



Dakota N2363U
PA 28-236

Aircraft Transition and Check out



Topics

- Overview and comparison of Dakota
- Special Equipment
- Operating Requirements
- Operating Questionnaire

For Information Only !

Please consult the Pilot's Operating Handbook for complete information.

Engine and Propeller

- **Engine:**
 - – Lycoming, O-540-J3A5D, (6) Cylinders
 - 235 Horsepower
 - Max. RPM: 2400
 - TBO: 2000 Hours
 - Fuel Burn: ~(13) Gallons / Hour at Cruise
- **Propeller:**
 - Hartzell, Three-Blade, Constant Speed
 - 80” Diameter
- **Oil Capacity:**
 - (12) Quarts, (8-9) Quarts Normal
 - Add a Quart when Below (8) Quarts on Dipstick
- **Fuel Capacity:**



▪ Topped Off:	Total:	(77) Gallons, (38.5) Gallons per Side	(432) Lbs.
	Usable:	(72) Gallons, (36.0) Gallons per Side	
▪ To Tabs:	Total:	(57) Gallons, (28.5) Gallons per Side	(312) Lbs.
	Usable:	(52) Gallons, (26.0) Gallons per Side	



Airframe and Weight

- **Airframe:**

- Wingspan: (35) Feet, (6) Inches
- Length: (24) Feet, (9) Inches
- Height: (7) Feet, (5) Inches

- **Weights:**

- Max. Ramp Weight: 3011 Lbs.
- Max. Takeoff Weight: 3000 Lbs.
(Allows for Engine Start, Taxi, & Runup Fuel Burn)
- Max. Landing Weight: 3000 Lbs.
- Empty Weight: 1832 Lbs
- Useful Load (2/10/2023): 1168 Lbs.
- Payload w/Full Fuel: 736 Lbs.



Archer vs. Dakota vs. Trinidad

	<u>Archer</u>	<u>Dakota</u>	<u>Trinidad</u>
V_{SO} :	49	56	60
V_{S1} :	55	65	70
V_X :	64	73	67/81
V_Y :	76	85	73/95
V_{FE} :	102	102	103
V_A :	113 (@ 2550 Lbs.)	124 (@3000 Lbs.)	129 (@3100 Lbs.)
V_{NO} :	125	137	150
V_{NE} :	154	173	187
Demo. X-Wind:	17	17	25
Best Glide:	76	85	92

Abbreviated Procedures

- **Climb:**

- Rotation 60-65 KIAS
- Best Angle: 73 KIAS
- Best Rate: 85 KIAS
- Cruise Climb: 100 KIAS

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- **Cruise:**

- Fuel Pump Off: At Desired Altitude
- Normal Max. Power: 75%
- Reference Power Settings: Pilot's Sun Visor
- Lean Mixture w/EGT Gauge: 50° Rich of Peak EGT





Abbreviated Procedures (con't)

•Normal Traffic Pattern:

With Each Leg, Perform “**GUMPS**” Check (Gas, Undercarriage, Mixture, Power/Prop, Seatbelts)

- | | | |
|-------------------------|-----------------------|--|
| 1. Downwind: | <u>G</u> as: | Fuel Pump ON, and on Fullest Tank |
| | <u>U</u> ndercarriage | Locked Down (<i>“Welded Down” in Dakota</i>) |
| | <u>M</u> ixture: | Full Rich |
| | <u>P</u> ower: | 15” Manifold Power |
| | <u>F</u> laps: | 10° |
| | Airspeed: | 85 KIAS |
| 2. Key Position: | Power: | Reduce to 11” MP for 500 FPM Descent |
| 3. Base: | <u>F</u> laps | 25° |
| | <u>P</u> rop: | SLOWLY Advance to Full Forward
(<i>Do Not Overspeed Prop</i>) |
| | Airspeed: | 80 KIAS |
| 4. Final: | <u>P</u> rop: | Verify Full Forward for Go-Around |
| | <u>F</u> laps: | 40° |
| | Airspeed: | 75 KIAS |
| Over the Fence: | Airspeed: | 70 KIAS |

Engine Chart

Lycoming O-540-J3A5D 235 HP @ 2400 RPM

RPM	200 HP 85% Power			175 HP-75% Power			153 HP- 65% Power				129 HP-55% Power				
	2200	2300	2400	2200	2300	2400	2100	2200	2300	2400	2100	2200	2300	2400	
Pressure Alt	Manifold Pressure - in. Hg														
SL	27.2	26.4	25.5	24.6	23.9	23.1	23.2	22.4	21.7	21.0	20.8	20.0	19.4	18.7	
1000	26.9	26.1	25.3	24.3	23.6	22.9	22.9	22.2	21.5	20.8	20.5	19.8	19.2	18.5	
2000	F.T.	25.8	25.0	24.1	23.4	22.6	22.7	21.9	21.2	20.6	20.3	19.5	19.0	18.3	
3000		F.T.	24.7	23.8	23.1	22.4	22.4	21.7	21.0	20.4	20.0	19.3	18.8	18.1	
4000			F.T.	23.5	22.8	22.1	22.1	21.4	20.8	20.2	19.8	19.1	18.5	17.9	
5000				23.2	22.6	21.9	21.9	21.2	20.5	20.0	19.5	18.9	18.3	17.7	
6000				F.T.	22.3	21.7	21.6	21.0	20.3	19.7	19.3	18.6	18.1	17.5	
7000					F.T.	21.5	21.3	20.7	20.1	19.5	19.1	18.4	17.9	17.3	
8000						F.T.	21.1	20.5	19.9	19.3	18.8	18.2	17.7	17.2	
9000							F.T.	20.2	19.7	19.1	18.6	18.0	17.5	17.0	
10,000								F.T.	19.4	18.9	19.3	17.7	17.2	16.8	
11,000									F.T.	F.T.	18.1	17.5	17.0	16.6	
12,000											17.8	17.3	16.8	16.4	
13,000											F.T.	17.0	16.6	16.2	
14,000												F.T.	16.4	16.0	
15,000													F.T.	15.8	
16,000														F.T.	

Note: Add approximately 1% for each 6°C above standard, subtract approximately 1% for each 6°C below standard



Flight Planning

FAA Plane type:	P28B
ICAO Equipment	B,G,R,S
Surveillance Equipment	B1,C
After new transponder	B2, E
PBN Codes	B2,C2,D2
Wake Turbulence	L



Syracuse Flying Club Member Operation Requirements for Dakota N2363U

Private Pilot certificate or Better with at **least 10 hrs in P28A**

<100 hrs total time

ground training for HP endorsement

5 hrs of flight training

10 full stop take off/landings

>100 hrs total time

without HP endorsement

ground training for HP endorsement

3 hrs of flight training

5 full stop take off/landings

with previous HP endorsement

1 hr ground training

1 hr flight training

(sufficient for flight review endorsement)

Above requirements are a minimum.

CFI may require additional time or maneuvers before sign off



Dakota N2363U Questionnaire

Member Name _____ CFI Name _____

Complete this open book questionnaire using the POH. The minimum passing score is 80% corrected to 100%.

1. Total Fuel Capacity 77 gal. Usable fuel 72 gal. Location Wing
2. Number of fuel drains 3 Fuel Color Blue
3. The engine horsepower is 235.
4. Today's average fuel burn is estimated to be 13 GPH; providing 5 1/2 Hrs. of endurance.
5. Oil Capacity is 12 quarts. Minimum for take-off is 8 quarts.
6. Maximum take-off weight 3000 Maximum landing weight 3000
7. Maximum RPM and MP for take-off are 2400 and Full Throttle in/Hg.
8. White ARC 56-102 KIAS range Green ARC 65-137 KIAS Range



Dakota N2363U Questionnaire

Member Name _____ CFI Name _____

Complete this open book questionnaire using the POH. The minimum passing score is 80% corrected to 100%.

9. Gliding distance @ 3,500 ft AGL, max weight, zero wind 7 NM.
10. This plane operates on a 12 volt electrical system. Main battery 12 volts.
11. Magnetos are checked at 2000 RPM. RPM drop should not exceed 175 RPM
12. Useful load for today's flight is ??.
13. Take-off & Landing distance for today's flight is: T/O ?? ft. Landing ?? ft.
14. Today's density altitude is ??.



Dakota N2363U Questionnaire

Va (Max Weight)	124	Vx	73
Vso	56	Vy	85
Vs ₁	65	Vr	60-65
Vne	137	Vfe	102
Vno	173	Best Glide	85



Complete Memory Items:

- Engine fire during start

Continue cranking, Mixture Idle Cut-off, Open Door, Exit

Engine failure during flight (restart)

Mixture-Full Rich, Fuel Pump-ON, Switch Tanks
