

6.2 - AEROPLANE WEIGHT

Aeroplane Type:..... PIPER PA28-161

Registration Marking:..... **VH-INB** Serial No: 28-7916259

ISSUE:.... TWO

DATE:..... 2.9.99

EXPIRY:..... INDEFINITE

AEROPLANE WEIGHT AND CENTRE OF GRAVITY DATA:

ITEM	WEIGHT (Kg)	ARM (mm aft of datum)	INDEX (Kg.mm)	CABIN CONFIGURATION
BASIC	692.3	2203	1524985	FOUR SEATS TOTAL
STANDARD CABIN CONFIGURATION				
THE FOLLOWING IMPERIAL UNITS ARE FOR USE WITH THE PILOTS HANDBOOK SECTION SIX				
	(lb)	(in)	(in.lb)	
BASIC	1526.3	86.7	132363	FOUR SEATS TOTAL

NOTE: The above empty weights include:-

BASIC - unusable fuel and full oil

NOTE: THIS LOAD DATA SHEET IS BASED ON VALIDATION OF EMPTY WEIGHT AND EMPTY C.G. RUNNING TOTALS IN LIEU OF ACTUAL WEIGHING.

AeroWeighty. Ltd.

BRUCE GLISSOLD

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6.3 - LOADING SYSTEM

Aeroplane Type:..... PIPER PA28-161

Registration Marking:..... **VH-INB** Serial No: 28-7916259

ISSUE:.... TWO

DATE:..... 2.9.99

The following is valid only for the Empty Weight specified in paragraph 6.2 - Aeroplane Weight dated 2.9.99 and is based on calculations using Occupant Weights of 60 to 90 Kg each.

A..NORMAL CATEGORY OPERATIONS:-

1. OCCUPANTS:-

Load Front to Rear (i.e. Front seats first)
Load Heaviest Passenger in front row

2. BAGGAGE:-

Number of Occupants	Rear Baggage Maximum
One(pilot)	90.7 Kg
Two	90.7 Kg
Three	68.7 Kg
Four	25.2 Kg

3. FUEL:-

Fuel is limited only by All Up Weight

MAXIMUM TAKE-OFF WEIGHT.....1055 Kg

B...UTILITY CATEGORY OPERATIONS:-

No limitations except Utility Category all up weight limit

MAXIMUM 916 Kg.

NOTE: In utility category operations, the baggage compartment must be empty and the rear seat unoccupied.

*******OPTIONAL LOAD CHART*******

If Loading can not conform to the above limitations, a full load check should be carried out on Load Chart BC/PA161/1 for Piper PA28-161 (14 Sep 97).

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SECTION 6
WEIGHT AND BALANCE

PIPER AIRCRAFT CORPORATION
PA-28-161, CHEROKEE WARRIOR II

	Weight (Lbs)	Arm Aft Datum (Inches)	Moment (In-Lbs)
Basic Empty Weight			
Pilot and Front Passenger		80.5	
Passenger (Rear Seats)*		118.1	
Fuel (48 Gallon Maximum)		95.0	
Baggage* (200 Lbs. Maximum)		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.

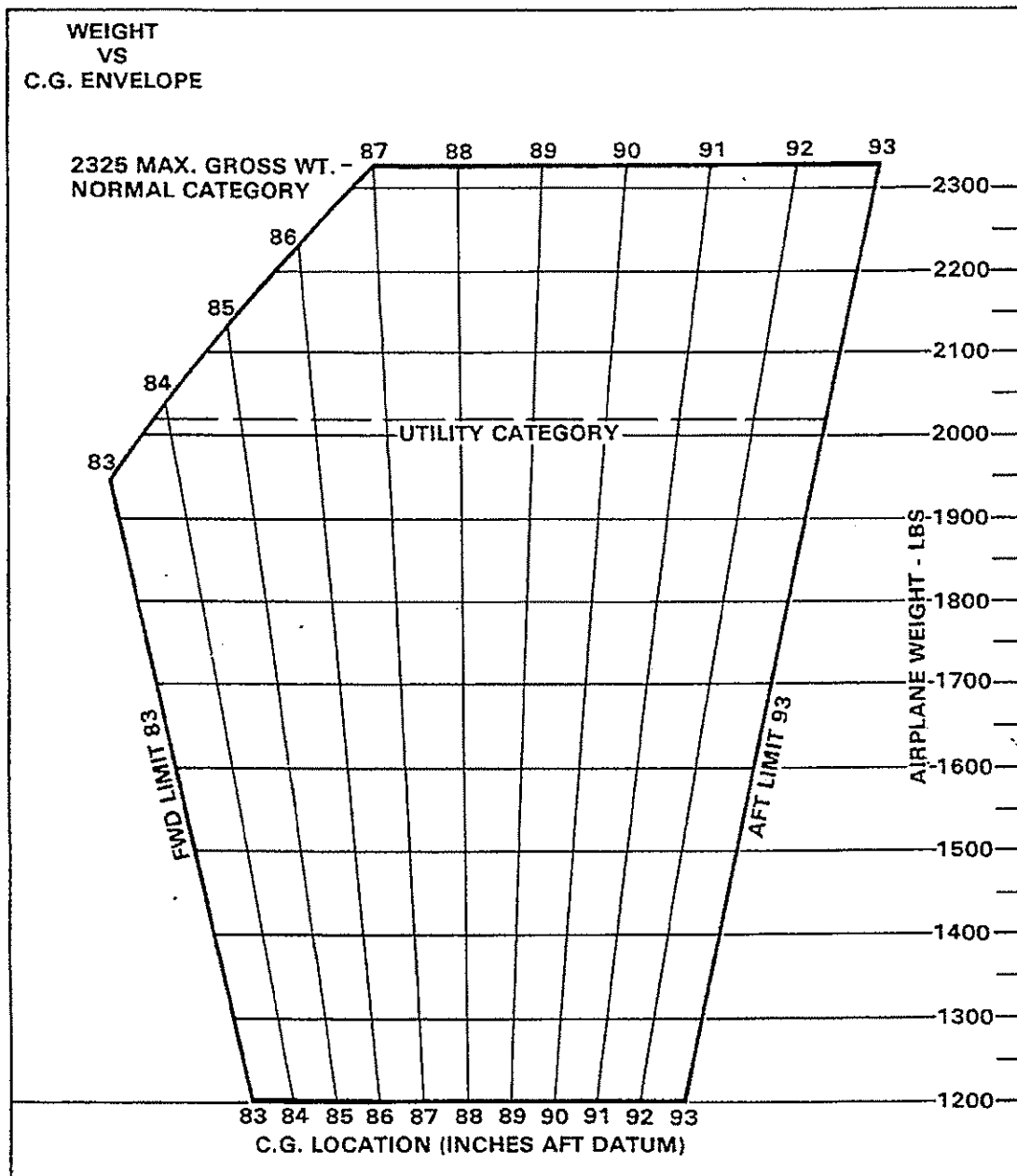
*Utility Category Operation - No baggage or aft passengers allowed.

WEIGHT AND BALANCE LOADING FORM

Figure 6-11

SECTION 6
WEIGHT AND BALANCE

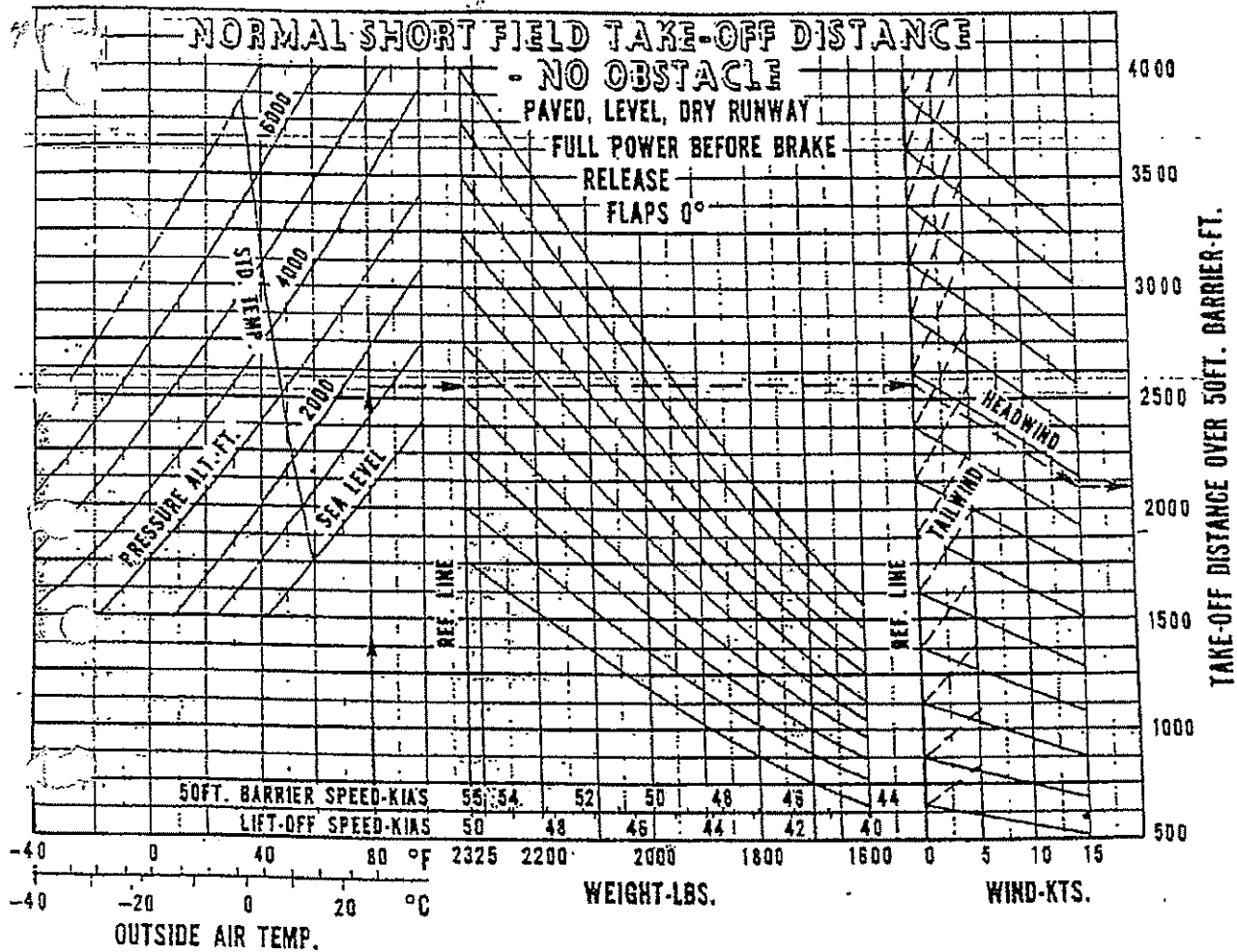
PIPER AIRCRAFT CORPORATION
PA-28-161, CHEROKEE WARRIOR II



C. G. RANGE AND WEIGHT

Figure 6-15

PA-28-161



Example:

Departure airport pressure altitude: 1500 ft.
Departure airport temperature: 80°F
Weight: 2325 lbs.
Wind: 15 KTS headwind
Distance over 50 ft. barrier: 2100 ft.
Lift-off speed: 50 KIAS
Barrier speed: 55 KIAS

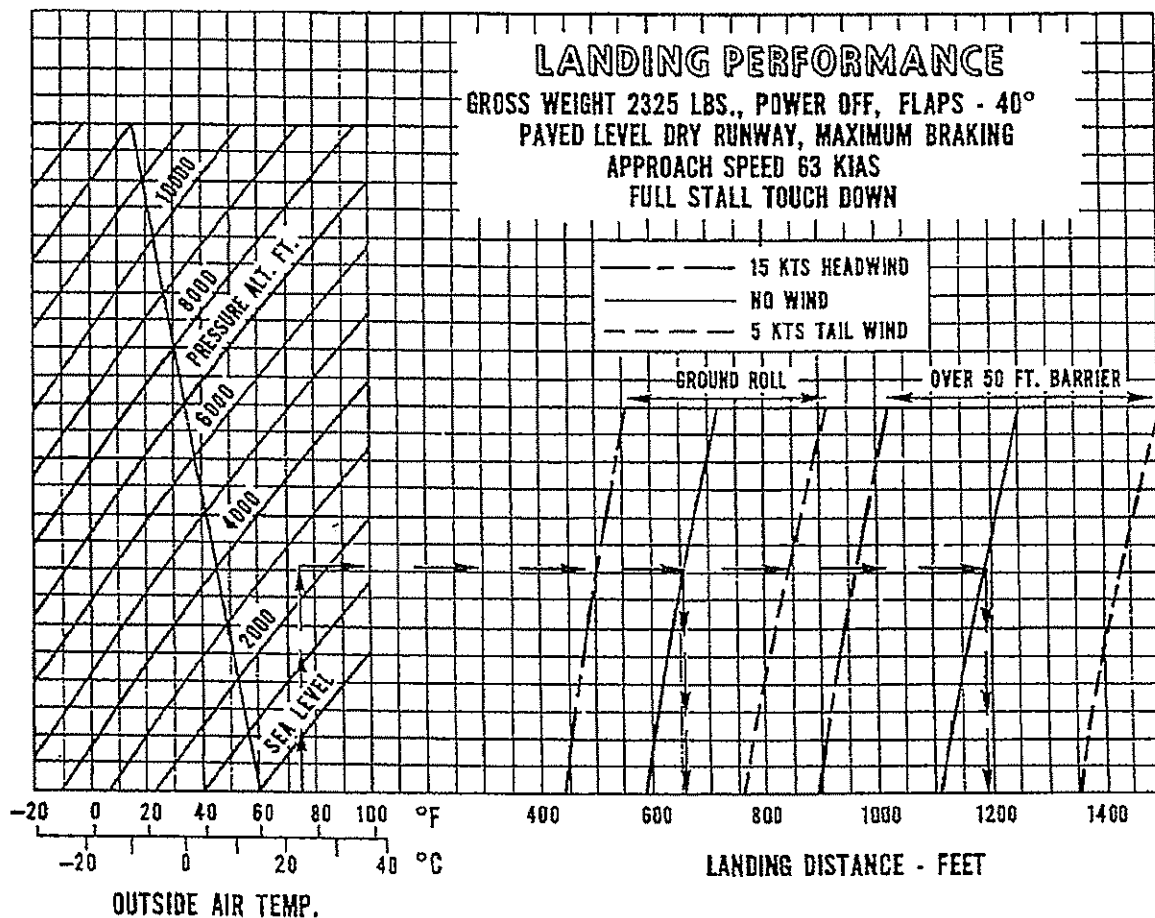
NORMAL SHORT FIELD TAKEOFF DISTANCE - NO OBSTACLE

Figure 5-6

SECTION 5
PERFORMANCE

PIPER AIRCRAFT CORPORATION
PA-28-161, CHEROKEE WARRIOR II

PA-28-161

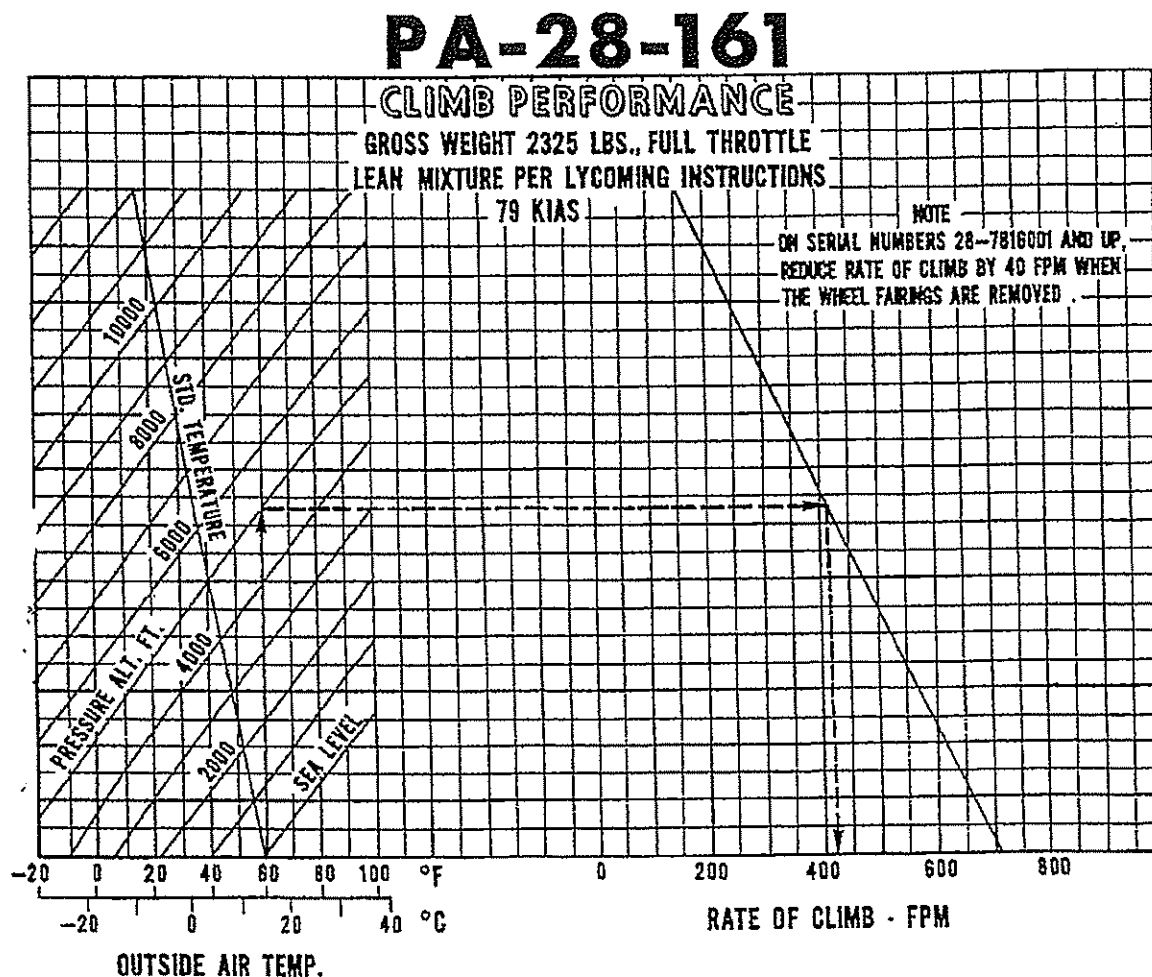


Example:

Destination airport pressure altitude: 2500 ft.
Destination airport temperature: 75°F
Destination airport wind: 0 KTS
Ground roll: 660 ft.
Distance over 50 ft. barrier: 1190 ft.

LANDING PERFORMANCE

Figure 5-29



Example:

Climb pressure altitude: 5000 ft.
Climb OAT: 60°F
Rate of climb: 420 ft/min.

CLIMB PERFORMANCE

Figure 5-11

ISSUED: DECEMBER 16, 1976
REVISED: JUNE 30, 1978

REPORT: VB-880
5-19

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

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