PA32 Saratoga(Fixed Gear) GBVWZ Handling tips.

This aircraft has a Basic Weight of 2334 lbs-with a MTOW of 3600 lbs it has a useful payload of 1266 lbs eg 70 usg Fuel(420 lbs) and 4 x200 lbs Adults(800 lbs) theoretically still gives 'room' for your handbag!(6 lbs)-Care though as the CofG envelope only allows 5 inches tolerance between FWD Limit and AFT Limit at MTW.

For take off I recommend 25 degree Flap setting regardless of runway(Grass/Tarmac)-this aircraft will 'alight' at around 75kias very comfortably in this configuration.

After take off 'touch' toe brakes to stop mainwheels spinning-just as (hopefully!) you would in a retractable.

Remember to turn fuel pump off after passing a 'safe' altitude (1000aal) as it works hard on this variant and is not designed to run continuously.

'Sans' Cowl flap means keeping a wary eye on oil temp-during a +30c Take off recently I noticed Oil Temp at Top of Green passing 2000 QNH and increased climb speed accordingly (to 110kias) until top of climb-this particular engine is still 'bedding in' at the time of writing this(Aug 2018) having been overhauled by Norvic earlier this year.

I have made some notes in Journey Log regarding 'Cruise' 24/2200 equates to approx. 65% and gives 133 KTAS @ F050 @OAT +16C-increasing to 25 inches increases fuel burn for very little speed increase and I recommend Flight Planning 130 Kts for this aircraft-it averaged 61 Litres/Hr on recent 4.5hr trip(uplift of 276 Litres) which included 2 Starts/take off/climbs to altitude F030 and F050.

Avoid topping oil up above 9 qts-it will simply settle back at '9' having blown out over nose spat/underbelly!

Use 'Short Field' every time into EGMA-in practise you can reduce below the POH 79kias if less than MTW(MLW!)-as part of checkride I like to see a 70kias approach to land for the 'short field'.

Generally the aircraft is fuelled to 35USG per side as this allows a useful cabin payload of 800 lbs theoretically-you will need to reduce fuel load by prior arrangement if you require more payload-please check the Weight and Balance info provided.

This is a great 'touring' aircraft-very comfortable for 4 adults and their overnight baggage with good range,'benign' handling and a useful Auto-pilot and Avionics suite including Stormscope.

GBVWZ PA32-301 Saratoga sn 3206055

		KIAS	VB-1060
Vr Rotation	Normal	74-80	4-9
	Short Field	58-66	4-9
Vx Best Angle of Climb		76	4-2
Vy Best Rate of Climb		90	4-2
Vfe Max Full Flap Extended		112	4-2
Cruise Climb		100	4-10
Vso Stall 40'Flap		58	4-26
Vs1 Stall '0' Flap		62	4-26
Va Design Maneuvering@3600 LBS		134	2-1
@2225 LBS		104	2-1
VNE Never Exceed		197	2-1
Vno Max Structural Cruise		154	2-1
Norma l Approach		95	4-24a
Short Field Approach		79	4-24a
Best Glide		80	3-3
Door Open in Flight reduce to		87	3-7
Max Demo X Wind		17	4-2
Total Fuel Capacity	107 usg		2-6
Useable Fuel	102 usg		2-6

G-BVWZ COL/086 7th APR 2006

	Weight (Lbs)	Arm Aft Datum (Inches)	Moment (In-Lbs)
Basic Empty Weight	2334-00	85-68	199966-50
Pilot and Front Passenger		85.5	
Passengers (Center Seats) (Forward Facing)	—	118.1	—
Passengers (Center Seats) (Aft Facing) (Optional)		119.1	
Passengers (Rear Seats)		157.6	
Passenger (Jump Seat) (Opt.)	—	118.1	—
Fuel (102 Gallon Maximum)		94.0	
Baggage (Forward) (100 Lb. Limit)		42.0	
Baggage (Aft) (100 Lb. Limit)		178.7	
Ramp Weight (3615 Lbs. Max.)			
Fuel Allowance for Engine Start, Taxi & Runup	-15.0	94.0	-1410
Take-off Weight (3600 Lbs. Max.)			

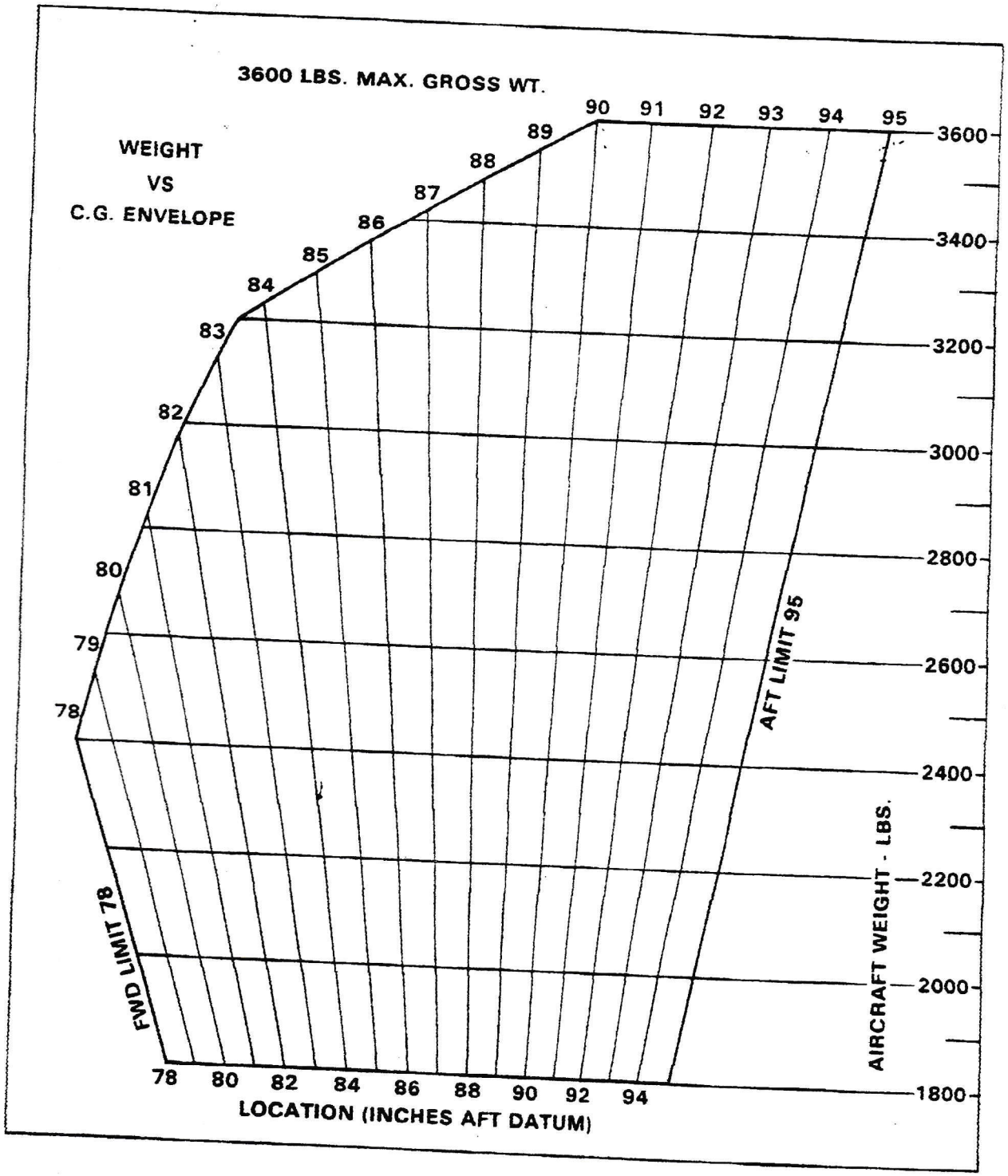
The center of gravity (C.G.) for the take-off weight of this sample loading problem is at inches aft of the datum line. Locate this point ( ) on the C.G. range and weight graph. If this point falls within the weight - C.G. envelope, this loading meets the weight and balance requirements.

Take-off Weight			
Minus Estimated Fuel Burn-off (climb & cruise) @ 6.0 Lbs/Gal.		94.0	
Landing Weight			

Locate the center of gravity of the landing weight on the C.G. range and weight graph. If this point falls within the weight - C.G. envelope, the loading may be assumed acceptable for landing.

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

WEIGHT AND BALANCE LOADING FORM (NORMAL CATEGORY)
Figure 6-11



C.G. RANGE AND WEIGHT
Figure 6-15

POWER SETTING TABLE — LYCOMING I0-540K ENGINE

PRESS. ALT. FEET	STD. ALT. TEMP. °C	RPM	55% POWER 2200	2300	2400	2500	2600	65% POWER 2200	2300	2400	2500	2600	75% POWER 2200	2300	2400	2500	2600
			MANIFOLD PRESSURE – INCHES MERCURY														
S.L.	15		22.9	22.1	21.6	21.1	20.7	25.8	24.8	24.0	23.5	23.1	28.2	27.1	26.4	25.7	25.1
1000	13		22.5	21.8	21.3	20.7	20.4	25.3	24.4	23.7	23.1	22.7	27.6	20.6	25.9	25.3	24.8
2000	11		22.1	21.4	21.0	20.5	20.1	24.8	24.0	23.3	22.8	22.4	27.0	26.2	25.5	25.0	24.5
3000	9		21.8	21.1	20.7	20.2	19.8	24.3	23.6	23.0	22.4	22.1	26.5	25.8	25.2	24.7	24.2
4000	7		21.5	20.8	20.4	20.0	19.5	23.8	23.3	22.6	22.1	21.8	—	25.5	24.8	24.4	24.0
5000	5		21.2	20.5	20.1	19.7	19.3	23.4	22.9	22.3	21.8	21.5	—	—	24.6	24.1	23.7
6000	3		20.8	20.3	19.9	19.4	19.0	23.0	22.5	22.0	21.5	21.2	—	—	—	23.9	23.5
7000	1		20.5	20.0	19.6	19.1	18.8	22.6	22.2	21.7	21.2	20.9	—	—	—	—	23.3
8000	-1		20.2	19.7	19.3	18.9	18.5	22.2	21.8	21.4	20.9	20.6					
9000	-3		19.9	19.5	19.1	18.6	18.3	—	—	21.1	20.6	20.3					
10000	-5		19.6	19.2	18.8	18.4	18.0	—	—	—	20.3	20.0					
11000	-7		19.3	19.0	18.6	18.2	17.8	—	—	—	—	19.7					
17000	-9		—	18.7	18.4	17.9	17.6										
13000	-11		—	—	—	17.7	17.4										
14000	-13		—	—	—	—	17.2										

APPROXIMATE FUEL FLOW

55% Power	11.9 GPH
65% Power	13.8 GPH
75% Power	16.0 GPH

To maintain constant power, correct manifold pressure approximately 0.15" Hg for each 5°C variation in induction air temperature from standard altitude temperature. Add manifold pressure for air temperature above standard; subtract for temperature below standard.

NOTE: Full throttle manifold pressure values may not be obtainable when atmospheric conditions are non-standard.

Figure 5-25
POWER SETTING TABLE