

November 1965

PL-1 NEWS LETTER NO. 3

1. Incorporate changes shown in Engineering Change Notice No. 2 (see attached 5 sheets).
2. Remove pages 18 and 19 from instructions, and replace with new "revised" sheets.
3. The Engine Mount and Firewall drawing for the Lycoming O-335-C, O-350-D or O-290-G engine are available now. You can order copies of these drawings as follow:

Engine mount for Lycoming engines	Dwg. 1-40,009	\$4.00
Firewall for Lycoming engines	Dwg. 1-40,010	\$4.00

4. ~~The Landing Gear has been re-drawn in three (3) new drawings.~~

Main Gear Assy.	Dwg. 2-60-001
Nose Gear Assy.	Dwg. 2-60-002
Landing Gear Details	Dwg. 2-60-003

A Shimmy Damper has been added which will be very desirable when you land on a rough field, or when your gear has worn out some of the bushings. The new drawings also show 4130-Steel welded-up scissors as alternates and some other improvements and simplifications. The price of these three drawings is \$6.00 UNTIL 31 DEC. 1965. After that date, the price will be \$12.00.

5. The Fuel Tank has been re-drawn in three (3) new drawings

Wing Tip Tank Loft Lines	Dwg. 1-40,001
Wing Tip Tank Assembly	Dwg. 1-40,002
Wing Tip Tank Details	Dwg. 1-40,003

~~Many additional details have been added. Assembly sequence fuel gauge installation, fuel drain fitting, general improvements and simplifications. The price of these three drawings is \$6.00 UNTIL 31 DEC. 1965. After that date, the price will be \$12.00.~~

NOTE: The drawings mentioned in paragraph 4 and 5 have been offered before in News Letters 1 and 2 and have been included in all sets of parts sold in 1965 starting with Set No. 87.

6. A new drawing showing the Tail Cone Frames full size loft lines is available. This drawing is very useful to layout the molds for the frames also shows the bend angle of the Δ longerons at each figure. It is a useful drawing not included in the set. You have to order it separately.

Fuselage Tail Cone Frames - Loft Lines	Dwg. 1-30-001	\$3.00
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7. An 8mm movie on the PL-1 construction and flight test is available. The movie consists of two (2) 7 in. reels; edited, no sound. Duration approximately 45 minutes. This is an excellent main attraction for your local EAA chapter meeting with special interest for PL-1 builders. Please ask your local EAA chapter secretary to send me an official request.
8. If you are building your PL-1, please send a card to Sport Aviation telling about your progress. I hope to see many of your names in the monthly list of "Airplanes Under Construction." Also, mention it to your local EAA chapter secretary, so it will be reported in "Chatting with the Chapters." I know many of you have completed even major assemblies, but I have not seen your names mentioned in the magazine. Knowing about other PL-1 builders in your neighborhood will help you and of course will help me.
9. I will appreciate any photos, or a few words about your progress. Very soon, we must have some PL-1 in the flight line.
10. If you send me a stamped envelope I will be glad to mail you an updated list of PL-1 builders. I have sold 157 sets up to the present.

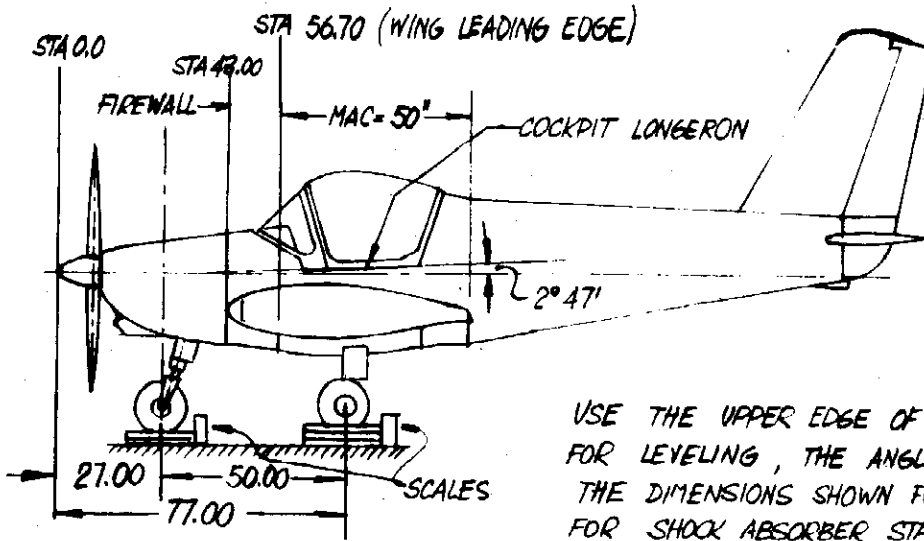
L. Pazmany

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PL-1 WEIGHT AND BALANCE

(WITH CONTINENTAL C-90-12F ENGINE)

1) AIRPLANE LEVELING



$$\begin{array}{r} 64.2 \\ - 27.0 \\ \hline 37.2 \end{array}$$

USE THE UPPER EDGE OF THE COCKPIT LONGERON FOR LEVELING, THE ANGLE IS 2° 47'. THE DIMENSIONS SHOWN FOR THE WHEEL AXIS ARE FOR SHOCK ABSORBER STATICALLY DEFLECTED.

2) AIRPLANE EMPTY WEIGHT : 800 LB , C.G AT 15% OF MAC

$$\frac{15 \times 50'}{100} = 7.5' ; 7.5 + 56.7 = 64.2'' \text{ (USE FRONT WHEEL AXIS FOR REFERENCE)}$$

$$\text{LOAD ON MAIN WHEELS} = \frac{800 \times 37.2}{50.0} = 595.2 \text{ LBS} \rightarrow 297.6 \text{ LBS/WHEEL}$$

$$\text{LOAD ON NOSE WHEEL} = 800 - 595.2 = 204.8 \text{ LBS}$$

3) MAXIMUM WEIGHT

ITEM	WEIGHT	STA	MOMENT
EMPTY AIRPLANE	800	64.2	51.360
PILOT	170	82.0	13.940
PASSENGER	170	82.0	13.940
BAGGAGE	40	100.0	4.000
FUEL (23 GAL)	138	67.0	10.050
OIL	8	28.0	224
MAX. WEIGHT	1326		93,514

C.G. DISTANCE FROM STA. 0.00

$$d = \frac{93,514}{1326} = 70.5''$$

DISTANCE FROM FRONT WHEEL AXLE :

$$70.5 - 27.0 = 43.5''$$

DISTANCE FROM WING LEADING EDGE

$$d_{LE} = 70.5 - 56.7 = 13.8''$$

$$\text{C.G IN \% OF MAC} = \frac{13.8''}{50.0''} \times 100 = 27.6\%$$

$$\text{LOAD ON MAIN WHEELS} = \frac{1326 \times 43.5}{50.0} = 1152 \text{ LBS} \rightarrow 576 \text{ LBS/WHEEL}$$

$$\text{LOAD ON NOSE WHEEL} = 1326 - 1152 = 174 \text{ LBS}$$

4) C.G LIMITS : MAX FWD : 20% MAC (STA 66.70) - MAX AFT : 27.6% (STA 70.50)

RECOMMENDED C.G FOR FIRST FLIGHT	EMPTY AIRPLANE	800.00	64.2	51,360	$d = \frac{70,850}{1056} = 67.2''$ $d_{LE} = 67.2 - 56.7 = 10.5''$ $\text{C.G} = \frac{10.5 \times 100}{50} = 21\%$
	PILOT	170.00	82.0	13,940	
	FUEL 13 GAL	78.00	67.0	5,326	
	OIL	8.00	28.0	224	
		1056.00		70,850	