

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Airplane Flight Manual Model PA-28-180
CHECKED		
APPROVED	REPORT VB-437	PAGE <u>1</u>

AIRPLANE FLIGHT MANUAL

MODEL PA-28-180

FAA IDENTIFICATION NO. N56136

SERIAL NO. 28-7305538

THIS DOCUMENT MUST BE KEPT IN AIRPLANE AT ALL TIMES.

FAA APPROVED:

H. W. Barnhouse
H. W. Barnhouse, FAA DOA SO-1
Piper Aircraft Corporation

DATE:

May 22, 1972

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Airplane Flight Manual
CHECKED		Model PA-28-180
APPROVED		REPORT VB-437
		PAGE ~~1~~ of 9 <u>3</u>

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 with carburetor setting IO-3878
 - Engine Limits For all operations, 2700 rpm, 180 hp.
 - Fuel 100/130 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 2425, not under 2325. No additional tolerance permitted.
 - Power Instruments
 - Oil Temperature: GREEN arc (normal operating range) 75° to 245°
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

FAA APPROVED 5/22/72

REVISED

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439	PAGE <u>ii</u>

Log of Revisions

REVISION NO.	PAGE	DESCRIPTION	APPROVED	DATE
1	All	Retyped Entire Report		
	1	Rephrased Empty Weight Definition		
	10	Replaced Altimeter 99009-2, -3, -4 or -5 with PS50008-2 or -3		
	13	Replaced Turn Coordinators 99001 and 99004 and Turn and Bank 99005 with Turn and Slip PS50030-2 or -3		
		Manifold Pressure Gauge changed from 99006 to PS50031-3 or -4		
	19	Corrected King KT76/78 and King KMA-20 Weights, Arms, and Moments	<i>N. Terrant</i>	3 AUG 1972
2	4	Corrected Graph of Flight Envelope	<i>W. Moldovan</i>	21 Aug 1972
3	8	Corrected Engine, Fuel Pump, Oil Cooler and Air Filter Weights, Arms and Moments.		
	16	Corrected COMM Antenna Cable Arms and Moments.		
	16a	Added Page and Anti Static Kit	<i>N. Terrant</i>	30 NOV 1972
4	15	Added King KX-175, KN-73, KN-77 and KNI-520 Installations	<i>N. Terrant</i>	25 JAN 1973
5	15	Corrected KX-175 (2nd) Moment	<i>N. Terrant</i>	30 JAN 1973

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Airplane Flight Manual
CHECKED		Model PA-28-180
APPROVED		REPORT VB-437 2 of 9 4

Airspeed Limits	Never exceed	171 mph
	Maximum structural cruise	140
	Maneuvering	127
	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

Maximum Weight 2450 lbs - Normal Category; 1950 lbs - Utility Category.

Baggage Capacity 200 lbs.

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

1. Normal Category

<u>Weight</u> <u>(Pounds)</u>	<u>Forward Limit</u> <u>(In. Aft of Datum)</u>	<u>Rearward Limit</u> <u>(In. Aft of Datum)</u>
2450	87.4	93.0
2050	82.0	93.0

2. Utility Category

<u>Weight</u> <u>(Pounds)</u>	<u>Forward Limit</u> <u>(In. Aft of Datum)</u>	<u>Rearward Limit</u> <u>(In. Aft of Datum)</u>
1950	82.0	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>
Steep Turns	127 mph
Lazy Eights	127
Chandelles	127

FAA APPROVED 5/22/72

REVISED

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Airplane Flight Manual Model PA-28-180
CHECKED		
APPROVED	REPORT VB-437	3 of 9

Placards

1. In Full View of the Pilot:

"THIS AIRPLANE MUST BE OPERATED AS A NORMAL OR UTILITY CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND MANUALS.

ALL MARKINGS AND PLACARDS ON THIS AIRPLANE APPLY TO ITS OPERATION AS A UTILITY CATEGORY AIRPLANE. FOR NORMAL AND UTILITY CATEGORY OPERATIONS, REFER TO THE AIRPLANE FLIGHT MANUAL.

NO ACROBATIC MANEUVERS ARE APPROVED FOR NORMAL CATEGORY OPERATIONS. SPINS ARE PROHIBITED FOR BOTH NORMAL AND UTILITY CATEGORIES."

2. In full view of the pilot, the following takeoff and landing checklists will be installed:

TAKEOFF CHECKLIST

Fuel on proper tank	Mixture set	Fasten belts/harness
Electric fuel pump on	Seat backs erect	Trim tab - set
Engine gauges checked		Controls - free
Flaps - set		Door - latched
Carb heat off		Air Conditioner - off

LANDING CHECKLIST

Fuel on proper tank		Flaps - set (115 mph)
Mixture rich	Seat backs erect	Fasten belts/harness
Electric fuel pump on		Air Conditioner - off

The "AIR COND OFF" item in the above takeoff and landing checklists is mandatory for air conditioned aircraft only.

3. In full view of the pilot, in the area of the air conditioner control panel when the air conditioner is installed:

"WARNING - AIR CONDITIONER MUST BE OFF TO INSURE NORMAL TAKEOFF CLIMB PERFORMANCE."

4. Adjacent to upper door latch: "ENGAGE LATCH BEFORE FLIGHT."

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Airplane Flight Manual Model PA-28-180
CHECKED		
APPROVED		REPORT VB-437

PAGE 4 of 9 **b**

Placards
(cont'd)

5. On inside of the baggage compartment door:
 "BAGGAGE MAXIMUM 200 LBS. "
 "UTILITY CATEGORY OPERATION - NO BAGGAGE OR AFT PAS-
 SENGERS ALLOWED. NORMAL CATEGORY OPERATION - SEE
 AIRPLANE FLIGHT MANUAL WEIGHT AND BALANCE SECTION
 FOR BAGGAGE AND AFT PASSENGER LIMITATIONS. "
6. In full view of the pilot:
 "ROUGH AIR OR MANEUVERING SPEED - 127 MPH. "
 "UTILITY CATEGORY OPERATION - NO AFT PASSENGERS
 ALLOWED. "
7. On the instrument panel in full view of the pilot when the oil cooler
 winterization kit is installed:
 "OIL COOLER WINTERIZATION PLATE TO BE REMOVED WHEN
 AMBIENT TEMPERATURE EXCEEDS 50°F. "
8. On the instrument panel in full view of the pilot when the autoflite
 is installed:
 "FOR HEADING CHANGES: PRESS DISENGAGE SWITCH ON
 CONTROL WHEEL. CHANGE HEADING, RELEASE DISENGAGE
 SWITCH. "
9. In full view of the pilot: "Utility Category Only. "

Acrobatic maneuvers are limited to the following:

	Entry Speed
Steep Turns	127 mph
Lazy Eights	127
Chandelles	127

FAA APPROVED 5/22/72

REVISED

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Airplane Flight Manual Model PA-28-180
CHECKED		
APPROVED		
REPORT VB-437		PAGE 5 of 9 7

Placards
(cont'd)

10. On the instrument panel in full view of the pilot when the AutoFlite II is installed:

"TURN AUTOFLITE ON. ADJUST TRIM KNOB FOR MINIMUM HEADING CHANGE. FOR HEADING CHANGE, PRESS DISENGAGE SWITCH ON CONTROL WHEEL, CHANGE HEADING, RELEASE SWITCH. ROTATE TURN KNOB FOR TURN COMMANDS. PUSH TURN KNOB IN TO ENGAGE TRACKER. PUSH TRIM KNOB IN FOR HI SENSITIVITY. LIMITATIONS: AUTOFLITE OFF FOR TAKEOFF AND LANDING."

11. On the instrument panel in full view of the pilot when the supplementary white strobe lights are installed:

"WARNING - TURN OFF STROBE LIGHTS WHEN TAXIING IN VICINITY OF OTHER AIRCRAFT, OR DURING FLIGHT THROUGH CLOUD, FOG OR HAZE."

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	68 to 140 mph (59 to 121 knots)
WHITE arc	Flap Down Range	61 to 115 mph (53 to 100 knots)

Air Conditioned
Airplanes.

Air Conditioner must be off for takeoff and landing.

2. Procedures Section

- The stall-warning system is inoperative with the master switch off.
- Electric fuel pump must be on for both landing and takeoff.
- The PA-28-180 airplane is approved under FAA Regulation CAR 3 which prohibits intentional spins for both normal and utility category operation. The following information is noteworthy:
 - 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.

FAA APPROVED 5/22/72

REVISED

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Airplane Flight Manual Model PA-28-180
CHECKED		
APPROVED	REPORT VB-437	PAGE 6 of 8

Procedures
Section
(cont'd)

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.

5. (Electric Pitch Trim Installation Only with Pitch Trim Switch)

The following emergency information applies in case of electric pitch trim malfunction:

a. In case of malfunction, disengage electric pitch trim by pushing pitch trim switch on instrument panel to OFF position.

b. In an emergency, electric pitch trim may be overpowered using manual pitch trim.

c. In cruise configuration, malfunction results in 10° pitch change and 200 ft. altitude variation.

d. In approach configuration, a malfunction can result in a 5° pitch change and 50 ft. altitude loss.

6. (Autoflite Installation Only)

The following emergency information applies in case of autoflite malfunction:

a. In case of malfunction PRESS disconnect switch on pilot's control wheel.

b. Rocker switch on instrument panel - OFF.

c. Unit may be overpowered manually.

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Airplane Flight Manual
CHECKED		Model PA-28-180
APPROVED	REPORT VB-437	PAGE 7 of 9

Procedures
Section
(cont'd)

- d. In climb, cruise or descending flight an autopilot runaway, with a 3 second delay could result in a 50° bank, and 190 ft. altitude loss.
 - e. In approach configuration an autopilot runaway, with a 1 second delay could result in a 15° bank and 40 ft. altitude loss.
7. (AutoControl III Installation Only)
- I. Limitations: Autopilot off during takeoff and landing.
Autopilot use prohibited above 160 mph CAS.
 - II. Procedures:
 - a. Normal Operation

Refer to Manufacturer's Operation Manual
 - b. Emergency
 1. In case of malfunction, turn off autopilot.
 2. In emergency, autopilot may be overpowered manually.
 3. In climb, cruise or descending flight an autopilot runaway, with a 3 second delay could result in 60° bank and 100 ft. altitude loss.
 4. In approach configuration an autopilot runaway, with a 1 second delay could result in 10° bank and 10 ft. altitude loss.
8. (AutoFlite II Installation Only)
- I. Limitations: AutoFlite off for takeoff and landing.
AutoFlite use prohibited above 160 mph CAS.
 - II. Procedures:
 - a. Normal Operation - Refer to Manufacturer's Operation Manual.
 - b. Emergency
 1. In case of malfunction PRESS disconnect switch on pilot's control wheel.
 2. Rocker switch on instrument panel - OFF.

FAA APPROVED 5/22/72

REVISED 9/1/72

PREPARED	PTPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Airplane Flight Manual Model PA-28-180
CHECKED		
APPROVED	REPORT VB-437	PAGE 8 of 10

Procedures

Section

(cont'd)

3. Autopilot may be overpowered manually.
4. In climb, cruise or descending flight an autopilot runaway, with a 3 second delay could result in 60° bank, and 190 ft. altitude loss.
5. In approach configuration an autopilot runaway, with a 1 second delay results in 15° bank and 40 ft. altitude loss.

9. (Air Conditioned Models Only)

Prior to takeoff, the air conditioner should be checked for proper operation as follows:

- a. Check aircraft master switch on
- b. (For aircraft serial numbers 7205092 through 7305071). Turn the air conditioner control switch to "AIR COND" - the "AIR COND DOOR OPEN" warning light will turn on, thereby indicating proper air conditioner condenser door actuation.

(For aircraft serial numbers 7305072 and up). Turn the air conditioner control switch to "ON" and the fan switch to one of the operating positions - the "AIR COND DOOR OPEN" warning light will turn on, thereby indicating proper air conditioner condenser door actuation.

- c. Turn the air conditioner control switch to OFF - the "AIR COND DOOR OPEN" warning light will go out, thereby indicating the air conditioner condenser door is in the up position.
- d. If the "AIR COND DOOR OPEN" light does not respond as specified above, an air conditioner system or indicator bulb malfunction is indicated and further investigation should be conducted prior to flight.

The above operational check may be performed during flight if an inflight failure is suspected.

10. Air Conditioned Models only: Warning - The air conditioner must be off to insure normal takeoff performance.

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Airplane Flight Manual Model PA-28-180
CHECKED		
APPROVED	REPORT VB-437	PAGE 9 of 9

3. Performance Section

The following performance figures were obtained during FAA type tests and may be realized under conditions indicated with the airplane and engine in good condition and with average piloting technique. All performance is given for 2450 pounds.

Loss of altitude during stalls varied from 100 to 250 feet, depending on configuration and power.

Stalling speeds, in mph, power off, versus angle of bank (Calibrated Airspeed):

Angle of Bank	0	20	40	50	60
Flaps Up	68	70	78	85	95
Flaps Down	61	--	--	--	--

Air Conditioned Models only:

When the full throttle position is not used or in the event of a malfunction which causes the compressor to operate and the condenser door to remain extended, a decrease in rate of climb of as much as 100 fpm can be expected at all altitudes.

FAA APPROVED 5/22/72

REVISED 3/20/73

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED		PAGE ~~111~~ 12

REPORT VB-439

WEIGHT & BALANCE DATA

AND

EQUIPMENT LIST

MODEL PA-28-180

DATE May 17, 1972

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439	PAGE 1 Section 1

WEIGHT AND BALANCE DATA

MODEL PA-28-180 CHEROKEE

Airplane Serial Number 28-7305538

Registration Number N56136

Date 7/2/73

*SUPERSEDED
3/12/75
R.R.*

AIRPLANE EMPTY WEIGHT

Item		Weight (lbs)	C. G. Arm (Inches Aft of Datum)	Moment (In-Lbs)
*Empty Weight	~~Actual~~ Computed	1385.0	85.6	118633
Unusable Fuel (13-1/3 pints)		10.0	103.0	1030
Standard Empty Weight		1395.0	85.8	119663
Optional Equipment		60.1	103.5	6219
-Licensed Empty Weight-		1455.1	86.5	125882

*Empty weight is defined as dry empty weight (including paint and hydraulic fluid) plus 1.8 lbs. undrainable engine oil

AIRPLANE USEFUL LOAD

(Gross Weight) - (Licensed Empty Weight) = Useful Load

Normal Category: (2450 lbs) - (1455.1 lbs) = 994.9 lbs.

Utility Category: (1950 lbs) - (1455.1 lbs) = 494.9 lbs.

THIS LICENSED EMPTY WEIGHT, C. G. AND USEFUL LOAD FOR THE AIRPLANE AS DELIVERED FROM THE FACTORY. REFER TO APPROPRIATE AIRCRAFT RECORD WHEN ALTERATIONS HAVE BEEN MADE.

Rosalie C. C. C.
Inspection Representative

*

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439	PAGE 2 Section 1

C. G. RANGE AND WEIGHT INSTRUCTIONS

1. Add the weight of all items to be loaded to the licensed empty weight.
2. Use the loading graph to determine the moment of all items to be carried in the airplane.
3. Add the moment of all items to be loaded to the licensed empty weight moment.
4. Divide the total moment by the total weight to determine the C. G. location.
5. By using the figures of Item 1 and Item 4, locate a point on the C. G. range and weight graph. If the point falls within the C. G. envelope, the loading meets the weight and balance requirements.

SAMPLE LOADING PROBLEM (Normal Category)

TC. 9-23-91

	Weight (lbs)	Arm Aft Datum (Inches)	Moment (In - lbs)
Licensed Empty Weight ✓	1481.93	86.02	127470.85
Oil (8 quarts)	15	27.5	413
Pilot and Front Passenger	340	80.5	27370
Passengers, Aft* (Rear Seat)	340	118.1	40154
Fuel (50 Gal. Maximum)		95.0	
Baggage *		142.8	
Total Loaded Airplane			

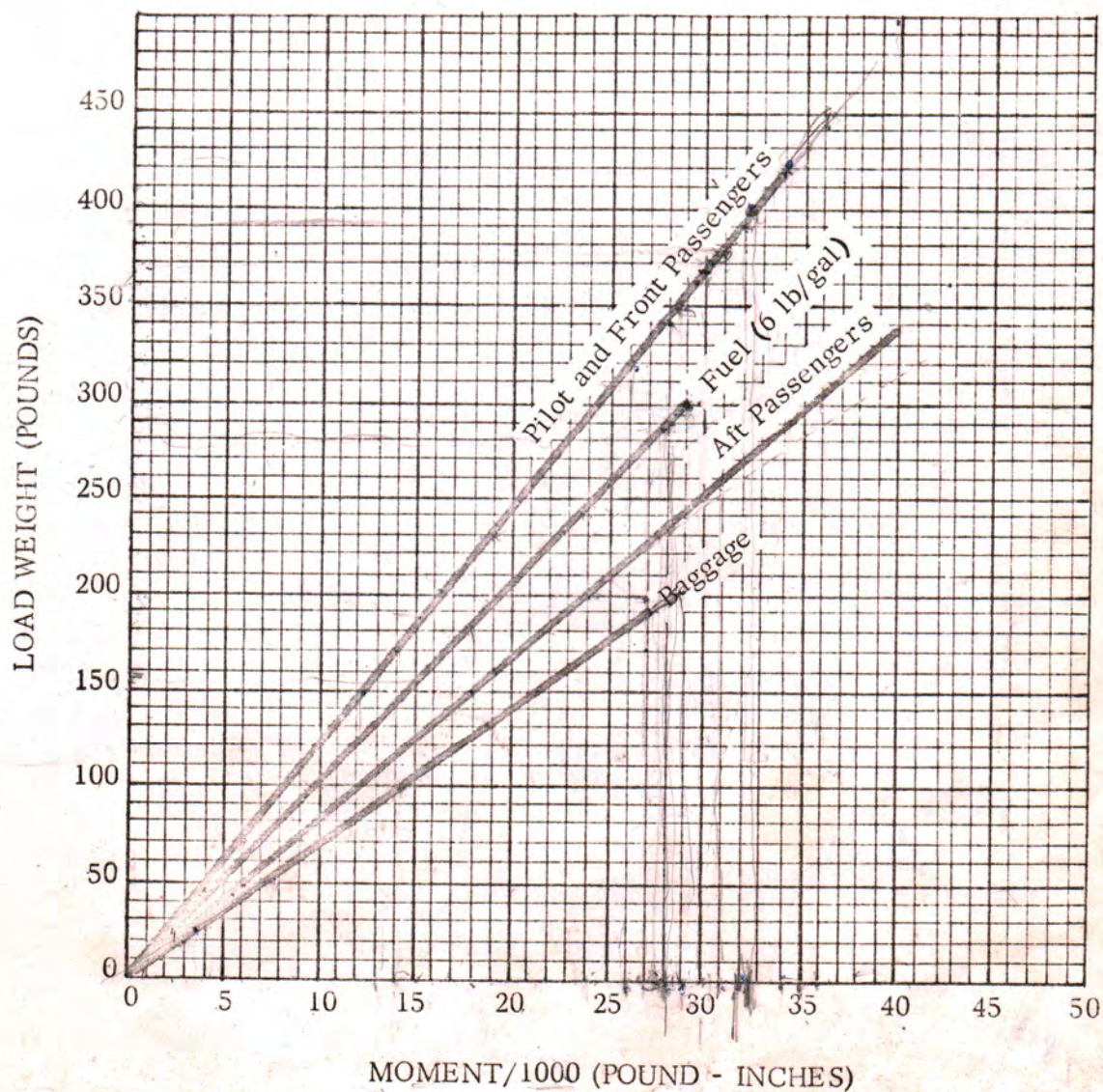
The center of gravity (C. G.) of this sample loading is at 90.7 inches aft of the datum line. Locate this point (90.7) on the C. G. range and weight graph. Since this point falls within the weight - C. G. envelope, this loading meets the weight and balance requirements.

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

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

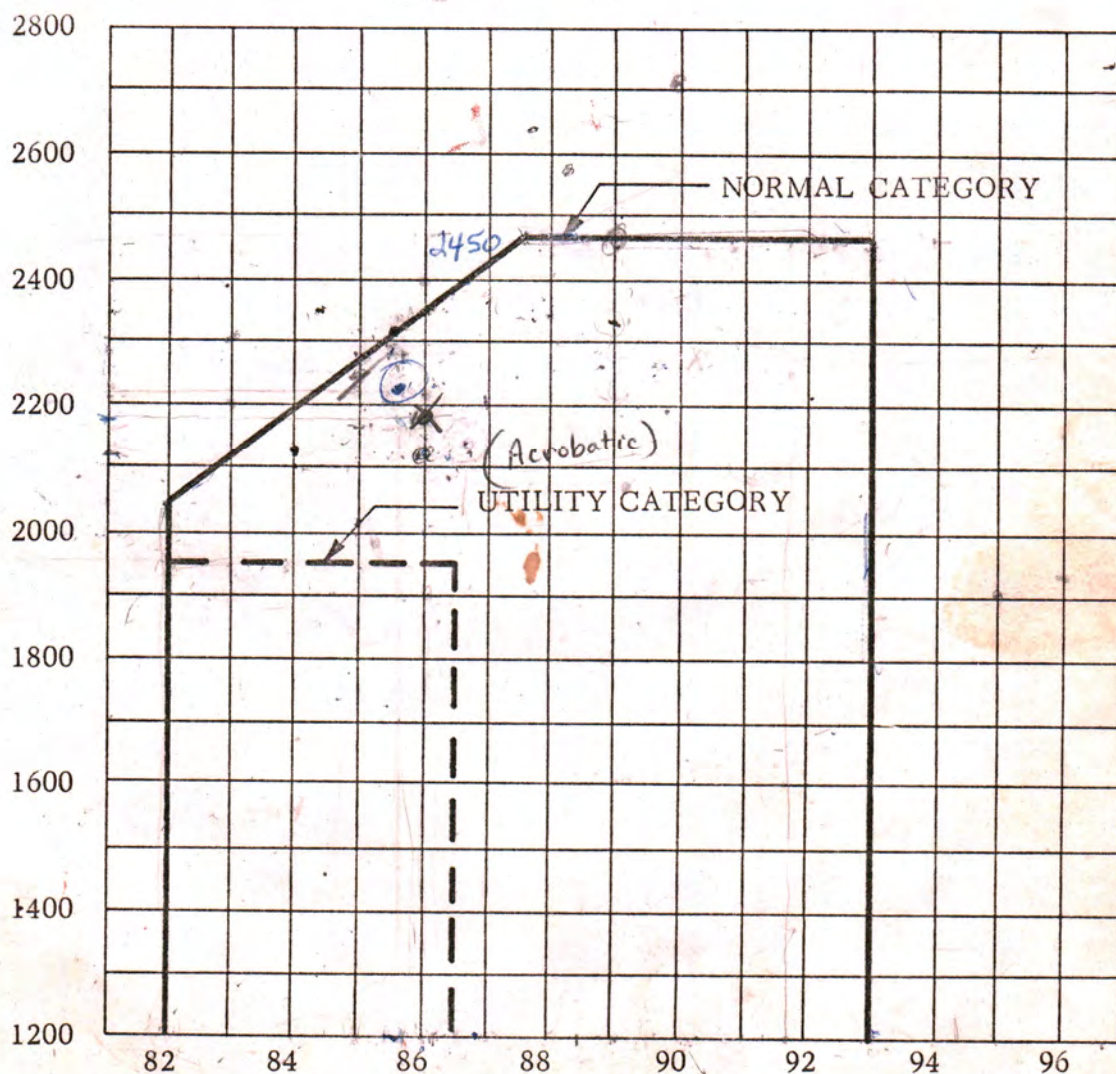
PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data
CHECKED		Model PA-28-180
APPROVED		REPORT VB-439 PAGE 3 Section 1

LOADING GRAPH



PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data
CHECKED		Model PA-28-180
APPROVED	REPORT VB-439	PAGE 4 Section I

C.G. RANGE AND WEIGHT



PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439	PAGE 5 Section 1

WEIGHT AND BALANCE DATA

WEIGHING PROCEDURE

At the time of delivery, Piper Aircraft Corporation provides each airplane with the licensed empty weight and center of gravity location. This data is on Page 1, Section 1 of this report.

The removal or addition of an excessive amount of equipment or excessive airplane modifications can affect the licensed empty weight and empty weight center of gravity. The following is a weighing procedure to determine this licensed empty weight and center of gravity location:

1. PREPARATION

- a. Be certain that all items checked in the airplane equipment list are installed in the proper location in the airplane.
- b. Remove excessive dirt, grease, moisture, foreign items such as rags and tools from the airplane before weighing.
- c. Defuel airplane. Then open all fuel drains until all remaining fuel is drained. Operate engine on each tank until all undrainable fuel is used and engine stops.
- d. Drain all oil from the engine, by means of the oil drain, with the airplane in ground attitude. This will leave the undrainable oil still in the system. Engine oil temperature should be in the normal operating range before draining.
- e. Place pilot and co-pilot seats in fourth (4th) notch, aft of forward position. Put flaps in the fully retracted position and all control surfaces in the neutral position. Tow bar should be in the proper location and all entrance and baggage doors closed.
- f. Weigh the airplane inside a closed building to prevent errors in scale readings due to the wind.

2. LEVELING

- a. With airplane on scales, block main gear oleo pistons in the fully extended position.
- b. Level airplane (see diagram) by deflating nose wheel tire, to center bubble on level.

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data
CHECKED		Model PA-28-180
APPROVED	REPORT VB-439	PAGE <u>6</u> Section <u>I</u>

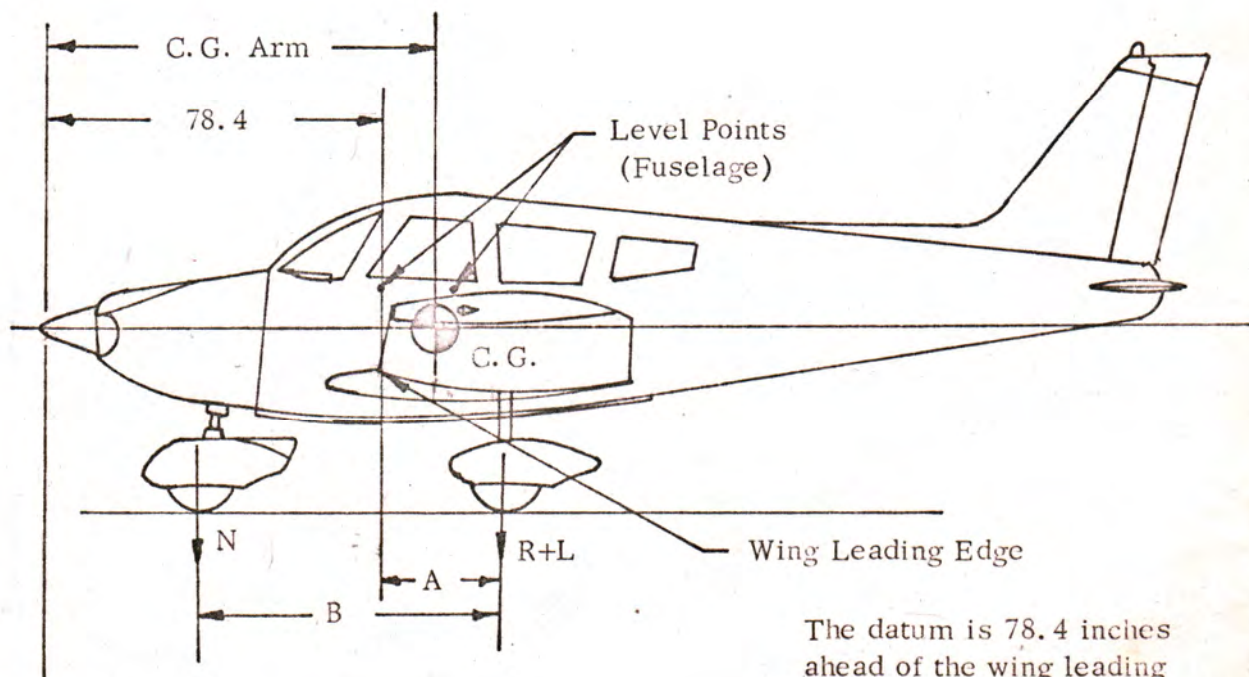
3. WEIGHING - AIRPLANE EMPTY WEIGHT

- a. With the airplane level and brakes released, record the weight shown on each scale. Deduct the tare, if any, from each reading.

Scale Position and Symbol	Scale Reading	Tare	Net Weight
Nose Wheel (N)			
Right Main Wheel (R)			
Left Main Wheel (L)			
Airplane Empty Weight, as Weighed (T)			

4. EMPTY WEIGHT CENTER OF GRAVITY

- a. The following geometry applies to the PA-28-180 airplane when airplane is level (See Item 2).



A =

B =

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

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439	PAGE 7 Section 1

- b. Obtain measurement "A" by measuring from a plumb bob dropped from one wing leading edge, at the intersection of the straight and tapered section, horizontally and parallel to the airplane centerline, to the main wheel centerline.
- c. Obtain measurement "B" by measuring the distance from the main wheel centerline, horizontally and parallel to the airplane centerline, to each side of nose wheel axle. Then average the measurements.
- d. The empty weight center of gravity (as weighed including optional equipment and undrainable oil) can be determined by the following formula:

$$C. G. Arm = 78.4 + A - \frac{B(N)}{T}$$

$$C. G. Arm = 78.4 + (\quad) - \frac{(\quad) (\quad)}{(\quad)} = \quad \text{inches}$$

5. LICENSED EMPTY WEIGHT AND EMPTY WEIGHT CENTER OF GRAVITY

	Weight	Arm	Moment
Empty Weight (as weighed)			
Unusable Fuel (13-1/3 pints)	+10.0	103.0	+1030
Licensed Empty Weight			

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 STANDARD EQUIPMENT LIST	PAGE 8 Section 1

WEIGHT AND BALANCE
STANDARD EQUIPMENT LIST
MODEL PA-28-180

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	<u>Engine Accessories</u>			
<u>X</u>	Engine - Lycoming Model 0-360-A4A	288.9	21.1	6096
<u>X</u>	Fuel Pump, Electric Auxiliary, Bendix Model 478360	1.8	36.8	66
<u>X</u>	Fuel Pump, Engine Driven, Lycoming Dwg. No. 73297, 74082, 75148 or 75246	1.7	36.3	62
<u>X</u>	Oil Cooler, Piper Dwg., Harrision #C-8526250	1.9	41.3	78
<u>X</u>	Air Filter, Fram Model CA-161 PL or Purolator AFP-2	.9	29.5	27
<u>X</u>	Alternator, 60 Amp., Chrysler No. 2642997	12.5	14.0	175
<u>X</u>	Starter-Lycoming 76211 (Prestolite MZ4206)*	18.0	14.5	261
	<u>Propeller and Propeller Accessories</u>			
<u>X</u>	Propeller, Sensenich 76EM8S5-0-60	38.5	3.8	146
<u>X</u>	Spinner and Attachment Plates	4.3	3.0	13

* Included in Engine Weight.

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 STANDARD EQUIPMENT LIST	PAGE 9 Section 1

Check if Installed	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
	<u>Landing Gear and Brakes</u>			
<u>X</u>	Two Main Wheel Assemblies	32.3	109.6	3540
	(a) Cleveland Aircraft Products Wheel Assembly No. 40-86 Brake Assembly No. 30-55			
	(b) Two Main 4-Ply Rating Tires 6.00-6 with Regular Tubes			
<u>X</u>	One Nose Wheel 6.00-6	12.8	29.8	381
	(a) Cleveland Aircraft Products Wheel Assembly No. 40-76B (Less Brake Drum)			
	(b) One Nose Wheel 4-Ply Rating Tire 6.00-6 with Regular Tube			
	<u>Electrical Equipment</u>			
<u>X</u>	Stall Warning Device, Safe Flight Instrument Corporation No. C52207-4	.2	80.2	16
<u>X</u>	Voltage Regulator, Wico Electric #X-16300B	.5	51.9	26
	Battery 12V, 25A. H., Rebat Model S-25	21.5	168.0	3612
<u>X</u>	Overvoltage Relay, Wico Electric No. X16799	.5	55.4	28

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 STANDARD EQUIPMENT LIST	PAGE 10 Section 1

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	<u>Instrument</u>			
<u>X</u>	Compass - Piper Dwg. 67462	.9	59.9	54
	Airspeed Indicator, Piper Dwg. 63205-2	.6	61.8	37
<u>X</u>	Tachometer, Piper Dwg. 62177-3	.7	61.2	43
<u>X</u>	Altimeter, Piper PS50008-2 or -3	1.0	60.9	61
<u>X</u>	Engine Cluster, Piper Dwg. 95241-4	.8	62.4	50
<u>X</u>	Engine Cluster, Piper Dwg. 95241-2	.8	62.4	50
	<u>Miscellaneous</u>			
<u>X</u>	Forward Seat Belts (2) .75 lbs. each	1.5	81.9	123
<u>X</u>	Inertia Safety Belts (2) 0.9 lbs. each	1.8	119.6	215
<u>X</u>	Rear Seat Belts (2) .70 lbs. each	1.4	123.0	172
<u>X</u>	Rear Seats (2)	22.8	124.2	2832
<u>X</u>	Flight Manual	---	---	---
<u>X</u>	Tow Bar	1.3	161.8	210
<u>X</u>	Nose Wheel Fairing - Piper Dwg. 65348	3.8	29.8	113
<u>X</u>	Main Wheel Fairings - Piper Dwg. 65237	7.0	109.6	767

THE ABOVE ITEMS ARE INCLUDED IN THE AIRPLANE STANDARD EMPTY WEIGHT.

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE 11 Section 1

OPTIONAL EQUIPMENT LIST
MODEL PA-28-180

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	<u>Engine Accessories</u>			
<u>X</u>	Vacuum Pump, Airborne Mfg. Co. Model No. 10-113A1, 113A5, or 200cc and Drive	5.0	32.0	160
<u>X</u>	Oil Filter - Lycoming No. 75528 (AC #OF5578770)	3.3	35.5	117
<u>X</u>	Vacuum Regulator	.7	52.0	36
<u>X</u>	Vacuum Filter	.3	52.0	16
	<u>Electrical Equipment</u>			
<u>X</u>	Rotating Beacon, Grimes #40-0101-15-12	1.5	263.4	395
<u>X</u>	Landing Light, G.E. Model 4509	.5	13.1	7
<u>X</u>	Navigation Lights (2) Grimes Model A1285 (Red and Green)	.4	106.6	43
<u>X</u>	Navigation Light (Rear) (1) Grimes Model 2064 (White)	.2	281.0	56
<u>X</u>	Battery 12V, 35 A.H. Rebat R-35 (Weight 27.0 lbs.)	5.5	* 168.0	924

*Weight and moment difference between standard and optional equipment.

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE 12 Section 1

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	<u>Electrical Equipment (continued)</u>			
<u>X</u>	Cabin Light	.3	99.0	30
<u>X</u>	Cabin Speaker	.8	99.0	79
<u>X</u>	Auxiliary Power Receptacle, Piper Dwg. 65647	2.7	178.5	482
<u>X</u>	External Power Cable 62355-2	4.6	142.8	657
<u>X</u>	Piper Pitch Trim	4.3	155.3	668
<u>X</u>	Heated Pitot Head	.4	100.0	40
	Red Strobe Light, Whelen Engineering Co.			
	Power Supply, Whelen Model HS	2.3	198.0	455
	Light (Fin Tip)	.4	263.4	105
	Cable	.4	230.7	92
	Red/White Strobe Light, Whelen Engineering Co.			
	Power Supply, Whelen Model HD, T3	3.0	198.0	594
	Light (Fin Tip)	.4	263.4	105
	Cable	.4	230.7	92
	Lights (Wing Tip) (2)	.3	106.6	32
	Cables	2.0	115.6	231

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Date
CHECKED		Model PA-28-180
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE 13 Section I

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	<u>Instruments</u>			
<u>X</u>	Suction Gauge, Piper Dwg. 99480-0 or -2	.5	62.2	31
<u>X</u>	Vertical Speed, Piper Dwg. 99010-2, -4 or -5	1.0	60.9	61
<u>X</u>	Attitude Gyro, Piper Dwg. 99002-2, -3, -4 or 05	2.2	59.4	131
<u>X</u>	Directional Gyro, Piper Dwg. 99003-2, -3 -4, or -5	2.6	59.7	155
<u>X</u>	Air Temperature Gauge, Piper Dwg. 99479 -0 or -2	.2	72.6	15
<u>X</u>	Clock Piper Dwg. 99478	.4	62.4	25
<u>X</u>	Tru-Speed Indicator, Piper Dwg. 62143-2 or -13	(Same as Standard Equipment Weight)		
<u>X</u>	Turn and Slip Indicator, Piper PS50030-2 or -3	2.6	59.7	155
	Manifold Pressure Gauge, Piper PS50031-3 or -4	.9	60.8	55
	Exhaust Gas Temperature, Piper Dwg. 99026	.7	55.4	39

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE 14 Section 1

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	<u>AutoPilots</u>			
☐	Autocontrol III			
☐	Roll Servo, #1C363-1-183R	2.5	122.2	306
☐	Console, #1C338	1.2	60.1	72
☐	Cables	.7	95.5	67
☐	Attitude Gyro, #52D66	2.3	59.4	137
☐	Directional Gyro, #52D54	3.2	59.0	189
☐	Omni Coupler, #1C388	.9	59.3	53
☐	<u>AutoFlite II</u>			
☐	Roll Servo, #1C363-1-183R	2.5	122.2	306
☐	Cable	.7	93.4	65
☐	Panel Unit, #52D75-3 or -4	2.4	59.4	143

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data
CHECKED		Model PA-28-180
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE <u>15</u> Section <u>I</u>

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	<u>Radio</u>			
☐	Narco Mark 16 (VHF Comm/Nav)			
☐	Transceiver, Single	7.5	56.9	427
☐	Transceiver, Dual	15.0	56.9	854
☐	Narco VOA-50M Omni Converter	2.1	59.9	126
☐	Narco VOA-40 (M) Omni Converter	1.9	59.9	114
☐	Narco VOA-40 Omni Converter	1.9	59.9	114
☐	Narco Comm 10A VHF Transceiver	3.9	57.4	224
☒	Narco Comm 11A VHF Transceiver	3.6	57.4	207
☐	Narco Dual Comm 11A VHF Transceiver	7.1	57.4	408
☐	Narco Nav 10 VHF Receiver	1.9	58.6	111
☒	Narco Nav 11 VHF Receiver	2.8	58.6	164
☐	Narco Nav 12 VHF Receiver	3.4	58.6	199
☐	Narco Dual Nav 11 VHF Receiver	5.6	58.6	328
☐	King KX-175 VHF Transceiver	9.4	56.6	532
☐	King KN-73 Glideslope Receiver	3.2	184.3	590
☐	King KN-77 VOR/LOC Converter	3.6	183.6	661
☐	King KNI-520 VOR/ILS Indicator	1.7	60.5	103
☐	King KX-175 VHF Transceiver (2nd)	8.6	56.6	487
☐	King KN-77 VOR/LOC Converter	4.2	183.6	771
☐	King KNI-520 VOR/ILS Indicator	1.7	60.5	103

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE 10 Section 1

	ITEM	WEIGHT (LBS)	ARM AFT DATUM, (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	Radio (continued)			
☐	Genave 200A (VHF Comm/Nav)	5.9	57.7	340
☐	Genave 300 (VHF Comm/Nav)	5.9	57.7	340
☐	Genave Alpha 360	5.0	56.9	285
☐	Genave Theta 100	1.6	59.6	95
☒	King KX 170/175 () (VHF Comm/Nav)			
☐	Transceiver, Single	7.5	56.6	425
☒	Transceiver, Dual	15.0	56.6	849
☒	King KI 201 () VOR/LOC Ind.	2.5	59.6	149
☐	King Dual KI 201 () VOR/LOC Ind.	5.0	59.9	300
☒	King KI 211 () VOR/LOC/GS Ind.	3.3	59.9	198
☒	Nav Receiving Antenna	.5	265.0	133
☒	Cable, Nav Antenna	.9	157.0	141
☒	#1 VHF Comm Antenna	.3	157.8	47
☒	Cable, Antenna #1 VHF	.4	103.4	41
☐	#2 VHF Comm Antenna	.3	192.8	58
☐	Cable, Antenna #2 VHF	.5	120.9	60

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE 16a Section 1

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	<u>Radio</u> (continued)			
☐	Anti Static Kit			
☐	#1 VHF Comm Antenna	1.0	160.8	161
☐	Cable #1 VHF Comm Antenna	0.4	103.4	41
☐	#2 VHF Comm Antenna	1.0	195.8	196
☐	Cable #2 VHF Comm Antenna	0.5	120.9	60
☐	Low Frequency Antenna	0.5	147.5	74
☐	Static Wicks	-----	-----	-----

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VR-439 OPTIONAL EQUIPMENT LIST	PAGE 17 Section 1

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	Radio (continued)			
_____	Narco ADF-31			
_____	Panel Unit	5.0	58.5	293
_____	Sensor Unit	2.5	162.7	407
_____	Sensor Cable	2.3	100.6	231
_____	Sense Antenna and Cable	.4	150.0	60
_____	Bendix ADF-T-12C			
_____	Bendix ADF-T-12D			
_____	Receiver	3.5	59.4	208
_____	Audio Amplifier	.8	52.4	42
_____	Servo Indicator	1.7	60.9	104
_____	Loop Antenna	1.3	160.8	209
_____	Cable, Interconnecting	2.3	108.0	248
_____	Sense Antenna and Cable	.4	150.0	60
_____	King KR-85			
_____	Receiver	4.3	59.4	255
_____	Servo Indicator	1.2	61.3	74
_____	Loop Antenna	1.3	161.5	210
_____	Loop Cable	1.8	108.0	194
_____	Audio Amplifier	.8	51.0	41
_____	Sense Antenna and Cable	.4	150.0	60

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE 18 Section I

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	Radio (continued)			
☐	PM-1 Marker Beacon			
☐	Receiver	1.1	121.3	133
☐	Remote Unit	.3	128.4	39
☐	Cable	.3	80.0	24
☐	UGR-2 Glide Slope			
☐	Receiver	2.4	173.8	417
☐	Cable	1.8	128.0	230
☐	Antenna	.4	87.4	35
☐	Cable, Antenna	.5	145.0	73
☐	Narco AT6-A Transponder			
☐	Panel Unit	2.0	59.4	119
☐	Remote Unit	5.7	203.0	1157
☐	Antenna and Cable	.3	197.0	59
☐	Cable, Interconnecting	.4	133.7	53

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE 19 Section 1

	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
Check if Installed	<u>Radio</u> (continued)			
☐	Narco AT50 Transponder			
☐	Panel Unit	* 3.0	57.3	172
☒	King KT76/78 Transponder			
☐	Panel Unit	3.1	58.1	180
☐	Antenna & Cable	---	--	---
☒	King KMA-20 Audio Panel	2.8	60.2	169
☒	Antenna	.5	116.3	58
☒	Cable	.4	87.5	35

* Weight includes Antenna and Cable

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Data Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE 20 Section 1

Check if Installed	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
	<u>Radio</u> (continued)			
	King KN60C DME			
	Receiver	6.8	56.7	386
	Antenna	.2	107.1	21
	Cable, Antenna	0.3	80.6	24
<u>X</u>	Piper Automatic Locator			
<u>X</u>	Transmitter	1.7	236.2	402
<u>X</u>	Antenna and Cable	.2	224.4	45
<u>X</u>	Shelf and Access Plate	.3	235.4	71
	Audio Selector Panel, Piper Dwg. 99395-0, -2, or -3	.7	61.3	43
<u>X</u>	Microphone	.5	70.0	35
<u>X</u>	Headset	.5	60.0	30
	<u>Miscellaneous</u>			
	Fire Extinguisher - Kidde Compact VI (with brackets)	5.3	71.0	376
	Toe Brakes (Dual)	10.5	49.6	521
<u>X</u>	Toe Brakes (Single)	5.0	49.6	248
<u>X</u>	Assist Step	1.8	156.0	281
	Inertia Safety Belts (Rear) (2) 0.8 lbs. each	1.6	140.3	224

PREPARED	PIPER AIRCRAFT CORP. Development Center, Vero Beach, Fla.	Weight and Balance Model PA-28-180
CHECKED		
APPROVED	REPORT VB-439 OPTIONAL EQUIPMENT LIST	PAGE 21 Section 1

Check if Installed	ITEM	WEIGHT (LBS)	ARM AFT DATUM (INCHES)	MOMENT (POUNDS) INCHES)
	<u>Miscellaneous</u> (continued)			
<u>X</u>	Lighter	.2	62.9	13
<u>X</u>	Assist Strap and Coat Hook	.2	109.5	22
<u>X</u>	Overhead Vent System	1.2	130.0	156
	Alternate Static Source	.4	61.0	24
	Calibrated Alternate Static Source			
	Placard Required: Yes _____ No _____			
	Headrest (2) (Front)	2.2	94.5	208
	Headrest (2) (Rear)	2.2	132.1	291
	Air Conditioning Installation 99575-0	67.4	102.8	6929
	Zinc Chromate Finish	5.0	158.0	790
	TOTAL OPTIONAL EQUIPMENT	60.1	103.5	6219

EXTERIOR FINISH

Base Color <u>Juneau White</u>	Registration No. Color <u>Gold</u>
Trim Color <u>Avocado Green</u>	Type Finish <u>Lacquer</u>
Accent Color <u>Las Vegas Gold</u>	

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Airplane Flight Manual Model PA-28-180
CHECKED		
APPROVED		
REPORT VB-437		100 <i>R</i>

Log of Revisions

REV. NO.	PAGE	DESCRIPTION	APPROVED	DATE
1	6	Procedures Section: Added the following wording to Paragraph 3. c: "and full opposite aileron"	<i>H.W. Barnhouse</i>	6-29-72
2	Title	Removed Serial Numbers	<i>H.W. Barnhouse</i>	8-27-72
3	7	Revised Limitations on AutoControl III and AutoFlite II and revised Emergency Procedures on AutoControl III		
	8	Revised Emergency Procedures on AutoFlite II	<i>H.W. Barnhouse</i>	9-1-72
4	8	Corrected item 9. b. for serial number restrictions. Moved Item 3 to Page 9.		
	9	Added information from Page 8.	<i>H.W. Barnhouse</i>	3-20-73

PIPER AIRCRAFT CORPORATION

INSPECTION REPORT

THIS FORM MEETS REQUIREMENTS OF FAR PART 43

Make PIPER CHEROKEE	Model PA-28-140, PA-28-150, PA-28-160 PA-28-180, & PA-28-235	Serial No.	Registration No.
-------------------------------	--	---------------	---------------------

Circle Type of Inspection (See Note)
 50 100 500 1000 Annual

Perform inspection or operation at each of the inspection intervals as indicated by a circle (○).

DESCRIPTION

DESCRIPTION

A. PROPELLER GROUP

1. Inspect spinner and back plate
2. Inspect blades for nicks and cracks
3. Check for grease and oil leaks
4. Lubricate propeller per lubrication chart
5. Check spinner mounting brackets
6. Check propeller mounting bolts and safety (Check torque if safety is broken.)
7. Inspect hub parts for cracks and corrosion
8. Rotate blades of constant speed propeller and check for tightness in hub pilot tube
9. Remove constant speed propeller; remove sludge from propeller and crankshaft
10. Inspect complete propeller and spinner assembly for security, chafing, cracks, deterioration, wear, and correct installation
11. Overhaul propeller

B. ENGINE GROUP

CAUTION: Ground Magneto Primary Circuit before working on engine.

1. Remove engine cowl
2. Clean and check cowling for cracks, distortion and loose or missing fasteners.
3. Drain oil sump (See Note 2).
4. Clean suction oil strainer at oil change (Check strainer for foreign particles.)
5. Clean pressure oil strainer or change full flow (cartridge type) oil filter element (Check strainer or element for foreign particles.)
6. Check oil temperature sender unit for leaks and security
7. Check oil lines and fitting for leaks, security, chafing, dents and cracks (See Note 4)
8. Clean and check oil radiator cooling fins
9. Remove and flush oil radiator
10. Fill engine with oil per information on cowl or service manual
11. Clean engine

CAUTION: Do not contaminate the vacuum pump with cleaning fluid. Ref: Lycoming Service Letter 1221A.

12. Check condition of spark plugs (Clean and adjust gap as required, adjust per Lycoming Service Instruction No. 1042.)
13. Check cylinder compressions ref: AC 43.13-1
14. Check ignition harness and insulators (High tension leakage and continuity.)
15. Check magneto points for proper clearance (Maintain clearance at .018 ± .006
16. Check magnetos for oil seal leakage
17. Check breaker felts for proper lubrication

18. Check distributor block for cracks, burned areas or corrosion, and height of contact springs
19. Check magnetos to engine timing
20. Overhaul or replace magnetos (See Note 3)
21. Remove air filter and tap gently to remove dirt particles (Replace as required.)
22. Drain carburetor and clean inlet line fuel strainer
23. Check condition of carburetor heat air door and box
24. Check intake seals for leaks and clamps for tightness
25. Inspect all induction air, and alternate heat ducts. Refer to Piper Service Bulletin No. 356
26. Clean screens in fuel pump(s)
27. Remove, drain and clean fuel filter bowl and screen (Drain and Clean at least every 90 days.) (PA-28-140, -150, -160, -180.)
28. Inspect condition of flexible fuel lines
29. Replace flexible fuel lines (See Note 3).
30. Check fuel system for leaks
31. Check fuel pumps for operation (Engine driven and electric.)
32. Overhaul or replace fuel pumps (Engine driven and electric.) (See Note 3)
33. Check vacuum pump and lines
34. Overhaul or replace vacuum pump (See Note 3)
35. Check throttle, carburetor heat, mixture and propeller governor controls for travel and operating condition
36. Inspect exhaust stacks, connections and gaskets (Refer to PA-28 Service Manual, Section III.) (Replace gaskets as required.)
37. Inspect muffler, heat exchange and baffles (Refer to PA-28 Service Manual, Section III.)
38. Check recommended time for replacement of muffler per PA-28 Service Manual, Section III
39. Check breather tube for obstructions and security
40. Check crankcase for cracks, leaks and security of seam bolts
41. Check engine mounts for cracks and loose mountings
42. Check all engine baffles
43. Check rubber engine mount bushings for deterioration (Replace as required.)
44. Check firewall seals
45. Check condition and tension of generator or alternator drive belt
46. Check condition of generator or alternator and starter
47. Check fluid in brake reservoir (Fill as required.)
48. Lubricate all controls.

Owner

Circle Type of Inspection (See Note)						Perform inspection or operation at each of the inspection intervals as indicated by a circle (○).					
50	100	500	1000	Annual	Inspector	50	100	500	1000	Inspector	
ENGINE GROUP (cont.)											
49.						12.					
50.						13.					
51.						14.					
52.						15.					
53.						16.					
54.						17.					
55.						18.					
C. CABIN GROUP						19.					
1.						20.					
2.						21.					
3.						22.					
4.						23.					
5.						24.					
6.						25.					
7.						26.					
8.						27.					
9.						28.					
10.						29.					
11.						30.					
12.						E. WING GROUP					
13.						1.					
14.						2.					
15.						3.					
16.						4.					
17.						5.					
18.						6.					
19.						7.					
D. FUSELAGE AND EMPENNAGE GROUP						8.					
1.						9.					
2.						10.					
3.						11.					
4.						12.					
5.						13.					
6.						14.					
7.											
8.											
9.											
10.											
11.											

Circle Type of Inspection (See Note)					Inspector	Perform inspection or operation at each of the inspection intervals as indicated by a circle (○).					Inspector
50	100	500	1000	Annual		50	100	500	1000		
LANDING GEAR GROUP						H. OPERATIONAL INSPECTION					
1. Check oleo struts for proper extension (Check for proper fluid level as required.)						1. Check fuel pump and fuel tank selector					
2. Check nose gear steering control and travel.						2. Check fuel quantity and pressure or flow gauge					
3. Check wheel alignment						3. Check oil pressure and temperature					
4. Put airplane on jacks						4. Check alternator output					
5. Check tires for cuts, uneven or excessive wear and slippage						5. Check manifold pressure					
6. Remove wheels, clean, check and repack bearings						6. Check alternate air					
7. Check wheels for cracks, corrosion and broken bolts						7. Check parking brake					
8. Check tire pressure						8. Check vacuum gauge					
9. Check brake lining and disc						9. Check gyros for noise and roughness					
10. Check brake backing plates						10. Check cabin heater operation					
11. Check brake lines						11. Check magneto switch operation					
12. Check shimmy dampener						12. Check magneto RPM variation					
13. Check gear forks for damage						13. Check throttle and mixture operation					
14. Check oleo struts for fluid leaks and scoring						14. Check propeller smoothness					
15. Check gear struts, attachments, torque links and bolts for condition and security						15. Check constant speed propeller action					
16. Lubricate per lubrication chart						16. Check engine idle					
17. Inspect all hydraulic lines, electrical leads, and attaching parts for security, routing, chafing, deterioration, wear, and correct installation						17. Check electronic equipment operation					
18. Remove airplane from jacks						18. Check air conditioner compressor clutch operation					
						19. Check air conditioner condenser scoop operation					
FLOAT GROUP						I. GENERAL					
1. Check float attachment fittings						1. Aircraft conforms to FAA Specifications					
2. Check floats for damage						2. All FAA Airworthiness Directives complied with					
3. Check pulleys and cables						3. All Manufacturers Service Letters and Bulletins complied with					
						4. Check for proper Flight Manual					
						5. Aircraft papers in proper order					

NOTES:

- Both the annual and 100 hour inspections are complete inspections of the airplane, identical in scope, while both the 500 and 1000 hour inspections are extensions of the annual or 100 hour inspection, which require a more detailed examination of the airplane, and overhaul or replacement of some major components. Inspections must be accomplished by persons authorized by the FAA.
- Intervals between oil changes can be increased as much as 100% on engines equipped with full flow (cartridge type) oil filters - provided the element is replaced each 50 hours of operation.
- Replace or overhaul as required or at engine overhaul. (For engine overhaul, refer to Lycoming Service Instructions No. 1009.)
- Replace flexible oil lines as required, but no later than 1000 hours of service.
- Check compressor oil the first 100 hours and each 1000 hours thereafter, or whenever the system is charged.
- Clean any traces of oil from the clutch surface.
- Inspect in accordance with Piper Service Letter No. 597.

Signature of Mechanic or Inspector	Certificate No.	Date	Total Time on Airplane
------------------------------------	-----------------	------	------------------------

