

***NOTE***

***Pilot's Operating Handbook Revision Only  
This Is Not A Complete Handbook***

**REPORT:** VB-1120

Rev. 17 (PR190401) Dated April 1, 2019

This revision shall be inserted into the current PA-28-181, Archer II Pilot's Operating Handbook, REPORT; VB-1120, issued July 2, 1979.

# ARCHER II

## PA-28-181

### PILOT'S OPERATING HANDBOOK

AND

### FAA APPROVED AIRPLANE FLIGHT MANUAL

AIRPLANE  
SERIAL NO. 2890141

PA-28-181  
REPORT: VB-1120 FAA APPROVED BY:

DATE OF APPROVAL:  
JULY 2, 1979

AIRPLANE  
REGIST. NO. D-EKIN

*Ward Evans*

WARD EVANS  
D.O.A. NO. SO-1  
PIPER AIRCRAFT CORPORATION  
VERO BEACH, FLORIDA

FAA APPROVED IN NORMAL AND UTILITY CATEGORIES BASED ON CAR 3. THIS HANDBOOK INCLUDES THE MATERIAL REQUIRED TO BE FURNISHED TO THE PILOT BY CAR 3 AND CONSTITUTES THE APPROVED AIRPLANE FLIGHT MANUAL AND MUST BE CARRIED IN THE AIRPLANE AT ALL TIMES.



***WARNING***

EXTREME CARE MUST BE EXERCISED TO LIMIT THE USE OF THIS HANDBOOK TO APPLICABLE AIRCRAFT. THIS HANDBOOK IS VALID FOR USE WITH THE AIRPLANE IDENTIFIED ON THE FACE OF THE TITLE PAGE. SUBSEQUENT REVISIONS SUPPLIED BY PIPER AIRCRAFT CORPORATION MUST BE PROPERLY INSERTED.

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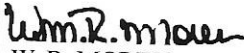
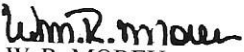
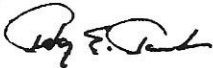
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**DUPLICATE**

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# PILOT'S OPERATING HANDBOOK LOG OF REVISIONS (cont)

Revision Number and Code	Revised Pages	Description of Revisions	FAA Approval Signature and Date
Rev. 14 (PR930107)	vi-k vi-l 9-i  9-77	Added log of revision page Added log of revision page Added Supplement 11 to T.O.C. Added Supplement 11	 W. R. MOREU Jan. 07, 1993
Rev. 15 (PR940329)	7-i 7-26  7-26  7-27 7-28	Revised T.O.C. Relocated para. 7.39 from pg. 7-26 to page 7-27 Revised para. 7.37 added ELT info. Added page. Added Page.	 W. R. MOREU March 29, 1994
Rev. 16 (PR980402)	vi-k 2-3 3-6 7-9 7-10 9-75	Added Rev. 16 to L of R. Revised Para. 2.7. Revised Para. 3.3. Revised Fig. 7-9. Revised Para. 7.15. Revised illustration.	 PETER E. PECK April 2, 1998

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**PILOT'S OPERATING HANDBOOK LOG OF REVISIONS (cont)**

Revision Number and Code	Revised Pages	Description of Revisions	FAA Approval Signature and Date

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## 5.5 FLIGHT PLANNING EXAMPLE

### (a) Aircraft Loading

The first step in planning the flight is to calculate the airplane weight and center of gravity by utilizing the information provided by Section 6 (Weight and Balance) of this handbook.

The basic empty weight for the airplane as licensed at the factory has been entered in Figure 6-5. If any alterations to the airplane have been made effecting weight and balance, reference to the aircraft logbook and Weight and Balance Record (Figure 6-7) should be made to determine the current basic empty weight of the airplane.

Make use of the Weight and Balance Loading Form (Figure 6-11) and the C.G. Range and Weight graph (Figure 6-15) to determine the total weight of the airplane and the center of gravity position.

After proper utilization of the information provided, the following weights have been determined for consideration in the flight planning example.

The landing weight cannot be determined until the weight of the fuel to be used has been established [refer to item (g)(1)].

(1) Empty Weight	1400 lbs.
(2) Occupants (2 x 170 lbs.)	340 lbs.
(3) Baggage and Cargo	360 lbs.
(4) Fuel (6 lb./gal. x 50)	300 lbs.
(5) Takeoff Weight	2400 lbs.
(6) Landing Weight	
(a)(5) minus (g)(1), (2400 lbs. minus 129 lbs.)	2271 lbs.

The takeoff weight is below the maximum of 2550 lbs. and the weight and balance calculations have determined that the C.G. position is within the approved limits.



(b) Takeoff and Landing

After determining the aircraft loading, all aspects of takeoff and landing must be considered.

Conditions of the departure and destination airport must be acquired, evaluated and maintained throughout the flight.

Apply the departure airport conditions and takeoff weight to the appropriate Takeoff Performance graph (Figure 5-7 or 5-9) to determine the length of runway necessary for the takeoff and/or the barrier distance.

The landing distance calculations are performed in the same manner using the existing conditions at the destination airport and, when established, the landing weight.

The conditions and calculations for the example flight are listed below. The takeoff and landing distances required for the example flight have fallen well below the available runway lengths.

	Departure Airport	Destination Airport
(1) Pressure Altitude	2000 ft.	2300 ft.
(2) Temperature	21°C	21°C
(3) Wind Component (Headwind)	10 KTS	5 KTS
(4) Runway Length Available	7000 ft.	4500 ft.
(5) Runway Required	950 ft.*	825 ft.**

NOTE

The remainder of the performance charts used in this flight plan example assume a no wind condition. The effect of winds aloft must be considered by the pilot when computing climb, cruise and descent performance.

\*reference Figure 5-13

\*\*reference Figure 5-37

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\*\* Equipment List (Form 240-0007).....ENCLOSED WITH  
THIS HANDBOOK

\*For 1982 and preceding models only.

\*\*For 1983 and subsequent models only.

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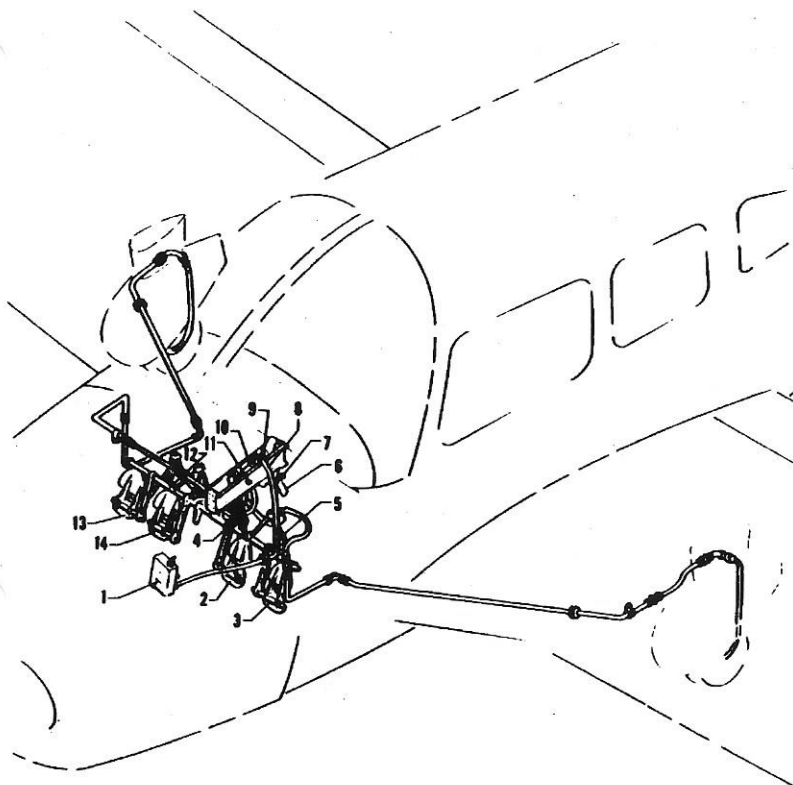
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|---------------------------------|--|
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## BRAKE SYSTEM

Figure 8-1

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### **8.15 LANDING GEAR SERVICE**

The three landing gears use Cleveland Aircraft Products 6.00 x 6, four-ply rating, type III tires with tubes. (Refer to paragraph 8.23).

Wheels are removed by taking off the hub cap, cotter pin, axle nut, and the two bolts holding the brake segment in place. Mark tire and wheel for reinstallation; then dismount by deflating the tire, removing the three through-bolts from the wheel and separating the wheel halves.

Landing gear oleos on the Archer II should be serviced according to the instructions on the units. The main oleos should be extended under normal static load until  $4.50 \pm 0.25$  inches of oleo piston tube is exposed, and the nose gear should show  $3.25 \pm 0.25$  inches. Should the strut exposure be below that required, it should be determined whether air or oil is required by first raising the airplane on jacks. Depress the valve core to allow air to escape from the strut housing chamber. Remove the filler plug and slowly raise the strut to full compression. If the strut has sufficient fluid, it will be visible up to the bottom of the filler plug hole and will then require only proper inflation.

Should fluid be below the bottom of the filler plug hole, oil should be added. Replace the plug with valve core removed; attach a clear plastic hose to the valve stem of the filler plug and submerge the other end in a container of hydraulic fluid. Fully compress and extend the strut several times, thus drawing fluid from the container and expelling air from the strut chamber. To allow fluid to enter the bottom chamber of the main gear strut housing, the torque link assembly must be disconnected to let the strut be extended a minimum of 10 inches (the nose gear torque links need not be disconnected). Do not allow the strut to extend more than 12 inches. When air bubbles cease to flow through the hose, compress the strut fully and again check fluid level. Reinstall the valve core and filler plug, and the main gear torque links, if disconnected.

With fluid in the strut housing at the correct level, attach a strut pump to the air valve and with the airplane on the ground, inflate the oleo strut to the correct height.