

# N3619R



# Fact Book

PREPARED	<b>PIPER AIRCRAFT CORP.</b> <b>DEVELOPMENT CENTER, VERO BEACH, FLA.</b>	Airplane Flight Manual Model PA-28-180
CHECKED		
APPROVED		REPORT VB-210

Piper Model PA-28-180  
Normal and Utility Categories

AIRPLANE FLIGHT MANUAL

1. Limitations Section      The following limitations must be observed in the operation of this airplane:
- Engine**      Lycoming O-360-A4A
- Engine Limits**      Maximum permissible RPM for takeoff, 2475. For all operations, 2700 rpm, 180 hp.
- Fuel**      91/96 minimum octane aviation fuel.
- Propeller**      Sensenich M76EMMS or 76EM8S5. Maximum diameter 76 inches, minimum diameter 76 inches. Static RPM at maximum permissible throttle setting. Not over 2450, not under 2275. No additional tolerance permitted.
- Power Instruments**
- Oil Temperature: GREEN arc (normal operating range)  
75° F to 245° F  
RED line (maximum) 245° F.
- Oil Pressure: GREEN arc (normal operating range)  
60 psi to 90 psi  
YELLOW arc (caution range)  
25 psi to 60 psi  
RED line (minimum) 60 psi  
RED line (maximum) 90 psi
- Fuel Pressure: GREEN arc (normal operating range)  
.5 psi to 8 psi  
RED line (minimum) .5 psi  
RED line (maximum) 8 psi
- Tachometer: GREEN arc (normal operating range)  
500 to 2700 rpm  
RED line (maximum continuous power)  
2700 rpm

Airspeed Limits	Never exceed . . . . . 171 mph Maximum structural cruise . . . . . 140 Maneuvering . . . . . 129 Flaps extended . . . . . 115 Maximum positive load factor . . . . . 3.8 Normal Category Maximum positive load factor . . . . . 4.4 Utility Category Maximum negative load factor . . . . . No inverted maneuvers approved
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Maximum Weight 2400 lbs - Normal Category; 1950 lbs - Utility Category.

Baggage Capacity 200 lbs.

C. G. Range The datum used is 78.4 inches ahead of the wing leading edge at the intersection of the straight and tapered section.

1. Normal Category

Weight (Pounds)	Forward Limit (In. Aft of Datum)	Rearward Limit (In. Aft of Datum)
2400	92.1	94.5
2200	89.2	95.9
1975	85.9	95.9
1650	84.0	95.9

2. Utility Category

Weight (Pounds)	Forward Limit (In. Aft of Datum)	Rearward Limit (In. Aft of Datum)
1950	85.8	86.5
1650	84.0	86.5

Straight line variation between points given.

NOTE: It is the responsibility of the airplane owner and the pilot to insure that the airplane is properly loaded. See weight and balance section for proper loading instructions.

Maneuvers

1. Normal Category - All acrobatic maneuvers including spins prohibited.
2. Utility Category - Approved maneuvers for Utility Category only.

	<u>Entry Speed</u>
Spins (Flaps Up) . . . . .	Stall
Steep Turns . . . . .	129 mph
Lazy Eights . . . . .	129
Chandelles . . . . .	129

Placards (Cont'd) 7. In full view of the pilot: "UTILITY CATEGORY ONLY."

Acrobatic maneuvers are limited to the following:

	<u>Entry Speed</u>
Spins (Flaps Up) . . . . .	Stall
Steep Turns . . . . .	129 mph
Lazy Eights . . . . .	129
Chandelles . . . . .	129

Airspeed  
Instrument  
Markings

RED radial line	Never Exceed	171 mph (148 knots)
YELLOW arc	Caution Range (Smooth Air Only)	140 to 171 mph (121 to 148 knots)
GREEN arc	Normal Operating Range	67 to 140 mph (58 to 121 knots)
WHITE arc	Flap Down Range	57 to 115 mph (50 to 100 knots)

Procedures  
Section

1. The stall-warning system is inoperative with the master switch off.
2. Electric fuel pump must be on for both landing and takeoff.
3. The PA-28-180 airplane is approved under FAA Regulation CAR 3 which prohibits intentional spins for normal category operation. The following information is noteworthy:
  - a. The stall characteristics of the PA-28-180 are normal with the nose pitching down moderately following the stall, occasionally with a moderate roll which can be corrected by normal use of ailerons and rudder against the roll.
  - b. Prolonged use of full rudder during stall practice may result in a rapid roll followed by a spin and should be avoided. Recovery from an incipient spin may be effected in less than one additional turn by use of opposite rudder followed by full forward control wheel.
  - c. In the event that a fully developed spin is inadvertently experienced, recovery is best made by using full opposite rudder followed by full forward wheel and full opposite aileron. The control positions against the spin should be maintained during the entire recovery, which may require several turns and a substantial loss of altitude if the airplane is loaded heavily with a rearward center of gravity.
4. Except as noted above, all operating procedures for this airplane are normal.

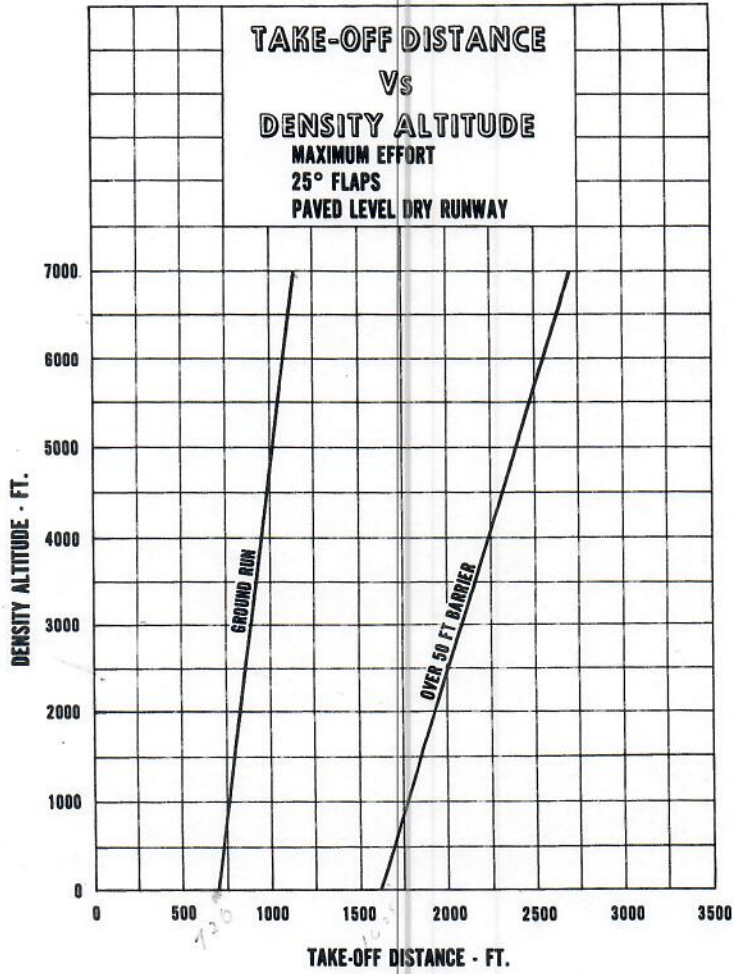
SECTION I  
SPECIFICATIONS

PERFORMANCE

Performance figures are for airplanes equipped for cross-country transportation and flown at gross weight under standard conditions at sea level or stated altitude. Any changes in equipment may result in changes in performance.

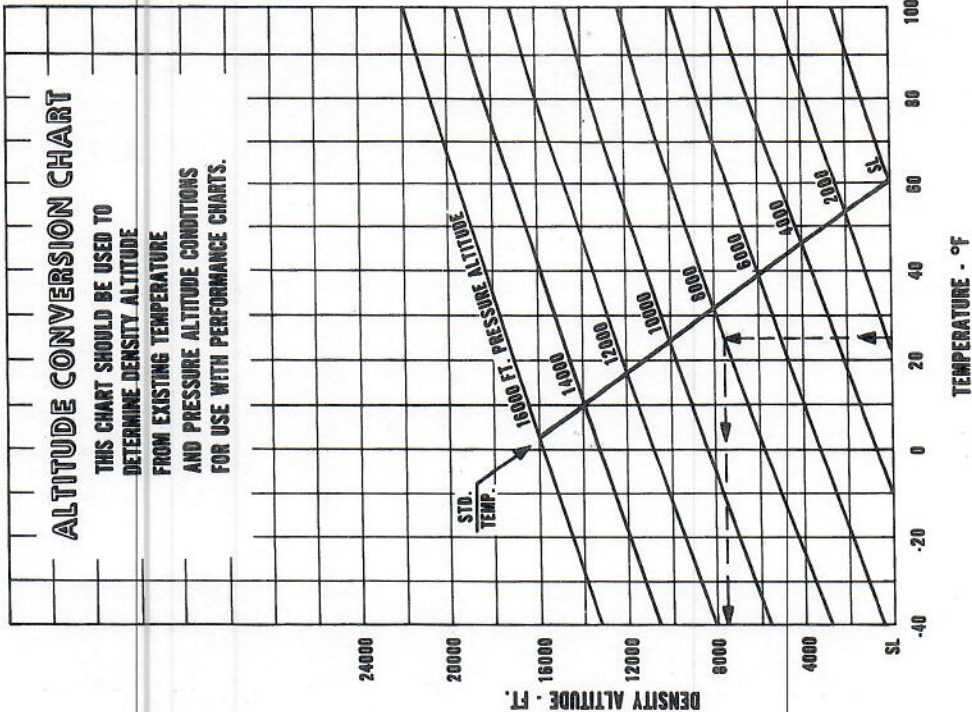
Take-off Run (maximum effort, 25° flap) (ft)	720	
Take-off over 50-ft barrier (maximum effort, 25° flap) (ft)	1625	
Best Rate of Climb Speed (mph)	85	
Rate of Climb (ft per min)	750	
Service Ceiling (ft)	13,000	
Absolute Ceiling (ft)	15,000	
Top Speed (mph)	152	
Optimum Cruising Speed (75% power, optimum altitude) (mph)	143	120 KTS
Cruising Range (75% power, optimum altitude) (mi)	725	
Optimum Cruising Range (55% power, optimum altitude) (mi)	845	
Stalling Speed (flaps down) (mph)	57	
Stalling Speed (flaps up) (mph)	67	
Landing Roll (flaps down) (ft)	600	
Landing Roll over 50-ft barrier (ft)	1150	

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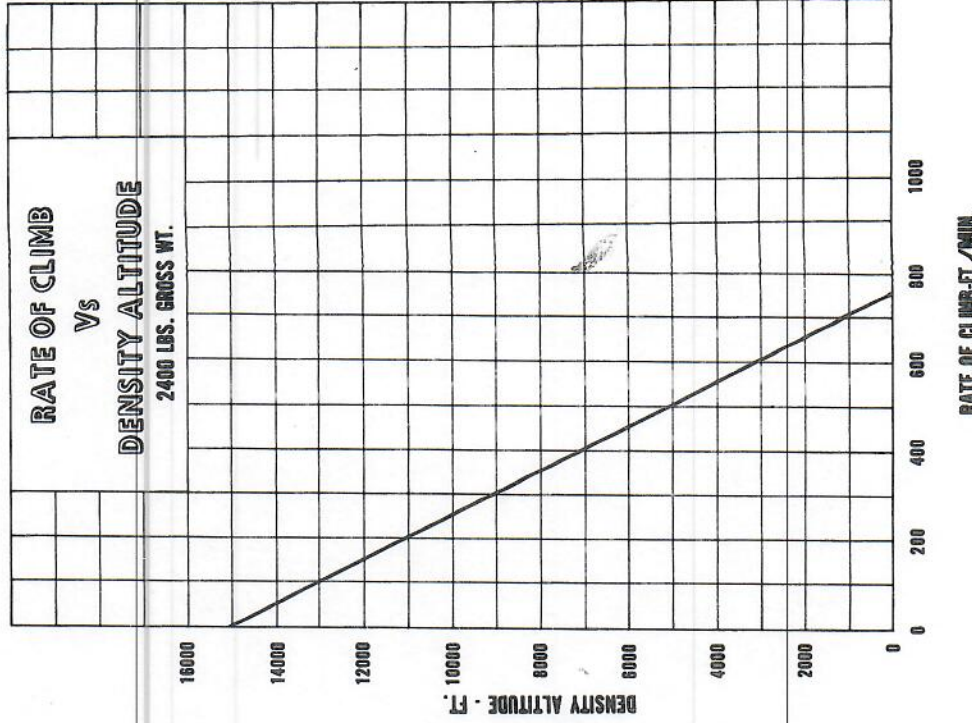
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## PIPER CHEROKEE



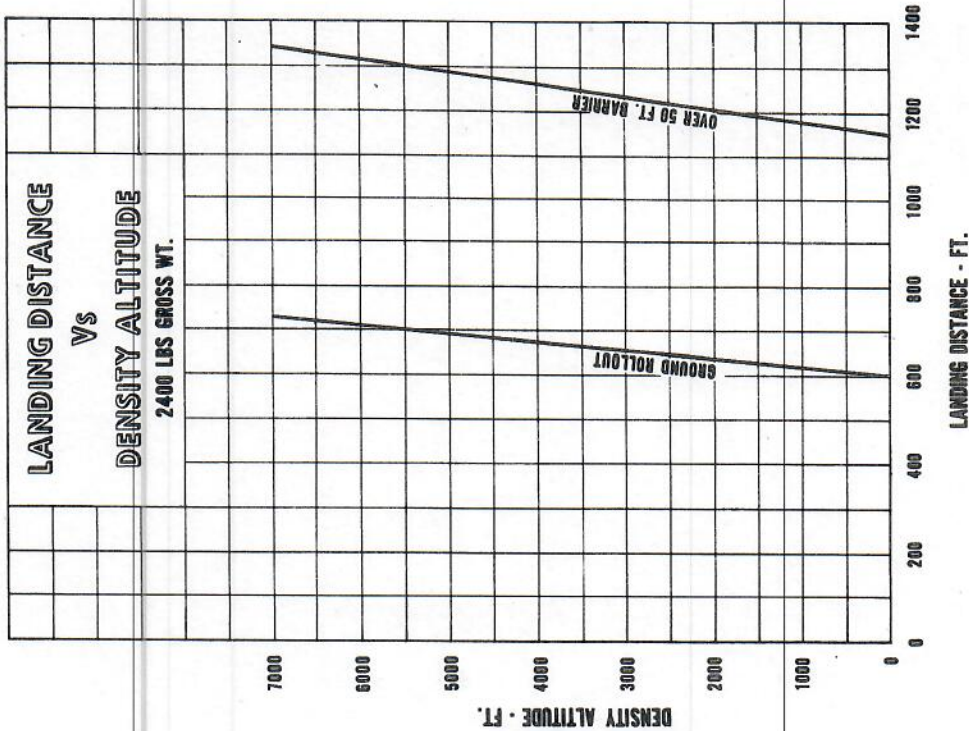
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## PIPER CHEROKEE



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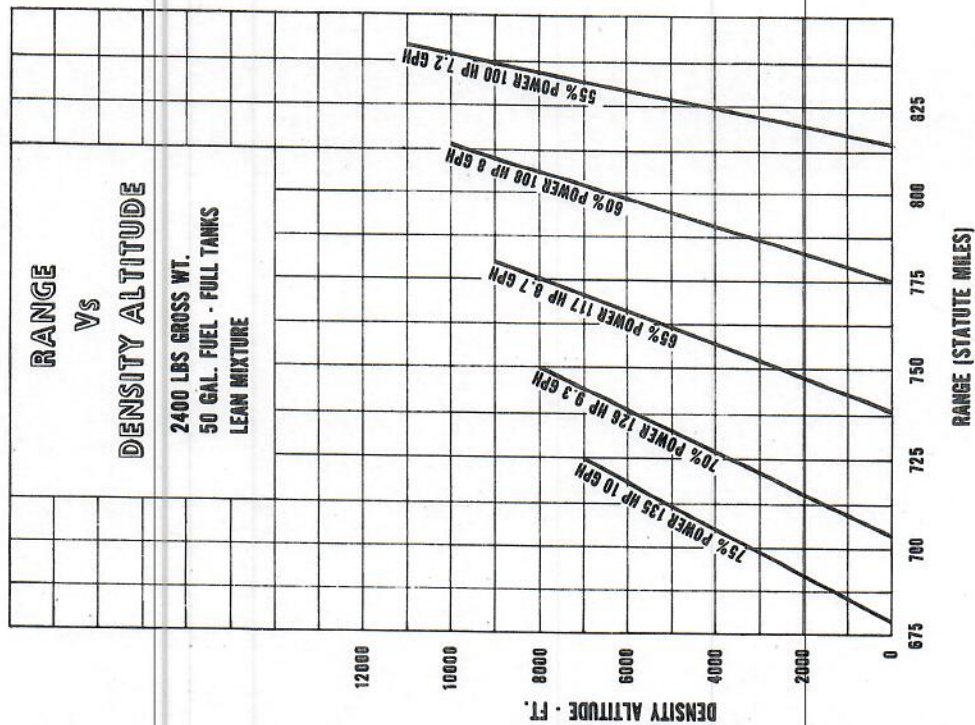
**Power Setting Table-Lycming Model 0-360 Series, 180 HP Engine**

Alt Press.	Std Alt Temp ° F	108 HP 60% Power RPM				117 HP 65% Power RPM				126 HP 70% Power RPM				135 HP 75% Power RPM				Alt Press.	
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4		
SL	59	2290	2310	2330	2350	2370	2410	2430	2440	2460	2480	2500	2520	2550	2580	2600	2640	2500	SL
1,000	55	2310	2330	2350	2370	2410	2430	2440	2460	2480	2500	2520	2550	2580	2600	2640	2500	1,000	
2,000	52	2330	2350	2370	2410	2430	2440	2460	2480	2500	2520	2550	2580	2600	2640	2500	2,000		
3,000	48	2350	2370	2410	2430	2440	2460	2480	2500	2520	2550	2580	2600	2640	2500	3,000			
4,000	45	2370	2410	2430	2440	2460	2480	2500	2520	2550	2580	2600	2640	2500	4,000	4,000			
5,000	41	2390	2430	2450	2470	2490	2510	2520	2550	2580	2600	2640	2500	5,000	5,000				
6,000	38	2410	2430	2450	2470	2490	2510	2520	2550	2580	2600	2640	2500	6,000	6,000				
7,000	34	2430	2450	2470	2490	2510	2520	2550	2580	2600	2640	2500	7,000	7,000					
8,000	31	2450	2470	2490	2510	2520	2550	2580	2600	2640	2500	8,000	8,000						
9,000	27	2470	2490	2510	2520	2550	2580	2600	2640	2500	9,000	9,000							
10,000	23	2490	2510	2520	2550	2580	2600	2640	2500	10,000	10,000								
11,000	19	2510	2520	2550	2580	2600	2640	2500	11,000	11,000									
12,000	16	2530	2550	2580	2600	2640	2500	12,000	12,000										



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