

LOAD DATA SHEET - PAGE 1 OF 3 - AEROPLANE WEIGHT

Aeroplane Type:..... PIPER PA28-181

Registration Marking:..... **VH-NRZ** Serial No: 2843051

ISSUE:.... ONE	DATE:..... 25-Jul-11	EXPIRY:..... INDEFINITE
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AEROPLANE WEIGHT AND CENTRE OF GRAVITY DATA:

ITEM	WEIGHT (Kg)	ARM (mm aft of datum)	MOMENT (Kg.mm)	CABIN CONFIGURATION
EMPTY	769.1	2211.2	1700620	FOUR SEATS TOTAL
STANDARD CABIN CONFIGURATION				
THE FOLLOWING IMPERIAL UNITS ARE FOR USE WITH THE PILOTS HANDBOOK SECTION SIX				
	(lb)	(in)	(in.lb)	
EMPTY	1695.6	87.06	147607	FOUR SEATS TOTAL

NOTE: The above empty weights include:-

EMPTY - unusable fuel and full oil

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SECTION 6
WEIGHT AND BALANCE

PA-28-181, ARCHER III

	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 (200 Lbs. Maximum)*		142.8	
Ramp Weight (2558 Lbs. Normal, 2138 Lbs. Utility Maximum)			
Fuel Allowance For Engine Start, Taxi and Run Up	-8	95.0	-760
Takeoff Weight (2550 Lbs. Normal, 2130 Lbs. Utility Maximum)			

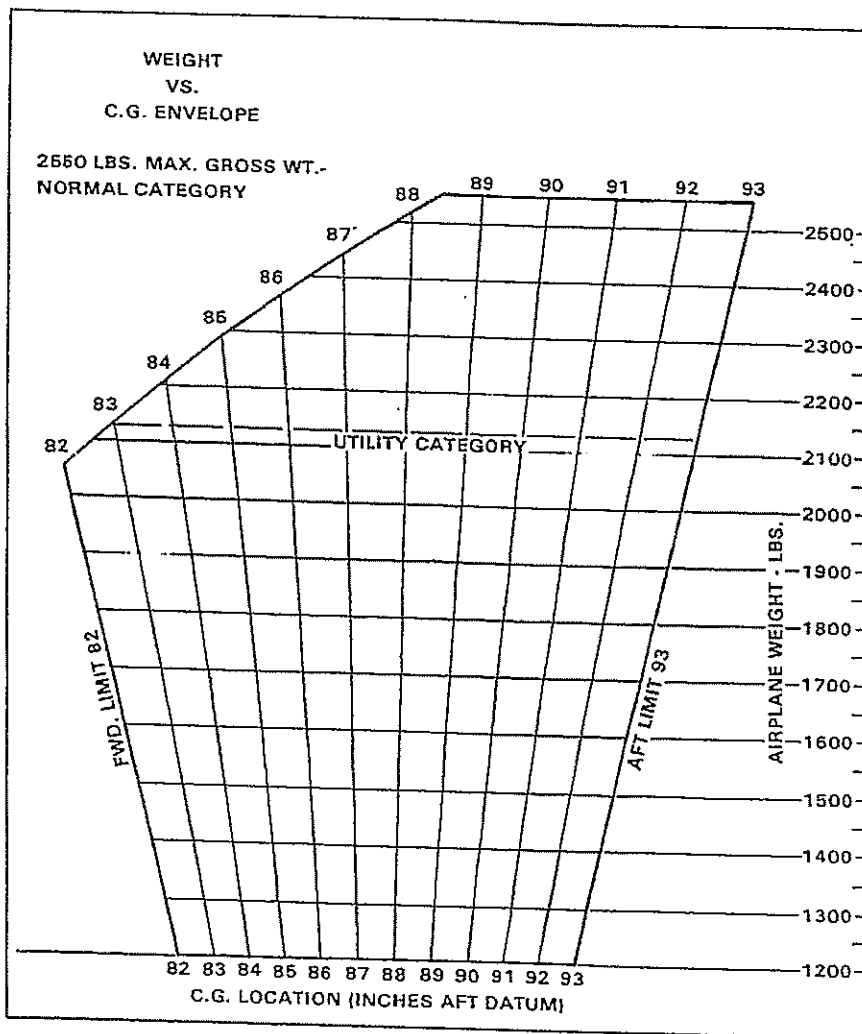
Totals must be within approved weight and C.G. limits. It is the responsibility of the airplane owner and the pilot to insure that the airplane is loaded properly. The Basic Empty Weight C.G. is noted on the Weight and Balance Data Form (Figure 6-5). If the airplane has been altered, refer to the Weight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

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

WEIGHT AND BALANCE LOADING FORM
Figure 6-11

SECTION 6
WEIGHT AND BALANCE

PA-28-181, ARCHER III



C.G. RANGE AND WEIGHT
Figure 6-15

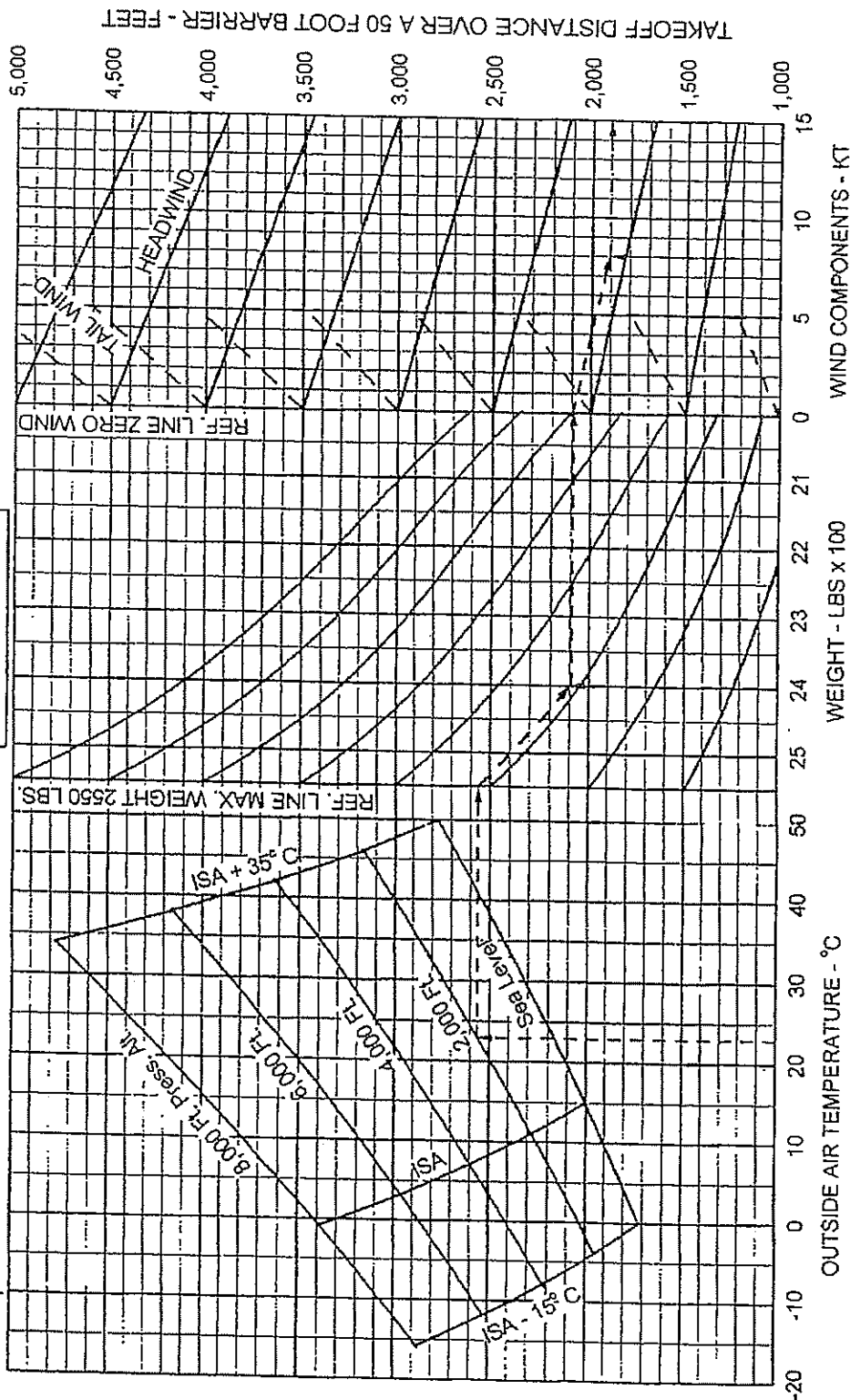
FLAPS UP TAKEOFF PERFORMANCE

ASSOCIATED CONDITIONS:
 Power: FULL THROTTLE BEFORE BRAKE RELEASE
 Air Conditioner: OFF
 Runway: PAVED, LEVEL, & DRY
 Airspeed: REFER TO TABLE AT RIGHT
 Propeller: SENSENICH 76EM8S14-0-62
 Flaps: UP

EXAMPLE:

Depart Airport Pressure Alt: 2,000 Ft.
 Temperature: 23° C
 Gross Weight: 2,400 Lb.
 Headwind: 8 Kt.
 Takeoff Distance: 1907 Ft.

TAKEOFF SPEEDS		KIAS
WT	LIFTOFF	50 FT
2,550	60	65
2,450	58	64
2,350	57	63
2,250	56	61



FLAPS UP TAKEOFF PERFORMANCE

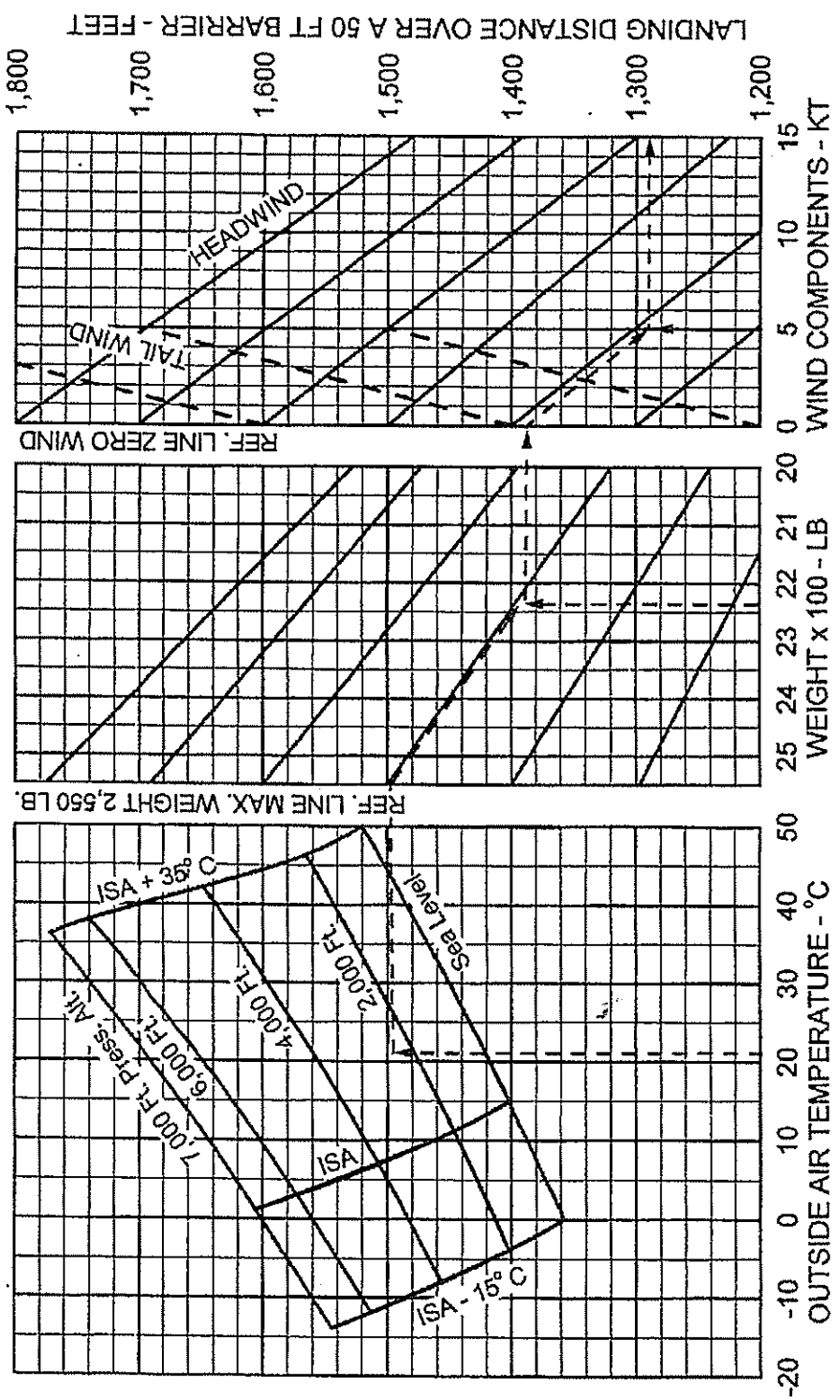
Figure 5-7

LANDING PERFORMANCE

ASSOCIATED CONDITIONS

Power Off Approach, 40° Flaps, 66 KIAS, Full Stall
Touchdown, Maximum Braking, Paved, Level, Dry Runway

EXAMPLE:
Airport Pressure Altitude: 2,500 FT.
O.A.T.: 21°C
Gross Weight: 2,240 LB.
Headwind: 5 KT.
Landing Distance: 1,290 FT.



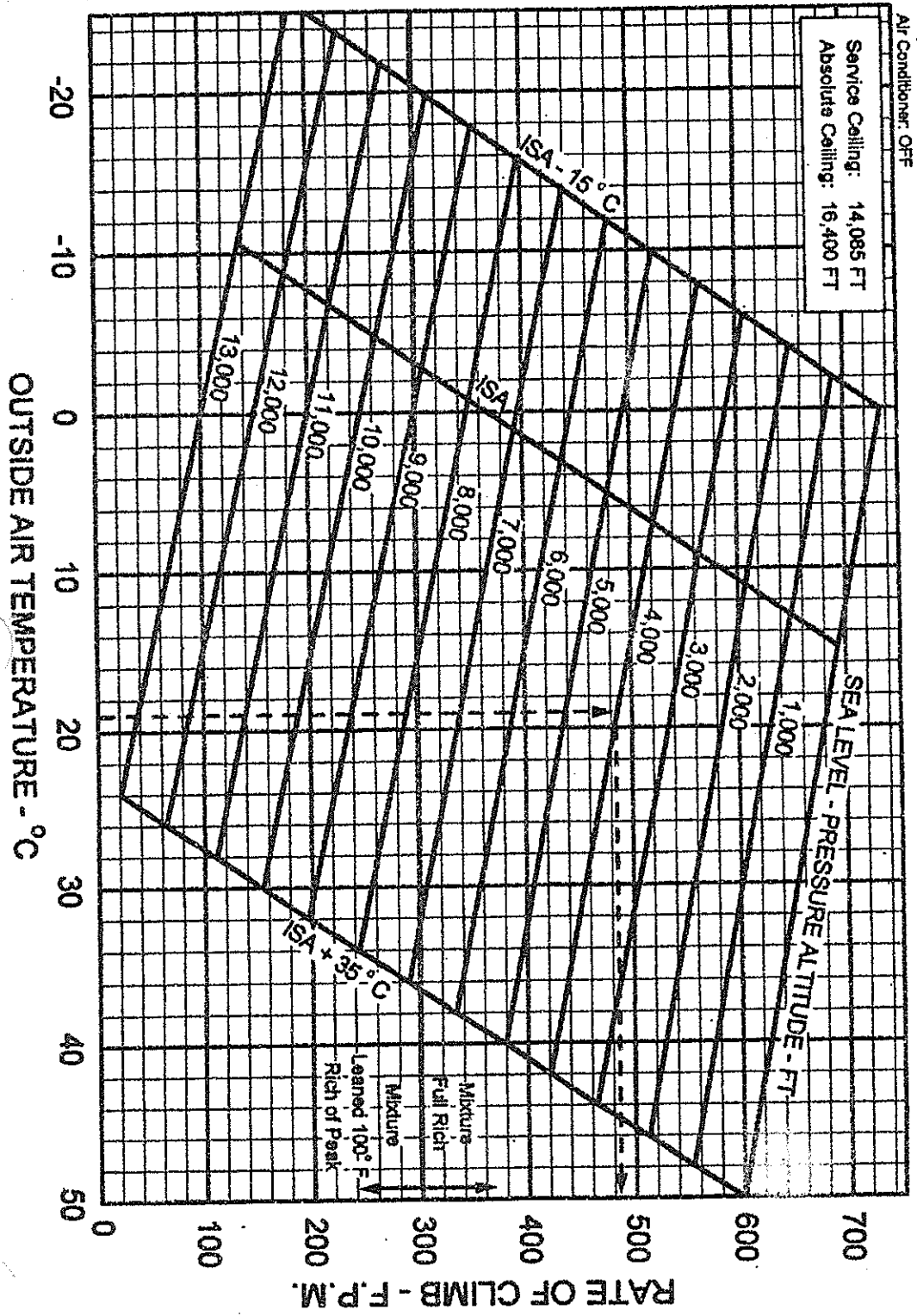
LANDING PERFORMANCE

Figure 5-35

CLIMB PERFORMANCE

ASSOCIATED CONDITIONS:
 Gross Weight: 2550 LBS.
 Power: FULL THROTTLE
 Airspeed: 78 KIAS
 Flaps: UP
 Air Conditioner: OFF

EXAMPLE:
 Climb Pressure Alt. 4000 Ft.
 Temperature: 19° C
 Rate of Climb: 487 F/Min.



CLIMB PERFORMANCE
 Figure 5-15

Climb Gradients

1 Take off climb performance (20.7.4 / 7.1)

In the take-off configuration with landing gear extended, an aeroplane must have the ability to achieve a climb gradient of 6% at takeoff safety speed (TOSS), without ground effect, and with all engines operating at take-off power.

2 En-route climb performance (20.7.4 / 8.3)

Single-engined aeroplanes must have the ability to climb at a gradient of 4.5% at an airspeed not less than 1.2Vs at all heights up to 5000ft in standard atmospheric conditions with the engine operating at maximum continuous power, undercarriage (if retractable) and flaps retracted.

3 Landing Climb performance (20.7.4 / 9.1)

In the landing configuration with all engines operating at take-off power an aeroplane must have the ability to climb at a gradient of 3.2% in standard atmospheric conditions at a speed not exceeding 1.3Vs

Formula

$$\text{RoC} = ((\text{GS} \times 6080) / 60) \times (\text{CG} / 100)$$

Or

$$\text{CG} = \frac{\text{ROC}}{(\text{G.S} \times 6080) / 60}$$