

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data Model PA 28-180
CHECKED		
APPROVED		PAGE 1 Section 1

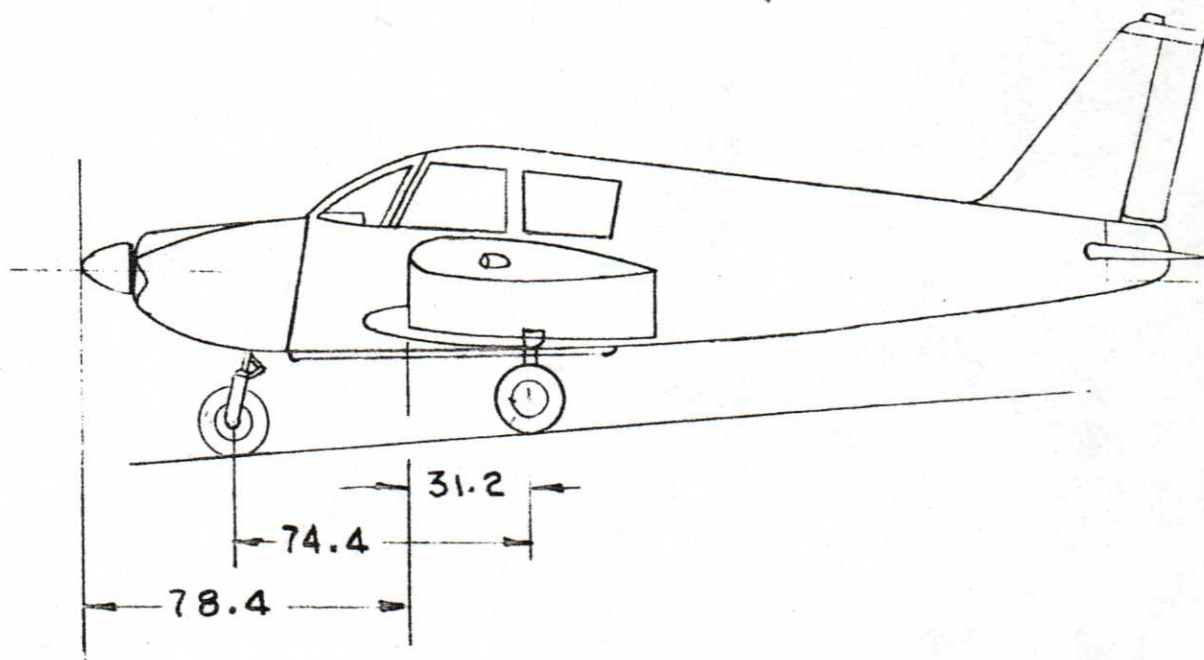
ACTUAL WEIGHT AND BALANCE

MODEL PA 28-180

SERIAL NUMBER 28- 2520

CERTIFICATE NUMBER N8338W

DATE May 27, 1965



Theron Nolan Bevis

Theron Nolan Bevis DMIR 6085

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.		Weight and Balance Data Model PA 28-180	
CHECKED				
APPROVED			PAGE 2 Section 1	

WEIGHT AND BALANCE

STANDARD EQUIPMENT LIST

MODEL PA 28-180

Check if Installed	ITEM	WEIGHT (LBS.)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
	<u>Engine Accessories</u>			
<u>X</u>	Engine - Lycoming Model 0-360-A3A	285	26.1	7439
<u>X</u>	Fuel Pump, Electric Auxiliary, Bendix Model 478360	1.8	41.8	75
<u>X</u>	Fuel Pump, Engine Driven, Lycoming Dwg. No. 73297, 74082 or 75148	1.6	41.3	66
<u>X</u>	Oil Cooler, Piper Dwg. 18622	2.6	18.1	47
<u>X</u>	Filter, Fram Model CA-161 PL or AC No. A48C or Purolator AFP-2	.9	20.1	18
<u>X</u>	Alternator, 35 Amp., Chrysler No. 2098615	12.5	19.0	238
	<u>Propeller and Propeller Accessories</u>			
	Propeller, Sensenich M76EMM	34.5	10.1	349
<u>X</u>	Propeller, Sensenich M76EMMS60	38.5	8.8	339
<u>X</u>	Spinner and Attachment Plates	2.0	8.0	16

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data
CHECKED		Model PA 28-180
APPROVED		PAGE 3 Section 1

Check if Installed	ITEM	WEIGHT (LBS.)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
	<u>Landing Gear and Brakes</u>			
	Two Main Wheel Assemblies 6.00-6	32.0	109.6	3507
	(a) Cleveland Aircraft Products Wheel Assembly No. 40-28 Brake Assembly No. 30-18			
	(b) Two Main 4-Ply Rating Tires 6.00-6 with Regular Tubes			
X	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			
X	One Nose Wheel 6.00-6	14.0	34.3	480
	(a) Cleveland Aircraft Products Wheel Assembly No. 38501 (Less Brake Drum)			
	(b) One Nose Wheel 4-Ply Rating Tire 6.00-6 with Regular Tubes			
	<u>Electrical Equipment</u>			
X	Stall Warning Device, Safe Flight Inst. Corp. No. C52207-4	.2	80.2	16
X	Voltage Regulator, Chrysler No. 2098613	.5	57.8	29
X	Battery 12V., 25 A.H., Rebat Model S-25	21.5	160.9	3459

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data Model PA 28-180
CHECKED		
APPROVED		PAGE 4 Section 1

Check if Installed	ITEM	WEIGHT (LBS.)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
	<u>Instruments</u>			
<u>X</u>	Compass - Airpath No. C2350-L41	.9	66.6	60
	Airspeed Indicator, PAC 63205	.6	67.7	41
	Tachometer, AC 1548302	.8	67.7	54
<u>X</u>	Tachometer, Stewart Warner PAC 62177	.7	67.7	47
	Altimeter, Aero Marine No. 552	1.4	66.8	94
	Engine Cluster, PAC 63922	.8	68.8	55
<u>X</u>	Engine Cluster, PAC 63426	.8	68.8	55
	<u>Miscellaneous</u>			
<u>X</u>	Fwd. Seat Belts	1.0	86.9	87
<u>X</u>	Aft Seat Belts	.8	123.0	98
<u>X</u>	Flight Manual	----	----	----
	 TOTAL			
	AIRCRAFT EMPTY WEIGHT AS COMPUTED	<u>1260</u>	<u>84.5</u>	<u>107584</u>
	(INCLUDES ITEMS CHECKED ON STANDARD EQUIPMENT LIST)			

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data
CHECKED		Model PA 28-180
APPROVED		PAGE 5 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 Mechanisms Model No. 10-113A1, 113A5 or 200cc	3.6	36.3	131
	<u>Electrical Equipment</u>			
	Rotating Beacon, Grimes Model D7080	2.0	263.4	527
<u>X</u>	Landing Light, G. E. Model 4509	.5	18.1	9
<u>X</u>	Navigation Light (Rear) (1) Grimes Model 2064 (White)	.1	280.9	28
<u>X</u>	Navigation Lights (2) Grimes Model A1285 Red and Green	.4	106.6	43
	Battery 12V, 33 A.H., Reading R-33	27.0	160.9	4344
	Roll Servo Mitchell 1x221E-CH-1	2.8	60.6	170
	Console Amplifier and Cables Mitchell 1x214E	1.8	66.6	120
<u>X</u>	Cabin Light and Speaker	1.1	99.4	105
<u>X</u>	Rotating Beacon, Whelan Model WRM L-12	1.6	263.4	421
	Auxiliary Power Receptacle PAC 62225	2.6	163.5	425
	External Power Cable PAC 62355-2	4.6	142.8	657

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data Model PA 28-180
CHECKED		
APPROVED		PAGE 6 Section 1

Check if Installed	ITEM	WEIGHT (LBS.)	ARM AFT DATUM (INCHES)	MOMENT (POUND INCHES)
	<u>Instruments</u>			
<u>X</u>	Turn and Bank, Pioneer A-5	1.5	66.4	100
	Suction Gauge, AN5771-11	.4	68.1	27
<u>X</u>	Suction Gauge, U.S. Gauge AW1821AFO3	.4	68.1	27
<u>X</u>	Altimeter, AN5760-2 (C12 or C13)	Same as Standard Equipment Weight		
<u>X</u>	Rate of Climb, Pioneer C-7	1.4	66.8	94
<u>X</u>	Directional Gyro, Vacuum	2.5	66.6	167
<u>X</u>	Artificial Horizon, Vacuum	2.7	66.1	179
<u>X</u>	Air Temperature Gauge, Rochester Manufacturing Co., No. 1592-C2	.2	82.6	17
<u>X</u>	Clock, 8 Day	.4	68.3	27
	Directional Gyro, Vacuum (Auto Pilot)	4.3	66.6	286
	Artificial Horizon, Vacuum (Auto Pilot)	4.5	66.1	298
<u>X</u>	Tru-Speed Indicator, PAC 62143	Same as Standard Equipment Weight		
	Piper Course Selector PAC 31058	3.0	66.6	200

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data
CHECKED		Model PA 28-180
APPROVED		PAGE 7 Section 1

Check if Installed	ITEM	WEIGHT (LBS.)	ARM AFT DATUM (INCHES)	MOMENT (POUND INCHES)
	<u>Radio</u>			
	Piper Radio Compass PRC-3	4.5	64.4	290
	Piper VHF Transceiver PTR-1	5.0	64.8	324
	Piper Omni Convertor O-1	2.5	65.3	163
	King KX 150A	9.1	62.8	572
☒	Omni Antenna	1.2	203.0	243
☒	Whip Antenna	.7	131.0	92
	Low Frequency Antenna	.5	167.0	84
	Loop Antenna (PRC-3)	.3	54.5	16
☒	Narco Mark 12 VHF Transceiver	9.0	59.4	535
☒	NARCO MARK 12 (#2)	9.6	84.7	813.3
☒	Narco VOA-6 Omni Convertor	1.8	65.3	118
☒	NARCO AT-5A TRANSPONDER	5.8	140.7	816.5
	Narco VOA-5 Omni Convertor	2.9	65.3	189
	Narco ADF-30	9.9	107.9	1068
	Narco Omnigator VTR-2A Installation (Less Ant.)	14.0	58.0	812
	Marker Antenna	1.2	64.8	78
	Piper Radio Compass PRC-4	4.9	64.4	316
	Loop Antenna (PRC-4)	.4	112.6	45
	Piper Omni Convertor OL-1	2.8	65.3	183
	Narco ADF-31 (Panel Unit)	4.8	64.4	309
	Loop Antenna (ADF-31)	2.5	114.9	287
	Loop Cable (ADF-31)	2.3	89.0	205

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data
CHECKED		Model PA 28-180
APPROVED		PAGE 8 Section 1

Check if Installed	ITEM	WEIGHT (LBS.)	ARM AFT DATUM (INCHES)	MOMENT (POUND- INCHES)
<u>X</u>	<u>Miscellaneous</u>			
<u>X</u>	Nose Wheel Fairing	3.3	34.3	113
<u>X</u>	Main Wheel Fairing	7.4	109.6	811
<u>X</u>	Assist Step	1.8	156.0	281
	Toe Brakes (Dual)	10.5	54.6	574
<u>X</u>	Toe Brakes (Single)	5.0	54.6	273

3814

WEIGHT AND BALANCE REPORT

Ozark Skyways, Inc. Springfield, MO.

Work Order # _____ Date 11-9-77

AIRCRAFT TYPE PA-28-180 SERIAL 28-2520 REGISTRATION N8338W

ITEM	WEIGHT	ARM	MOMENT
AT5A Transponder Panel Unit	2.0	64.0	128.00
Remote Unit	5.3	177.0	938.10
MKX11 Panel Unit	5.7	64.0	364.80
Power Unit	3.9	115.0	448.50
Comm Antenna	.5	193.0	96.50
Transponder Antenna	.5	160.0	32.00
Aircraft	1307.0		111398.00
	1324.60		113405.90

New Aircraft Empty Weight 1324.6 New E.W.C.G. 85.62

New Useful Load 1075.4

Signature Theodore F. Burris Installation Shop Supervisor

Theodore F. Burris
AF P 1205837 (10)

PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight and Balance Data Model PA 28-180
CHECKED		
APPROVED		PAGE 9 Section 1

IT IS THE RESPONSIBILITY OF THE PILOT AND AIRCRAFT OWNER TO INSURE THAT THE AIRPLANE IS LOADED PROPERLY. THE EMPTY WEIGHT C. G. IS FOR THE AIRPLANE AS DELIVERED FROM THE FACTORY. REFER TO FORM FAA-337 WHEN ALTERATIONS HAVE BEEN MADE.

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 empty weight moment by the total empty weight to determine the C. G. arm aft datum.
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 all weight and balance requirements.

SAMPLE LOADING PROBLEM

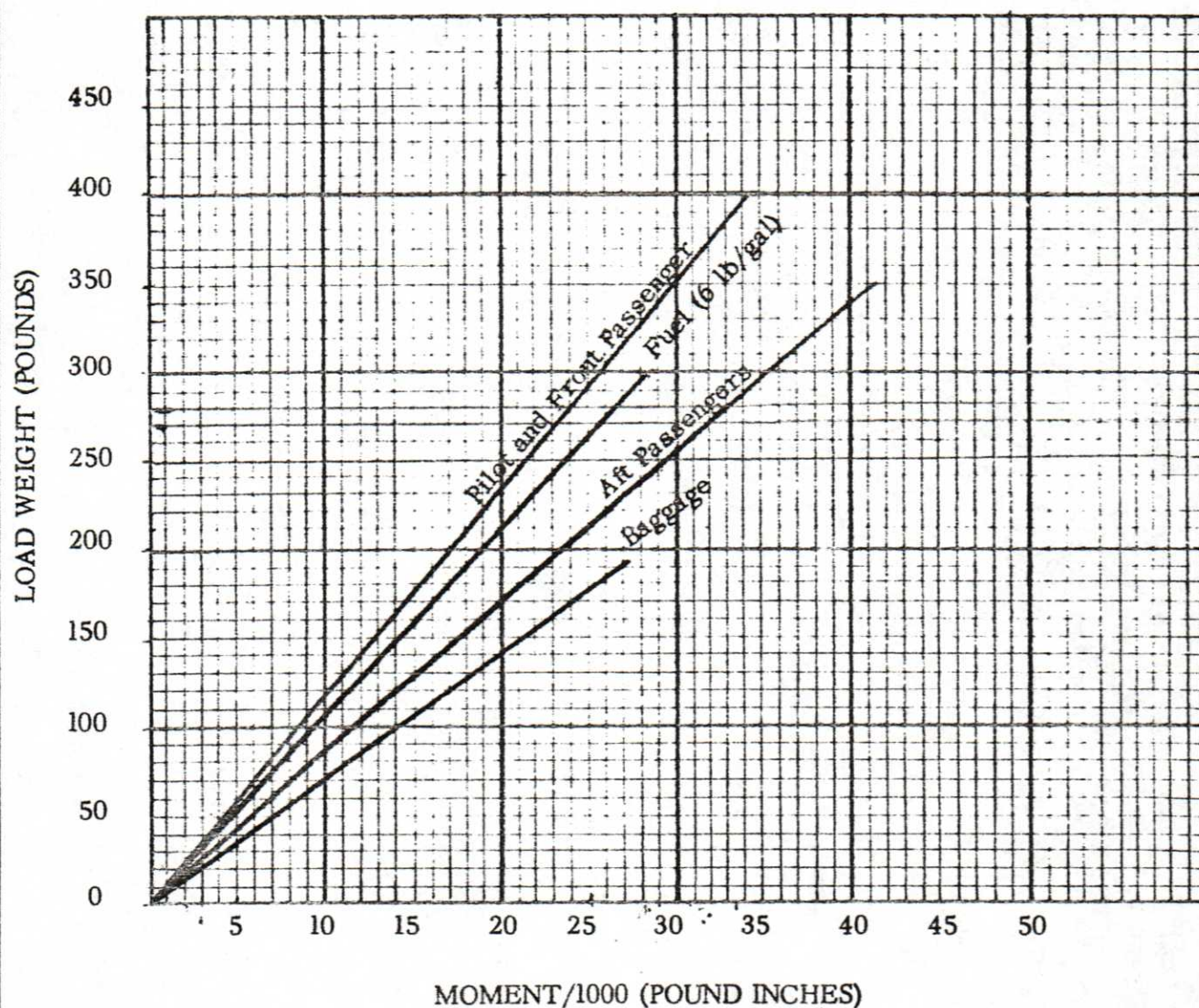
	WEIGHT (LBS.)	ARM AFT DATUM (INCHES)	MOMENT (POUND-INCHES)
LICENSED EMPTY WEIGHT	1307 1342.3	85.2 85.6	111398 114912.26
OIL (2 GAL.)	15	31.7	476
PILOT & PASSENGER	340	85.5	29070
FUEL 50 gal.	300	95.0	28500
PASSENGERS (REAR SEAT)	340	118.1	40154
BAGGAGE	98	142.8	13994
TOTAL LOADED AIRPLANE	2400		223592

$$\frac{223592}{2400} = 93.2 \text{ INCHES (ARM AFT DATUM)}$$

LOCATE THIS POINT (93.2) ON THE C. G. RANGE AND WEIGHT GRAPH. SINCE THIS POINT FALLS WITHIN THE C. G. ENVELOPE THE LOADING MEETS ALL WEIGHT AND BALANCE REQUIREMENTS.

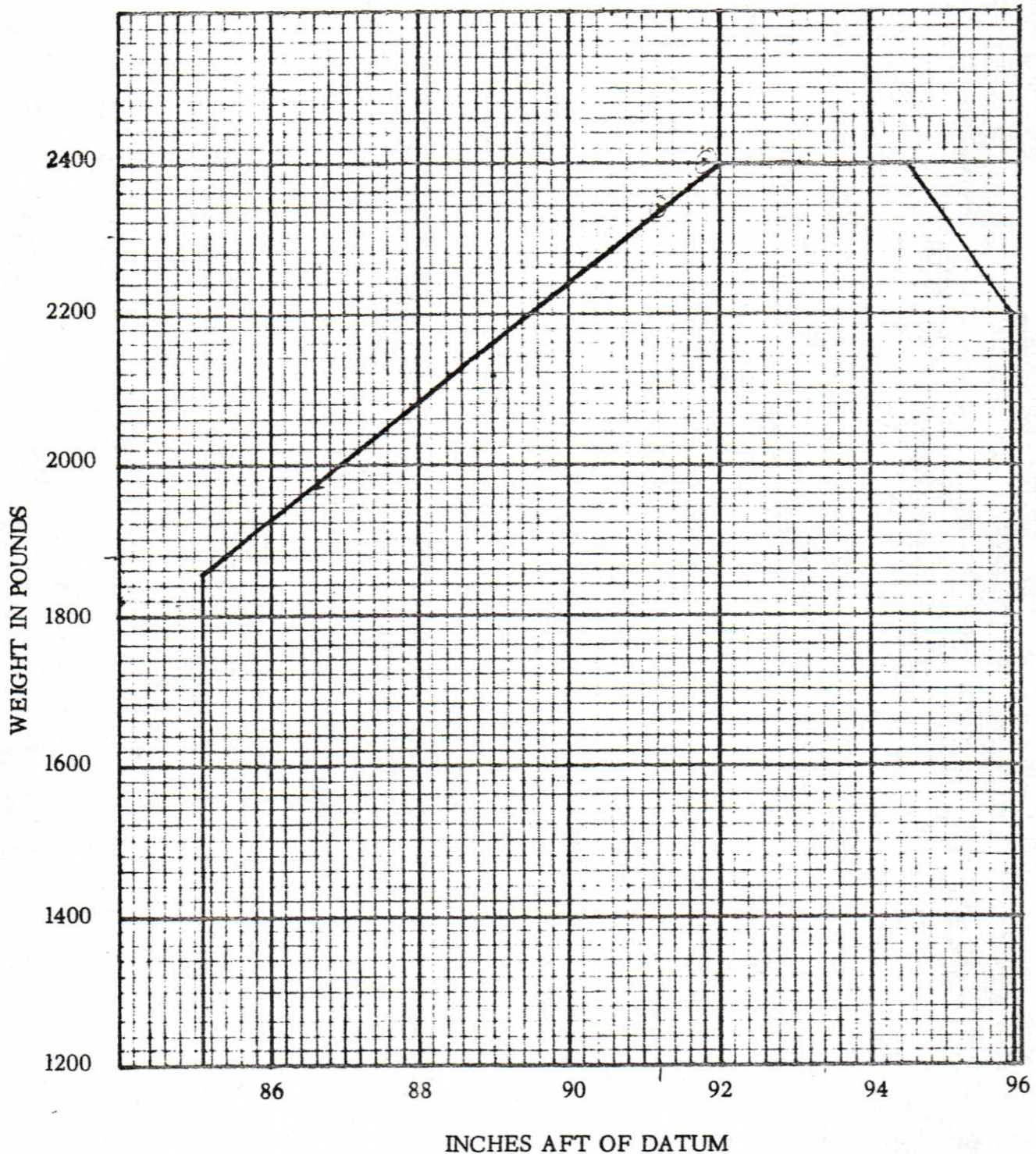
PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight & Balance Data Model PA 28-180
CHECKED		
APPROVED		PAGE 10 Section 1

LOADING GRAPH



PREPARED	PIPER AIRCRAFT CORP. DEVELOPMENT CENTER, VERO BEACH, FLA.	Weight & Balance Data Model PA 28-180
CHECKED		
APPROVED		PAGE 11 Section 1

C.G. RANGE AND WEIGHT



KINGS AVIONICS, INC.

PHONE (913) 829-4606

151ST AND PFLUMM • OLATHE, KANSAS 66062

MINOR ALTERATION

WEIGHT & BALANCE AND INSTALLED EQUIPMENT DATA

Date	Make & Model	Registration Number	Serial Number
7-7-85	PA-28-180	N-8338W	8-2520

Owner: Bill Miller

Item	Weight	Arm	Moment
A/C Empty Wtg:	1342.3	85.6	114912.26
Installed:			
KN-64	2.6	65.3	169.78
	1344.9		115082.04

*Superseded
5-13-87
R.S. 364-78*

Gross Weight = 2400
Empty Weight = 1344.9
Useful Load = 1055.1
C. G. (Arm) = 85.57

Signature of Authorized Individual

Raymond

KINGS AVIONICS, INC.

Repair #364-78

"SPECIALIZED AVIONICS SERVICE"

CHEROKEE PA28-180 N8338W WEIGHT AND BALANCE

	<u>WEIGHT</u> (pounds)	X	<u>ARM</u> (inches)	=	<u>MOMENT</u> (in-lbs)
EMPTY WEIGHT	1321.4		85.60		113106.09
FRONT PAX			85.5		
REAR PAX			118.1		
OIL (8QTS)	15		31.7		475.5
FUEL			95.0		
BAGGAGE	_____		<u>142.8</u>		_____
TOTAL					

MOMENT/WEIGHT = ARM