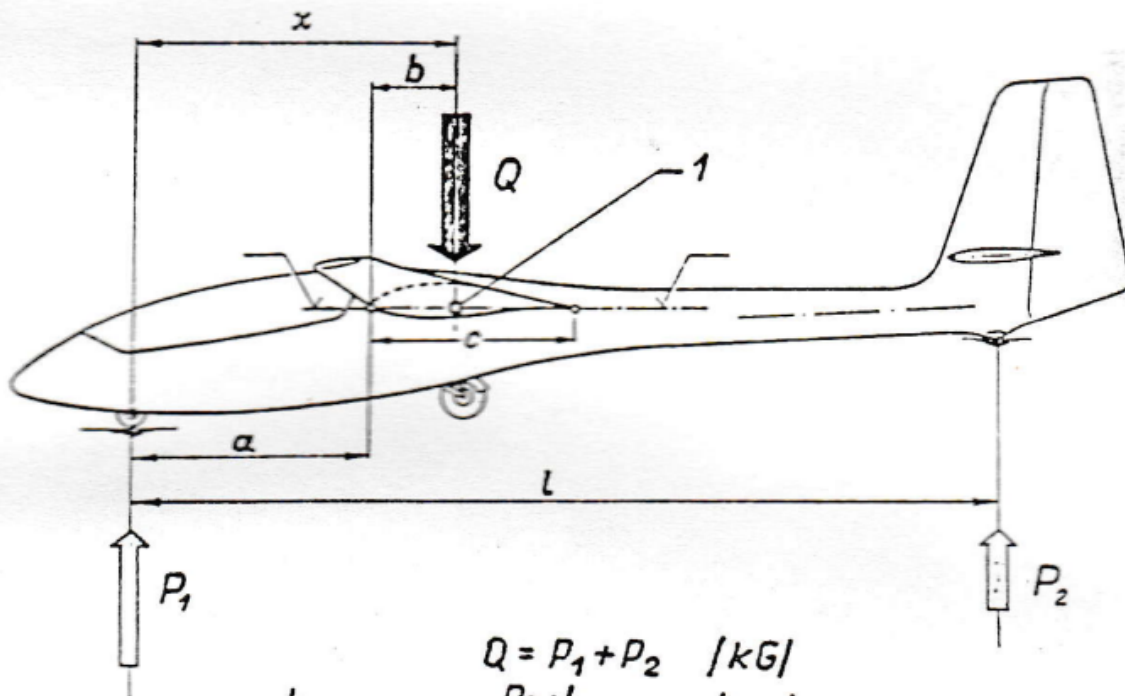


PZL-BIELSKO "PUCHACZ"					
WEIGHT AND BALANCE CALCULATION					
SZD50-3 N92MN					
SERIAL NUMBER B2061 MFR YEAR 1992					
Datum Point: Wing Leading Edge at Root Rib					
		lbs.	kg		cm inches
P1=	531.10		241.41	L=	638.00 251.18
P2=	311.00		141.36	a=	173.50 68.31
Q=	842.10		382.77		
b=	24.46	inches			
GROSS WEIGHT	1257.00	pounds			
PAYLOAD	414.90	pounds			
WEIGHT ON TAIL WHEEL	531.10	pounds			
WEIGHT ON MAIN WHEEL	311.00	pounds			
EMPTY WEIGHT	842.10	pounds			
PAYLOAD	414.90	pounds			
NOSE WHEEL TO MAIN WHEEL DISTANCE			68.31	inches	
NOSE WHEEL TO TAIL WHEEL DISTANCE			251.18	inches	
EMPTY WEIGHT CENTER OF GRAVITY			24.46	inches	
EMPTY WEIGHT FLIGHT ENVELOPE LIMIT (see graph)					
MAXIMUM BAGGGE COMPARTMENT WEIGHT			44	pounds	
MINIMUM FRONT SEAT WEIGHT			121	pounds	BALLAST PLATE(S) MANDATORY
MINIMUM FRONT SEAT WEIGHT			154	pounds	BALLAST PLATE NOT REQUIRED
MAXIMUM SOLO PILOT WEIGHT			242	pounds	
EQUIPMENT LIST	(as measured)				
	TOST NOSE HOOK				
	TOST CG HOOK				
	FRONT INSTRUMENT PANEL		REAR INSTRUMENT PANEL (OPTIONAL)		
	AIRSPPEED INDICATOR		AIRSPPEED INDICATOR		
	TASMAN VARIOMETER		PZL VARIOMENTER		
	PZL VARIOMETER		ALTIMETER		
	ALTIMETER		5 POINT HARNESS		
	G METER		BOOM MICROPHONE		
	TRANSCEIVER				
	5 POINT HARNESS				
	BOOM MICROPHONE				
	MAGNETIC COMPASS				
	SEALED LEAD ACID 12 VOLT BATTERY				
	DATE: _____ / _____ / _____				
	INSPECTOR _____				

Fig. 1/7 Weighing of the glider



$$Q = P_1 + P_2 \text{ [kG]}$$

$$b = x - a = \frac{P_2 \cdot l}{P_1 + P_2} - a \text{ [cm]}$$

1 - C.G. of empty glider
c - root rib chord

$$b = x - a = \frac{P_2 \cdot l}{P_1 + P_2} - a$$

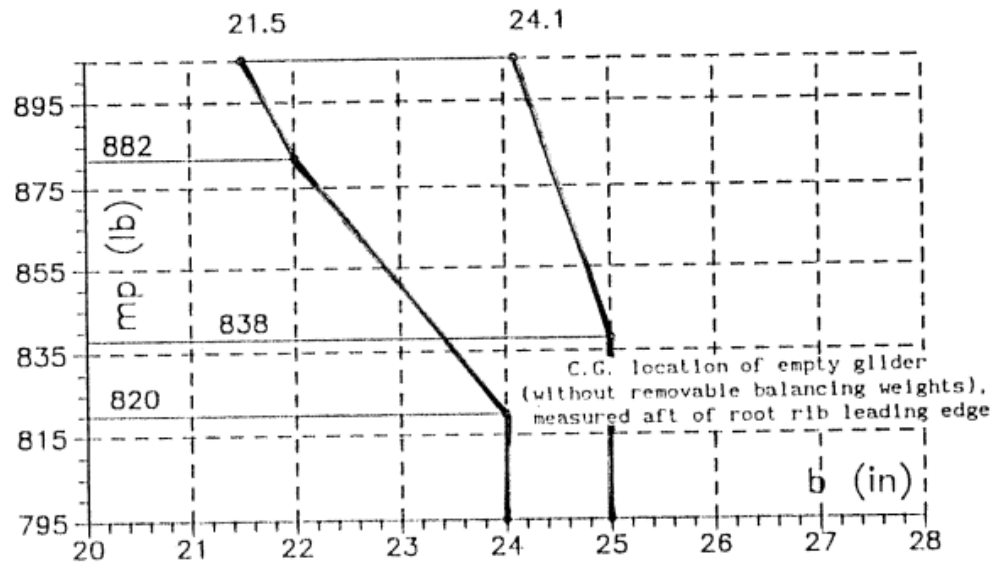
$$Q = P_1 + P_2 \text{ [lb]} \text{ (see page 1.2)}$$

The distances "a" and "l" are to be measured.

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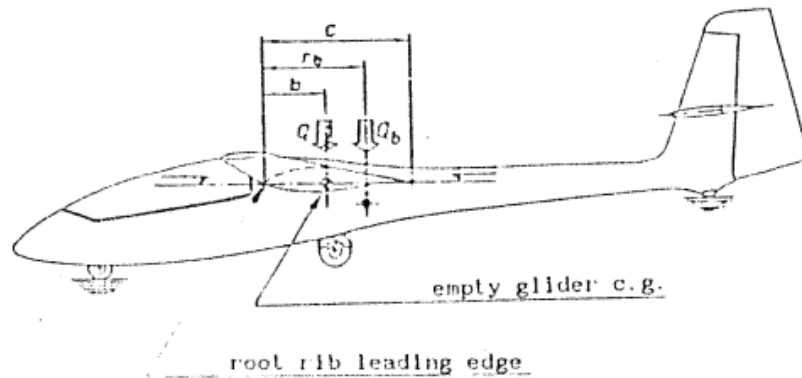
b) Diagram

Empty mass (without removable balancing weights)



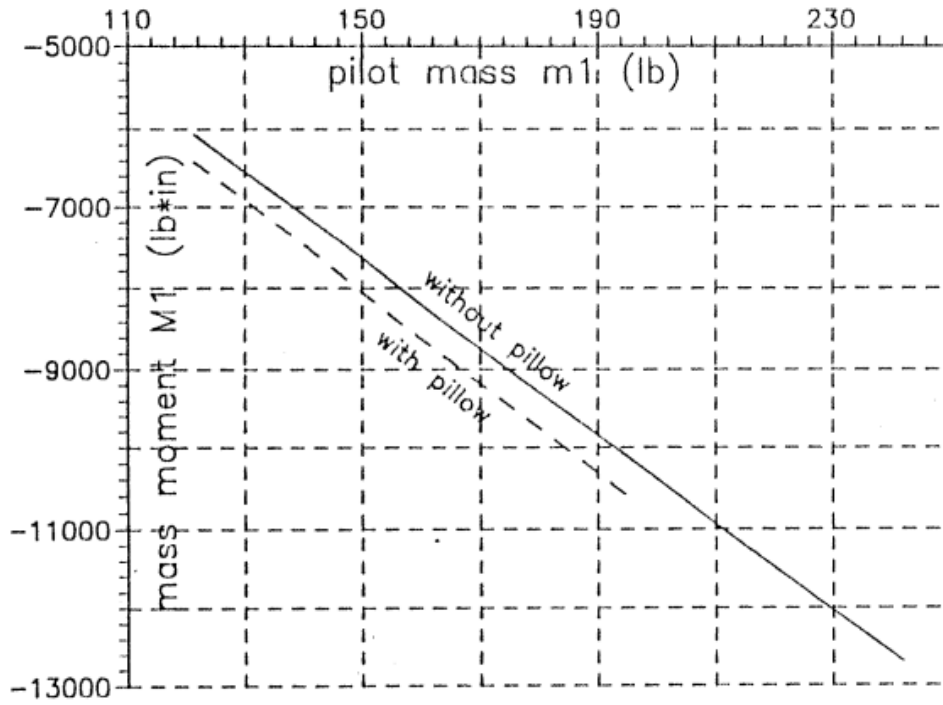
c) Datum point

The datum point for glider c.g. location is the root rib leading edge.

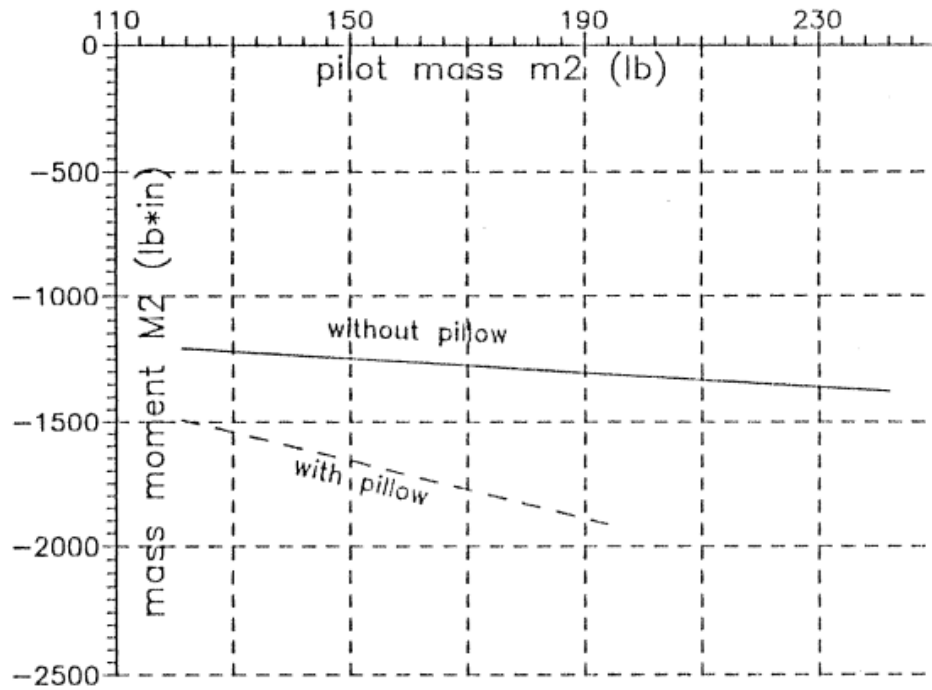


NOTE : THE DIMENSIONS "b" AND " r_b " ARE TO BE MEASURED PARALLEL TO THE ROOT RIB CHORD "c".

Mass moment of pilot (parachute incl.) on the front seat in respect to the leading edge of the wing root chord M_1 [lb*in]



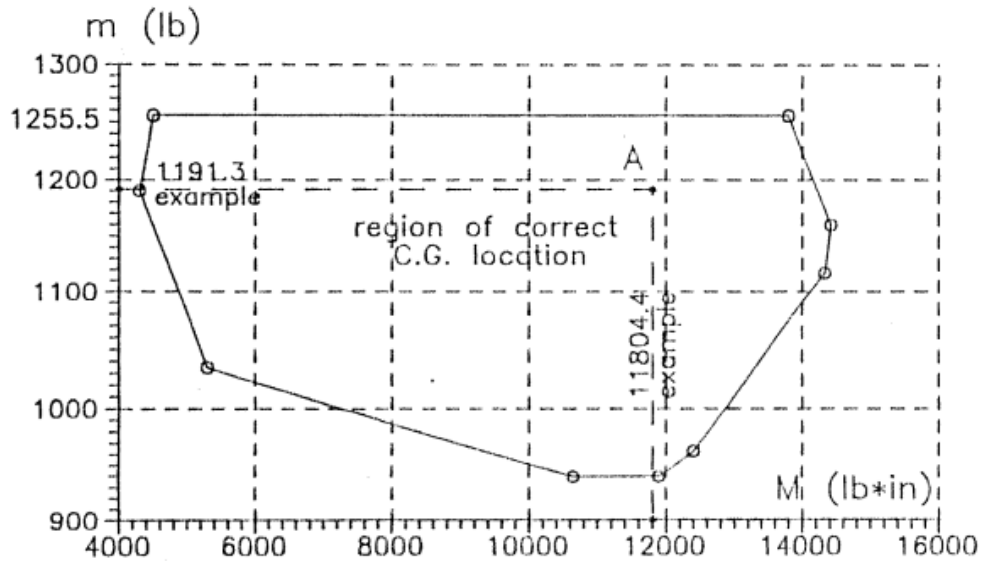
Mass moment of pilot (parachute incl.) on the rear seat in respect to the leading edge of the wing root chord M_2 [lb*in]



GRAPHICAL CHECKING OF IN FLIGHT C.G. LOCATION

GRAPHICAL CHECKING OF IN FLIGHT C.G. LOCATION

Diagram valid for gliders of maximum allowable empty glider mass (with standard equipment) of 816 [lb] (370 [kg]).



WEIGHT AND BALANCE FORMULA					
		POUNDS	C.G.		MOMENT
	EMPTY WEIGHT			(+)	
	PILOT FRONT SEAT			(-)	
	PILOT REAR SEAT			(-)	
	BAGGAGE			(-)	
	GROSS WEIGHT				TOTAL MOMENT
WEIGHT AND BALANCE EXAMPLE (TWO PILOTS)					
		POUNDS	C.G.		MOMENT
	EMPTY WEIGHT	842.1	24.46	(+)	20597.766
	PILOT FRONT SEAT	190		(-)	9350
	PILOT REAR SEAT	220		(-)	1300
	BAGGAGE	0		(-)	0
	GROSS WEIGHT	1252.1			TOTAL MOMENT
					9947.766
		WITHIN LIMITS	see graphical chart		