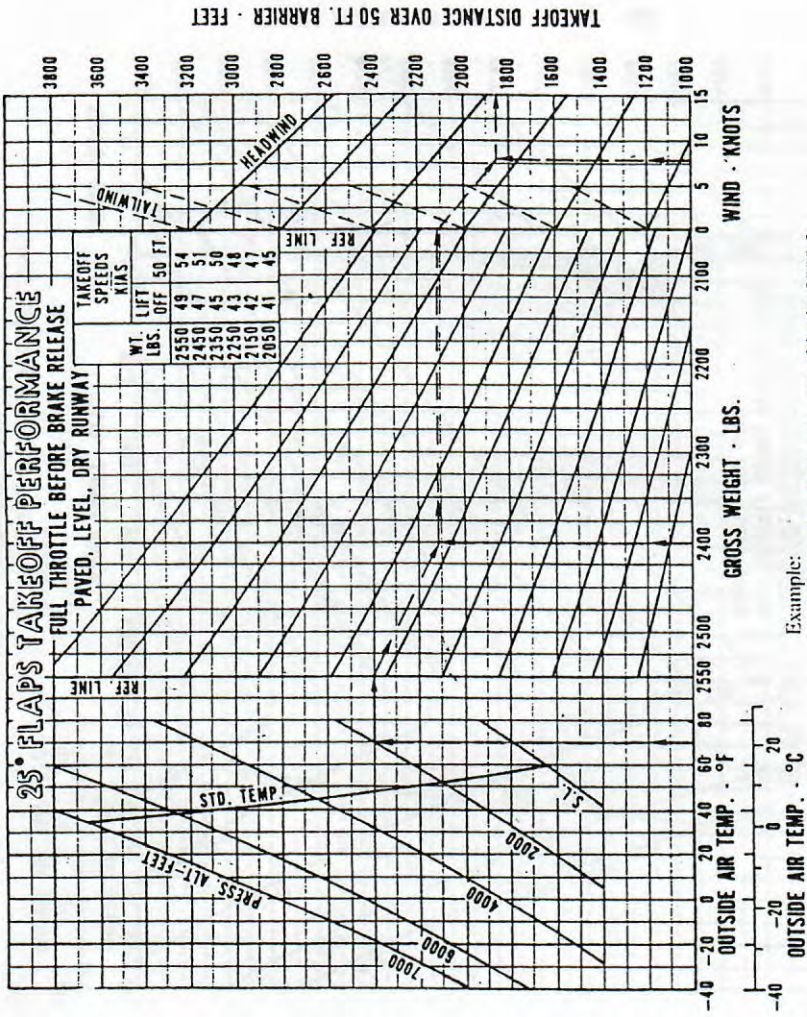
PA-28-181



FLAPS UP TAKEOFF PERFORMANCE

Figure 5-5

PA-28-181



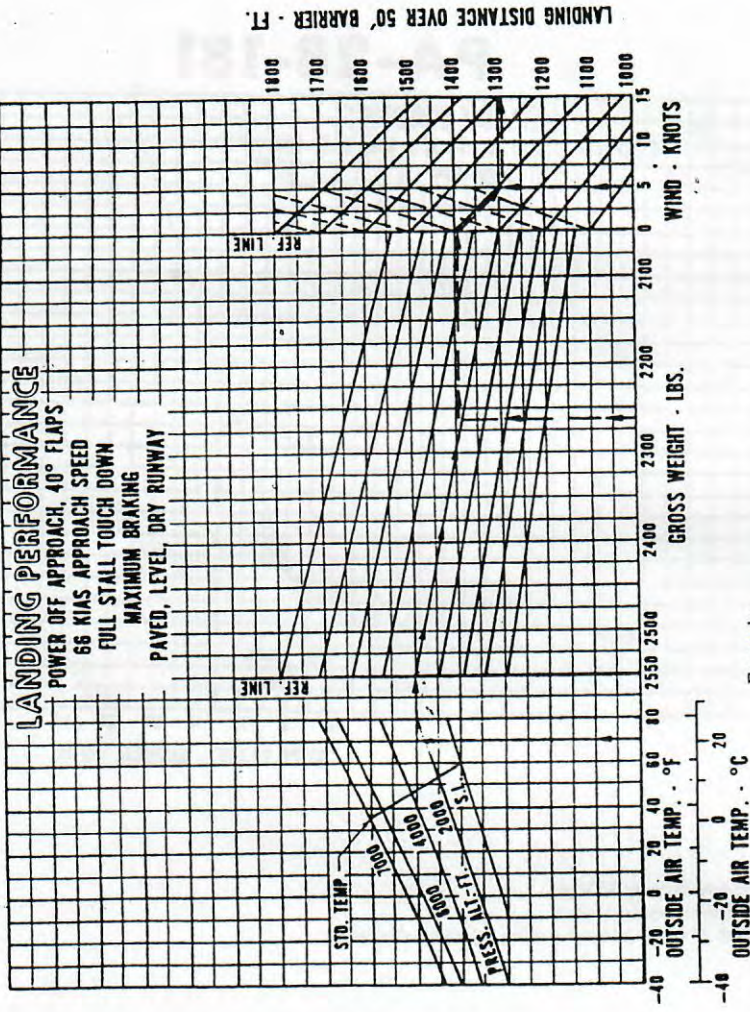
25° FLAPS TAKEOFF PERFORMANCE

Figure 5-7

PA-28-181

LANDING PERFORMANCE

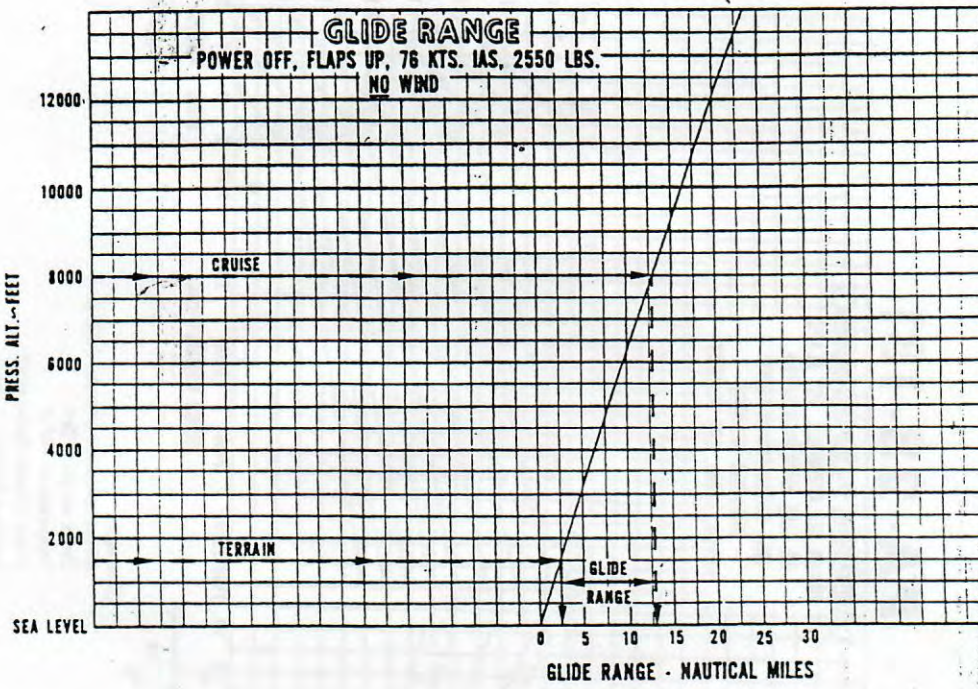
POWER OFF APPROACH, 40° FLAPS
66 KIAS APPROACH SPEED
FULL STALL TOUCH DOWN
MAXIMUM BRAKING
PAVED, LEVEL, DRY RUNWAY



Example:
Airport pressure altitude: 2300 ft.
Gross weight: 2264
Temperature: 70° F
Wind: 5 knots (headwind)
Landing distance: 1290 ft.

LANDING PERFORMANCE
Figure 5-33

PA-28-181



Example:

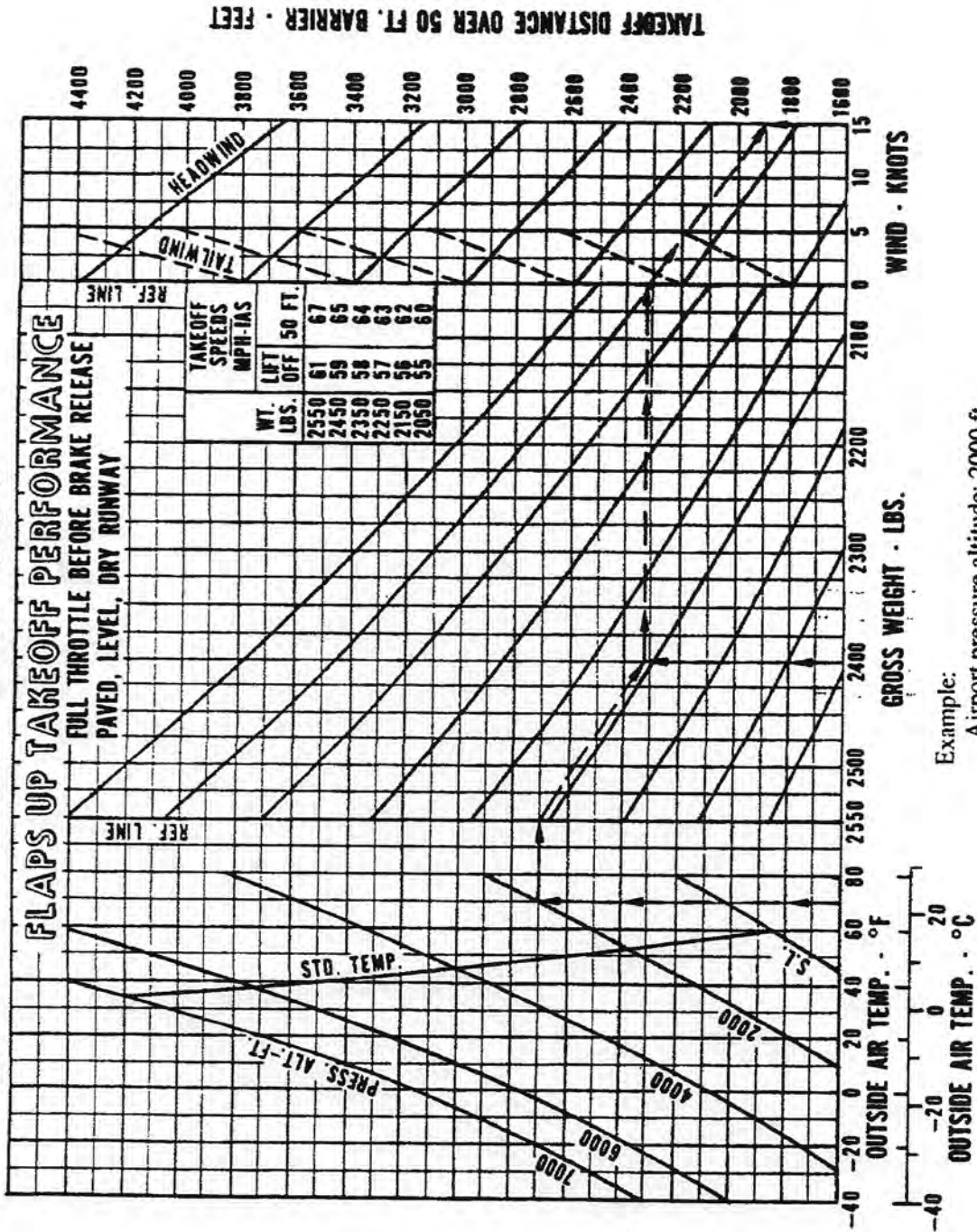
Cruise pressure altitude: 8000 ft.
Terrain pressure altitude: 1500 ft.
Glide Range: 13 miles minus 2.5 miles = 10.5 nautical miles

GLIDE RANGE
Figure 5-31

ISSUED: JULY 12, 1977
REVISED: MAY 23, 1980

REPORT: VB-790
5-31

PA-28-181



Example:
 Airport pressure altitude: 2000 ft.
 Temperature: 70°F
 Wind: 15 knots (headwind)
 Gross weight: 2400 lbs.
 Takeoff distance: 1900 ft.

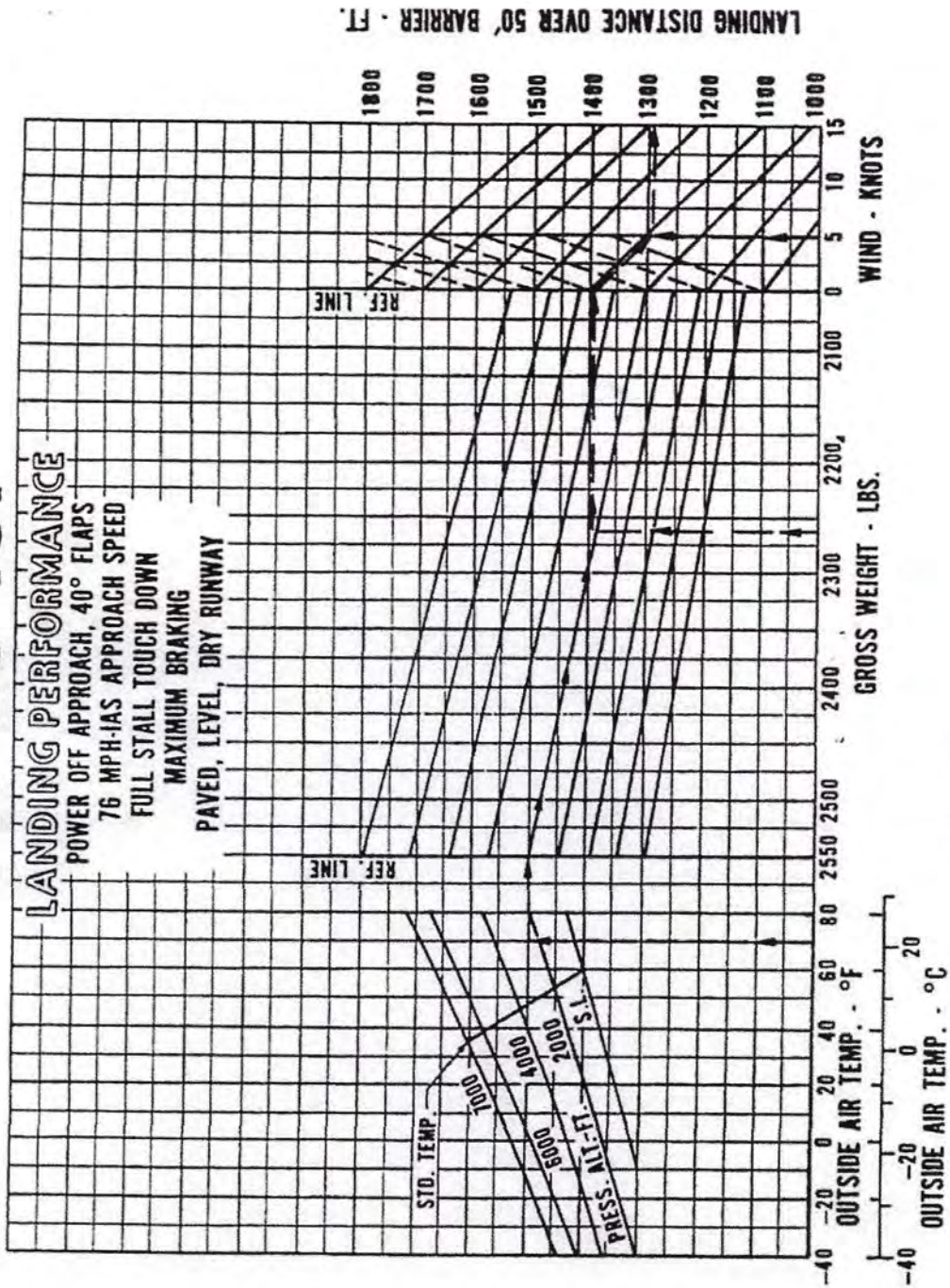
FLAPS UP TAKEOFF PERFORMANCE

Figure 5-5

ISSUED: AUGUST 15, 1975
 REVISED: NOVEMBER 12, 1976

REPORT: VB-760
 5-13

PA-28-181



Example:
 Airport pressure altitude: 2300 ft.
 Gross weight: 2264 lbs.
 Temperature: 70°F
 Wind: 5 knots (headwind)
 Landing distance: 1290 ft.

LANDING PERFORMANCE

Figure 5-29

ISSUED: AUGUST 15, 1975
 REVISED: NOVEMBER 12, 1976

REPORT: VB-760
 5-25