

GETTING STARTED

THE BASICS

- KNOW THE AIRPLANE**
- KNOW THE ENVIRONMENT**
- KNOW YOURSELF**

Get instruction from experienced backcountry pilots or take one of the clinics.

KNOW YOUR AIRCRAFT

Know Aircraft – POH Performance numbers/tables – Actual vs. Book – Big Difference

- Takeoff, climb, cruise, and landing configurations / V speeds
 - Weight and balance limits & Effect on performance
 - Fuel consumption and range
 - Effects of Density altitude

Know YOUR Skills – Or have them evaluated

- Determine Airspeed/Power settings in different configurations
- Meet Commercial PTS standards – Slow Flight, Short/Soft Take off & landings
- Know your ability to match POH numbers

KNOW THE ENVIRONMENT

Know the geography and major landmarks
(peaks and drainage's) of the area in which
you are flying

Be familiar with local mountain & Canyon weather
General Circulation Patterns, thermal & turbulence,
Local Canyon Windflow Patterns

Know specific details of airstrips you are using
Approach and departure routes, Unique Hazards,
Lighting conditions

KNOW THYSELF

Total hours and type of flying time > 175 Hr PIC

Total time in make & model > 50 hr. HP

Currency – Tune up skills prior to flying the Backcountry

**GOOD JUDGEMENT COMES FROM EXPERIENCE –
EXPERIENCE USUALLY COMES BAD JUDGEMENT
(YOUR'S OR PREFERABLY SOME ELSE'S)**

**YOUR ATTITUDE!! – Knowledge and Skill don't make up for
BAD Judgment**

MURPHY'S LAW RULES

This is a whole new world of flying, and the techniques may be entirely different than what you learned in basic flight training

NEVER BECOME COMPLACENT - Part Time Pilots - Full Time Mountains.

PREPARATION - SKILLS

KNOWLEDGE

- REVIEW – KNOW POH; PERFORMANCE CHARTS, RECOMMENDED SHORT/SOFT FIELD PROCEDURES, V_x , V_y , V_a , V Best Glide.
- DO DA, PERFORMANCE CALCULATIONS FOR AIR STRIP YOU WILL BE USING FOR PRACTICE.
- AIR STRIP RESEARCH – AFD / CHARTS / TOPO MAPS / WEB / ASK
- FLIGHT PLANNING – FUEL/WEIGHT TRADE OFF'S/ROUTE
- REVIEW WEATHER

SKILL PRACTICE – TUNE UP

- SLOW FLIGHT, LEVEL, TURNS, CLIMBS, DECENTS IN SLOW FLIGHT
- SHORT/SOFT TAKE-OFF (COMPARE ACTUAL TO POH T/O & R.O.C)
- SHORT FIELD LANDINGS (HIT TARGET WITHIN 100' - CONSISTANTLY)
- CANYON 180 TURN (MODIFIED CHANDELL)
- EMERG PROCEDURE – BEST GLIDE
- DETERMINE AIRSPEED CONFIG, STALL SPEEDS – NEXT SLIDES

DETERMINE YOUR AIR SPEEDS/POWER SETTINGS AT 8,000 – 10,000 DA

Press alt: _____ Temp _____ / DA _____ Weight _____ # _____ %gross
C182 – N _____

	Flaps	IAS(mph)	MP/RPM	
Cruse	0	125	_____/ 2450	
Cruse Va	0	120	_____/ 2450	
Slow Cruse	0	100	_____/ 2300	
Canyon/Strip ck out	20	80	_____/ 2200	level ft.
Downwind -300 ft/min	20	80	_____/ Max	
Base/Final - 500 ft/min.	30	75	_____/ Max	(carb heat)
ShrtFinal- 500 ft/min	40	69	_____/ Max	(carb heat)
Vr (7500')	20	60	Max / 2600	
Takeoff Vx (7500')	20	60	Max / 2600	ROC _____
Takeoff Vy (7500')	0	83	Max / 2600	ROC _____

Vx increases with alt – decreases with weight

Vy decreases with Alt – decreases with wieght

KNOW YOUR AIR SPEEDS - MCA / STALL

At 8000 - 10,000 DA, determine Power (MP/RPM) setting at MCA and stall with flap configurations and typical weight.

Test altitude: _____ / DA _____ Weight _____

<u>Flaps</u>	<u>Vso</u>	<u>Vso</u>	<u>MCA</u>	<u>Power</u>
Bank	0	45	MP/RPM	
<u>0</u>	_____	_____	_____	____/____
<u>20</u>	_____	_____	_____	____/____
<u>40</u>	_____	_____	_____	____/____

BACK COUNTRY FLIGHT PLAN EXAMPLE

PLANNING

GENERAL – TRIP WITHIN PILOT/AIRCRAFT CAPABILITIES

HOW MUCH CARGO

HOW LONG OF FLIGHT – ROUTE, ALTITUDE, FUEL BURN ESTIMATES

HOW MUCH FUEL TO LEAVE WITH?

WEIGHT / BALANCE

ENOUGH FOR PLANNED TRIP + RESERVES

DO I HAVE TOO MUCH WEIGHT FOR SAFE PERFORMANCE?

CAN I LAND AND TAKE-OFF SAFELY AT THE STRIPS I PLAN TO GO TO?

BACK COUNTRY FLIGHT PLAN EXAMPLE

DAY TRIP

NAMPA TO SULPHUR CR. – BREAKFAST

SULPHUR CR. – GRAHAM VIA STANLEY SAWTOOTH RANGE

DAY OF FUN AT GRAHAM – BACK TO NAMPA IN THE EVENING

Weather Forecast Mid Summer; Severe Clear and Hot, calm winds

**Recent temp history in Stanley 60 @ 6 am, 80 @ 10 am, 96 @ 2 pm, 85 @ 6 pm,
65 @ 10 pm**

Winds Aloft : 6.000' 2707+16 9'000' 1811+10; 12,000' 1915+06

Pressure 30.02

CARGO – 750 #

STRATEGY

LEAVE EARLY – RETURN LATE – AVOID HEAT AND WINDS

BE IN GRAHAM BY 10 AM

LEAVE GRAHAM ~ 8:00 – 9 PM DEPENDING ON WEATHER

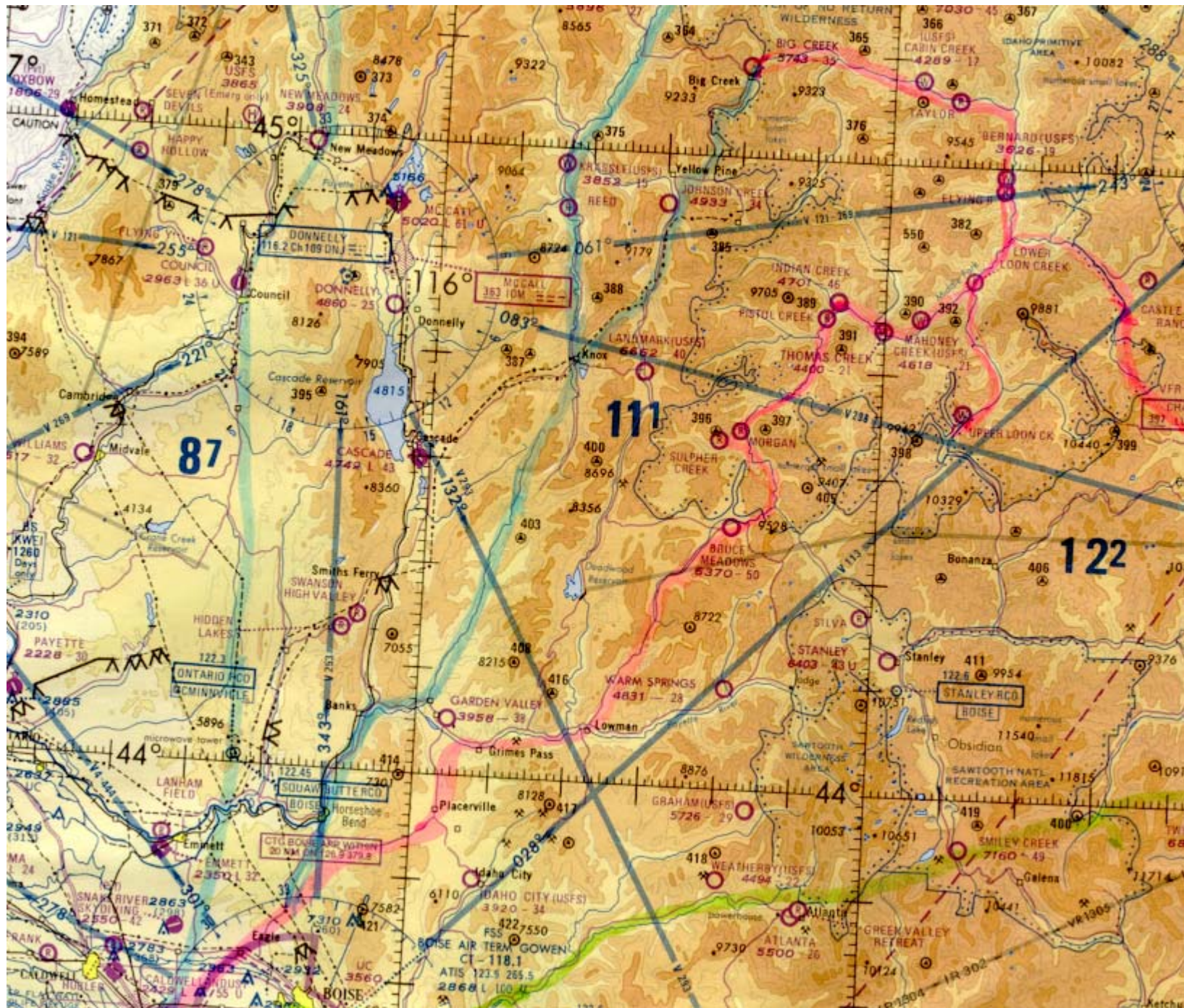
BACK IN VALLEY BEFORE DARK

(BE PREPARED TO SPEND THE NIGHT)

BACK COUNTRY FLIGHT PLAN EXAMPLE

ROUTE PLANNING – USUALLY NOT DIRECT

- Select destinations capable of plane performance, weight, and pilot skill.
- Plan route – fly roads, rivers, valleys, meadows, airstrips – maximize emerg. landing possibilities.
- Choose Altitude – VFR alt. when possible, at least 1000' over peaks, passes.
- Plan alternate routes (low level) for weather, low ceilings.
- Estimate flight times, fuel burn (1 hr. min reserve to refueling locations)



BACK COUNTRY FLIGHT PLAN EXAMPLE

FLIGHT TIME ESTIMATES – SOFTWARE OR TRADITIONAL

(I USE DUATS – ADD 15 MIN TO LEG TIME AND 3 GAL FUEL)

	<u>DEP</u>	<u>ARR</u>	<u>TEMP</u>	<u>TIME</u>	<u>FUEL</u>
S67 TO SUL CR.	6 AM	7AM	EST	60 MIN	13 GAL
SUL CR – GRAHAM	8:30		70°	60 MIN	13 GAL
SENIC LOOPS		10AM		30 MIN	7 GAL
GRAHAM – NAMPA	8:30PM	9:15PM	70°	45 MIN	10 GAL
RESERVE				60	13 GAL
				-----	-----
TOTAL				4.25 HR	56 GAL

BACK COUNTRY FLIGHT PLAN EXAMPLE

HOW MUCH FUEL TO LEAVE WITH?

ENOUGH FOR PLANNED TRIP + RESERVES – YES

WEIGHT / BALANCE - SLIGHTLY OVER - 25# 29Q, 12# 91X

SOME OPTIONS -

REDUCE SCENIC PART OF TRIP TO 15 MIN.

CUT BACK RESERVE

REDUCE WEIGHT

MORE EFFICIENT CRUISE – BUT LONGER TIME

TAKE OFF SLIGHTLY OVERWEIGHT

MEASURE FUEL AT SC – CHECK ASSUMPTIONS

DO I HAVE TOO MUCH WEIGHT FOR SAFE PERFORMANCE?

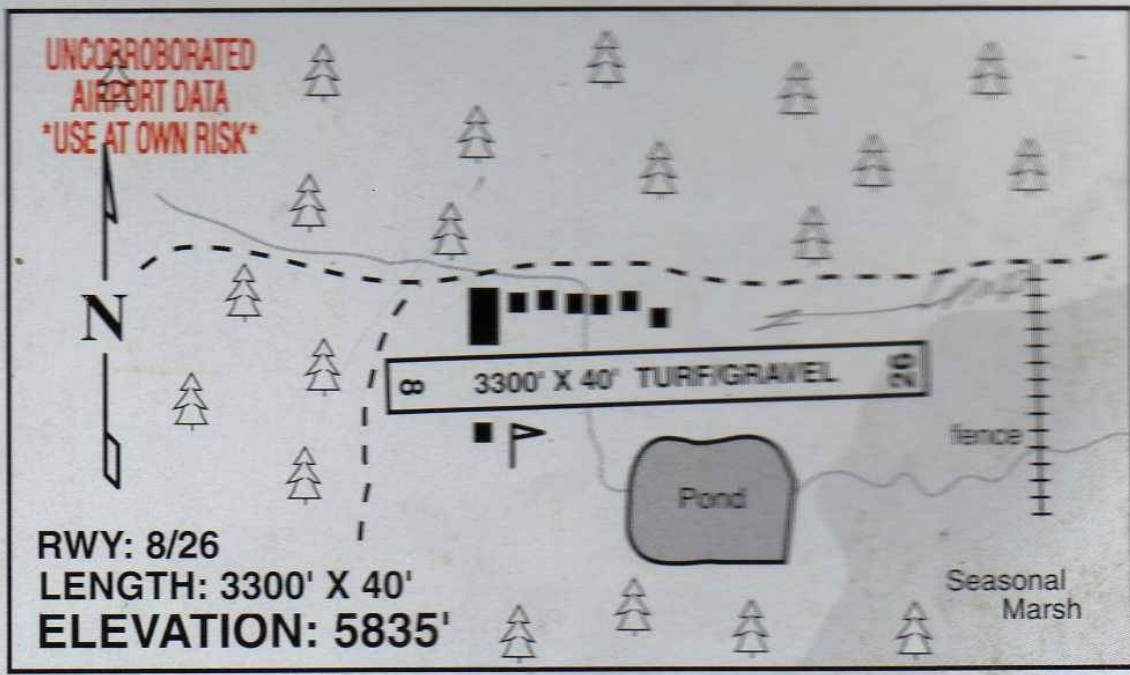
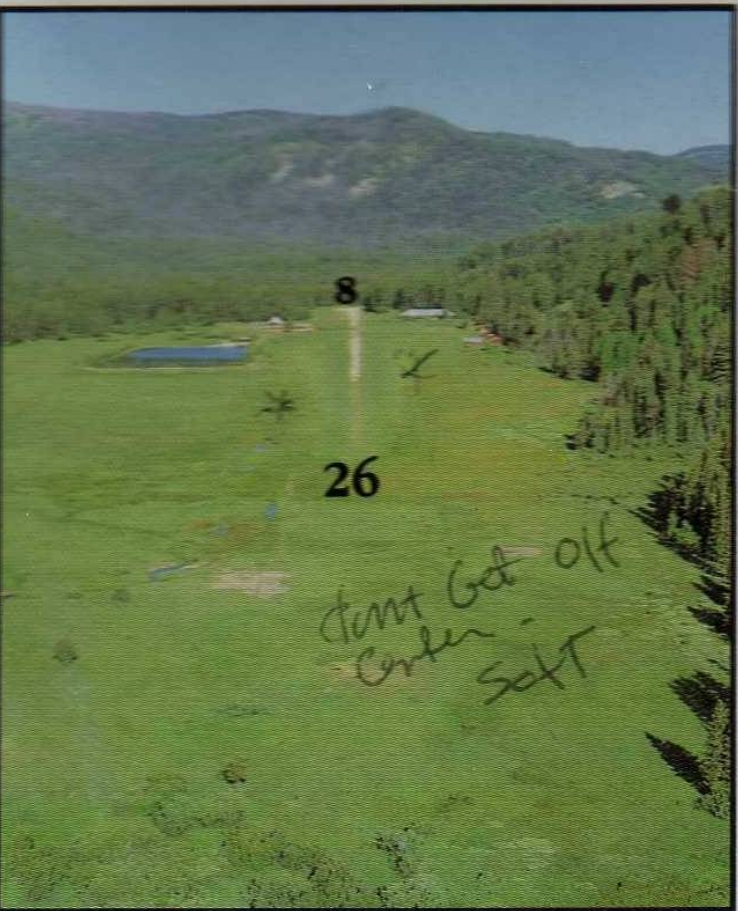
CAN I LAND AND TAKE-OFF SAFELY AT THE STRIPS I PLAN TO GO TO?

SULPHUR CREEK RANCH (W) NO ID

CTAF: 122.9
FSS: 122.6

Lat: N44-32
Long: W115-21

Class: Private
Chart: Great Falls



AIRPORT CAUTION • The IAFD recommends "land RWY 26 (upstream) take off RWY 8 (downstream); one way strip."
• Information: (208)377-1188.

SULPHUR CREEK

	15	RHI
08 AE	04 A/D	03 RSH

8

Soft

R
Soft

26



A-57

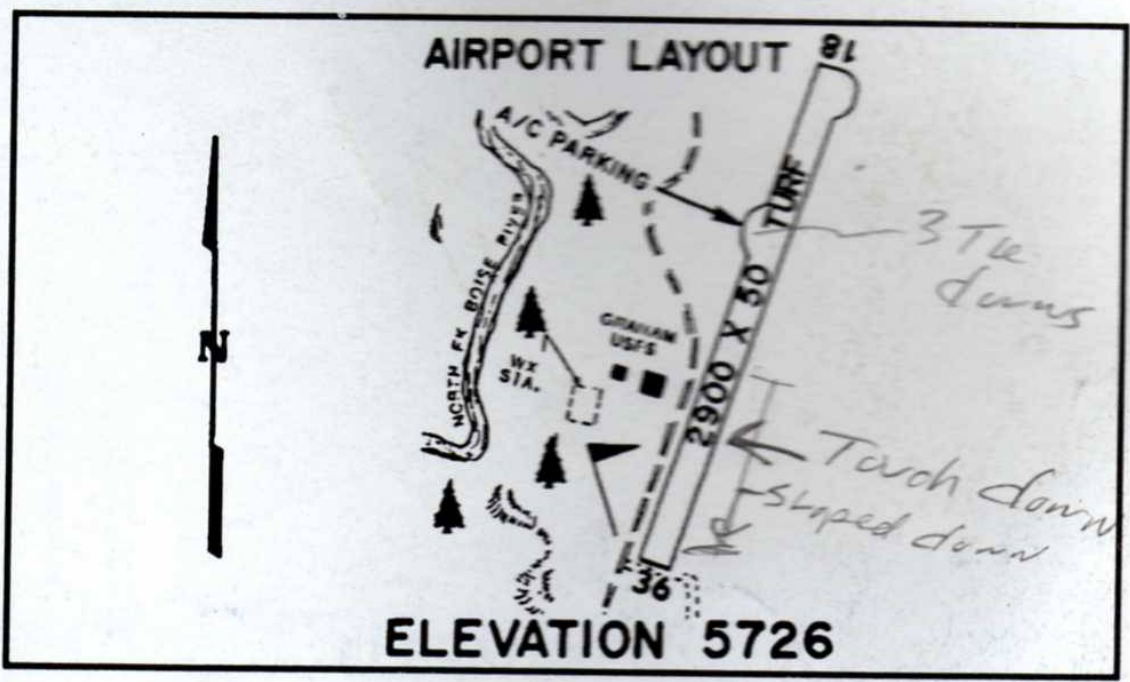
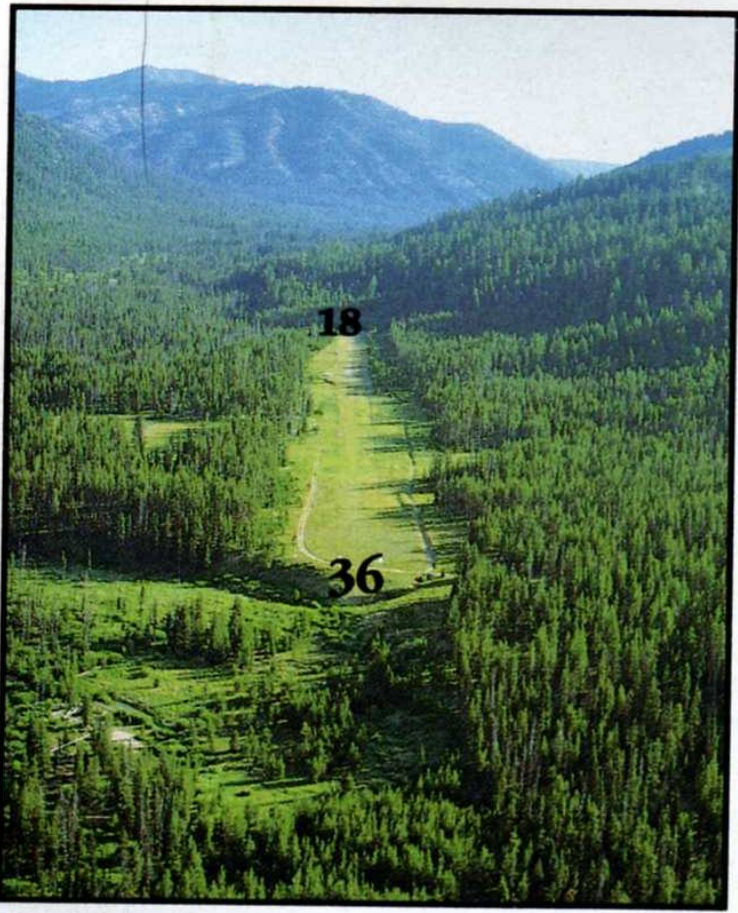
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GRAHAM

CTAF: 122.9
FSS: 122.6

Lat: N43-57.31
Long: W115-16.36

Class: USFS REC
Chart: Salt Lake



AIRPORT CAUTION • The IAFD recommends “landing RWY 36; depart RWY 18 when wind conditions allow. No line of sight between RWY ends. First 500' of RWY 36 is rough. • Close flight plan prior to landing. • No winter maintenance.”
• Info: (208)373-4100 Boise Forest Air Officer.

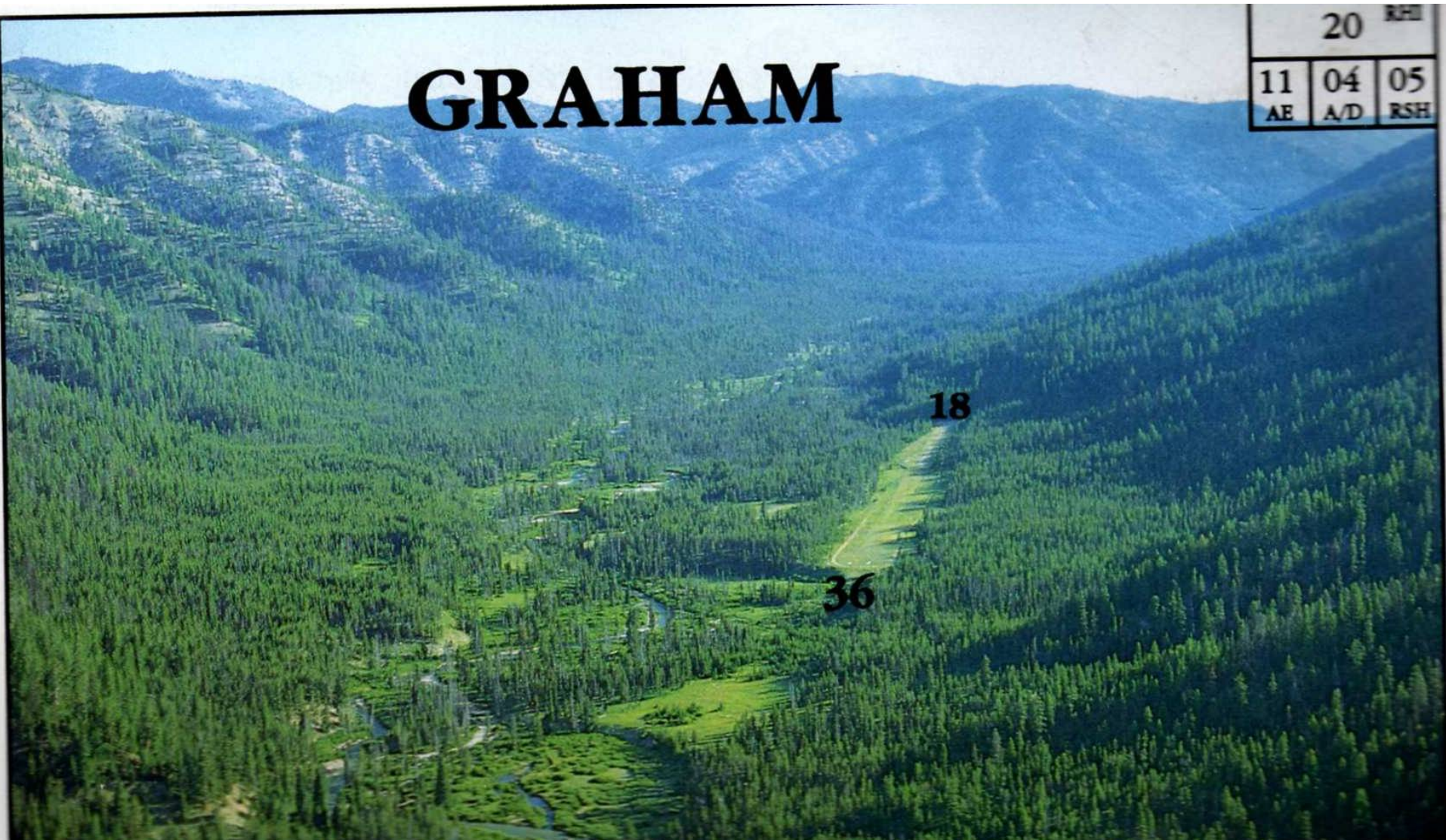
GRAHAM

20 RSH

11	04	05
AE	A/D	RSH

18

36



PERFORMANCE – KNOW EFFECT OF DENSITY ALT. AND PERFORMANCE CHARTS

- ❑ **DO** weight & balance; and expected % of gross weight at critical strips.
- ❑ **Calculate** Take-off distances and climb out rate at anticipated temperature and DA. Know worst case Temp. Use POH (add 25% fudge factor), KOCH card or take-off calculator (Sporty's TOC which I've found to be safe)

TAKE-OFF DATA - C182

TAKE-OFF DISTANCE WITH 20° FLAPS FROM HARD SURFACE RUNWAY.

GROSS WEIGHT LBS.	IAS @ 50' MPH	HEAD WIND MPH	AT SEA LEVEL & 59°F.		AT 2500 FT. & 50°F.		AT 5000 FT. & 41°F.		AT 7500 FT. & 32° F.	
			GROUND RUN	TOTAL TO CLEAR 50' OBS	GROUND RUN	TOTAL TO CLEAR 50' OBS	GROUND RUN	TOTAL TO CLEAR 50' OBS	GROUND RUN	TOTAL TO CLEAR 50' OBS
2800	61	0	625	1205	745	1420	895	1695	1095	2090
		15	380	830	460	990	565	1200	700	1505
		30	190	515	240	630	305	780	390	1000
2400	57	0	440	895	525	1035	630	1210	765	1460
		15	255	600	310	705	380	835	470	1020
		30	115	355	150	425	190	515	245	645
2000	52	0	295	655	350	745	415	855	500	1005
		15	160	425	195	490	235	570	290	680
		30	65	235	80	280	105	335	135	405

NOTES: 1. Increase distances 10% for each 25°F above standard temperature for particular altitude.

2. For operation on a dry, grass runway, increase distances (both "ground run" and "total to clear 50 ft. obstacle") by 7% of the "total to clear 50 ft. obstacle" figure.

3) TAIL WIND EVERY 2KT INCREASE 10% (FROM 172 POH)

MAXIMUM RATE-OF-CLIMB DATA

GROSS WEIGHT LBS.	AT SEA LEVEL & 59°F.			AT 5000 FT. & 41°F.			AT 10,000 FT. & 23°F.			AT 15,000 FT. & 5°F.			AT 20,000 FT. & -12°F.		
	IAS MPH	RATE OF CLIMB FT/MIN	GAL. OF FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED	IAS MPH	RATE OF CLIMB FT/MIN	From SL FUEL USED
2800	88	980	1.5	86	745	3.7	84	510	6.3	82	280	10.2	80	50	20.5
2400	86	1295	1.5	84	1005	3.1	82	720	5.0	79	435	7.6	77	150	12.9
2000	84	1710	1.5	82	1350	2.7	79	995	4.1	76	640	5.9	74	280	9.2

NOTES: 1. Flaps up, full throttle, 2600 RPM, mixture leaned for smooth operation above 5000 ft.

2. Fuel used includes warm-up and take-off allowance.

3. For hot weather, decrease rate of climb 30 ft./min. for each 10°F above standard day temperature for particular altitude.

STANDARD TEMP CHART		
PRESS ALT	DEG C	DEG F
SEA	15	59
1,000	13	56
2,000	11	52
3,000	9	49
4,000	7	45
5,000	5	42
6,000	3	38
7,000	1	35
8,000	-1	31
9,000	-3	28
10,000	-5	24
11,000	-7	21
12,000	-9	17
13,000	-11	14
14,000	-13	10
15,000	-15	7

C182 POH ADJUSTED TABLE

2800 # NO WIND

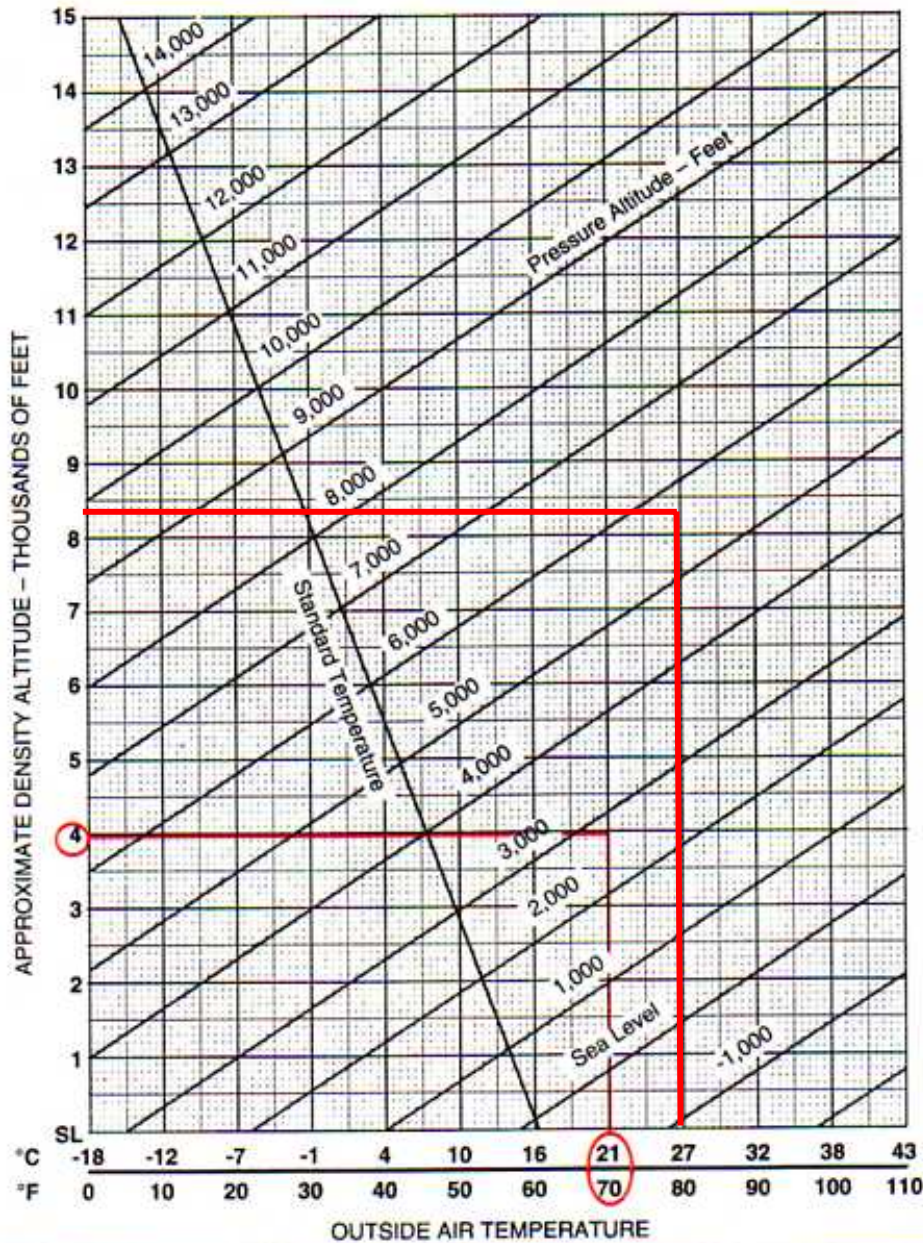
These tables extrapolated from the C182 in the previous slide. The 1st table are the POH numbers plus 25%, the 2nd table adds 7% for Grass Runways.

For Grass - add 7.0%

DA	WT	DIST ROTATE	CLR 50'	ROC
		POH + 25%		90% POH
5000	100%	1120	2115	670
5500	100%	1170	2215	645
6000	100%	1220	2315	620
6500	100%	1270	2415	595
7000	100%	1320	2515	570
7500	100%	1370	2615	545
8000	100%	1430	2720	520
8500	100%	1490	2825	495
9000	100%	1550	2930	470
9500	100%	1610	3035	445
10000	100%	1670	3140	420

DA	WT	ROTATE	CLR 50'	ROC
		POH + 25% +7%		90% POH
5000	100%	1198	2263	670
5500	100%	1252	2370	645
6000	100%	1305	2477	620
6500	100%	1359	2584	595
7000	100%	1412	2691	570
7500	100%	1466	2798	545
8000	100%	1530	2910	520
8500	100%	1594	3023	495
9000	100%	1659	3135	470
9500	100%	1723	3247	445
10000	100%	1787	3360	420

DA = 8,300'



Altimeter Setting ("Hg)	Pressure Altitude Conversion Factor
28.0	1,824
28.1	1,727
28.2	1,630
28.3	1,533
28.4	1,436
28.5	1,340
28.6	1,244
28.7	1,148
28.8	1,053
28.9	957
29.0	863
29.1	768
29.2	673
29.3	579
29.4	485
29.5	392
29.6	298
29.7	205
29.8	112
29.9	20
29.92	0
30.0	-73
30.1	-165
30.2	-257
30.3	-348
30.4	-440
30.5	-531
30.6	-622
30.7	-712
30.8	-803
30.9	-893
31.0	-983

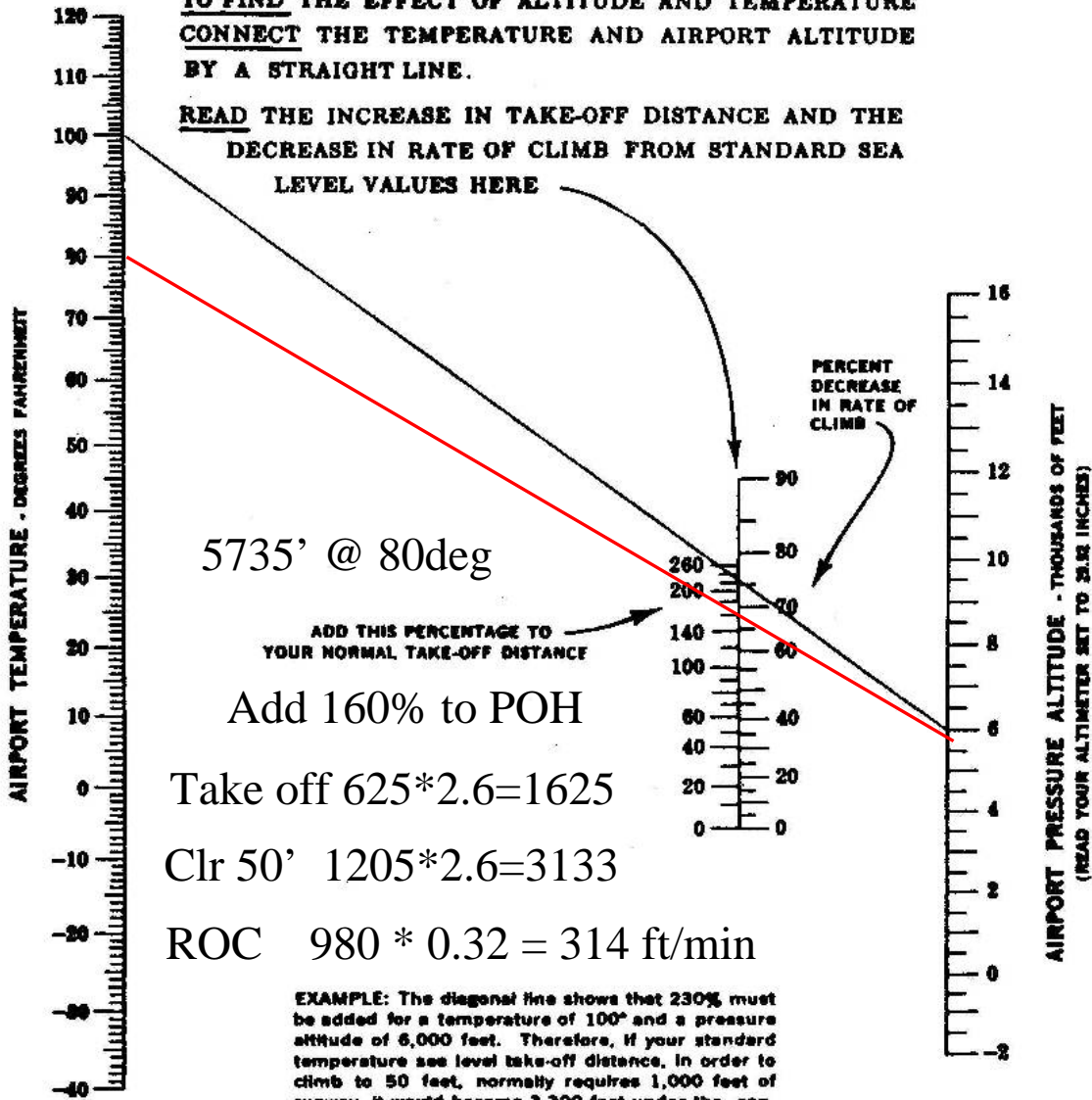
SC 5,835'

@ 30.02 P.A. = 5,735'

ALTITUDE AND TEMPERATURE EFFECTS

**TO FIND THE EFFECT OF ALTITUDE AND TEMPERATURE
CONNECT THE TEMPERATURE AND AIRPORT ALTITUDE
BY A STRAIGHT LINE.**

**READ THE INCREASE IN TAKE-OFF DISTANCE AND THE
DECREASE IN RATE OF CLIMB FROM STANDARD SEA
LEVEL VALUES HERE**



5735' @ 80deg

ADD THIS PERCENTAGE TO
YOUR NORMAL TAKE-OFF DISTANCE

Add 160% to POH

Take off $625 * 2.6 = 1625$

Clr 50' $1205 * 2.6 = 3133$

ROC $980 * 0.32 = 314$ ft/min

EXAMPLE: The diagonal line shows that 230% must be added for a temperature of 100° and a pressure altitude of 8,000 feet. Therefore, if your standard temperature sea level take-off distance, in order to climb to 50 feet, normally requires 1,000 feet of runway, it would become 3,300 feet under the conditions shown. In addition, the rate of climb would be decreased 75%. Also, if your normal sea level rate of climb is 500 feet per minute, it would become 120 feet per minute.

TAKE OFF CALCULATIONS - SULPHUR CREEK

TEMP	RUNWAY ALT.	BARO	P.ALT	DENSITY ALT.	RUNWAY SURF	RUNWAY SLOPE	WIND	METHOD	WEIGHT % GRS	DIST ROTATE	DIST CLR 50'	RUNWAY LENGTH	RATE OF CLIMB
90	5835	30.02	5735	8915	GRASS	-1	0	T.O CALC.	98%	1450	2750	3300	410
								POH		1660	3135		470
								KOCH		1750	3374		294
80				8324	GRASS		0	T.O CALC.		1400	2600		490
							-5	T.O CALC.		1550	3000		490
								POH		1550	3000		495
								KOCH		1625	3133		343
70				7720	GRASS		0	T.O CALC.		1350	2550		530
								POH		1500	2850		520
								KOCH		1500	2892		372
60				7100	GRASS		0	T.O CALC.		1250	2400		570
								POH		1420	2700		560
								KOCH		1375	2651		392

NOTE: POH AND KOCH DO NOT TAKE INTO CONSIDERATION SLOPE

POH NUMBERS – 25% ADDED TO POH + 7% FOR GRASS
CALCULATED AT FULL GROSS WEIGHT

T.O. CALC are the numbers from the Sporties Take Off Calculator Slide Rule

TAKE OFF CALCULATIONS - GRAHAM													
TEMP	RUNWAY ALT.	BARO	P.ALT	DENSITY ALT.	RUNWAY SURF	RUNWAY SLOPE	WIND	METHOD	WEIGHT % GRS	DIST ROTATE	DIST CLR 50'	RUNWAY LENGTH	RATE OF CLIMB
80	5726	30.02	5626	8200	GRASS	-2	0	T.O CALC.	95%	1200	2300	2900	490
							-5	T.O CALC.		1500	2800		490
								POH		1550	2930		495
								KOCH		1594	3073		343
70				7600			0	T.O CALC.		1150	2250		540
								POH		1470	2820		540
								KOCH		1500	2892		372
60				6970			0	T.O CALC.		1100	2150		580
								POH		1410	2690		570
								KOCH		1375	2651		392

NOTE: POH AND KOCH DO NOT TAKE INTO CONSIDERATION SLOPE

POH NUMBERS – 25% ADDED TO POH + 7% FOR GRASS
CALCULATED AT FULL GROSS WEIGHT

BACK COUNTRY FLIGHT PLAN EXAMPLE

CONCLUSION

**FROM THE TAKE-OFF PERFORMANCE, WITH MY ASSUMPTIONS,
CAN I LAND AND TAKE-OFF SAFELY AT THE STRIPS I PLAN TO GO
TO?**

**BOTH OF THESE AIR STRIPS ARE PUSHING THE LIMITS, BETTER BE
CERTAIN OF THE FOLLOWING:**

DO I BELIEVE THE PERFORMANCE CALCULATIONS ?

**DO I KNOW I CAN MEET THESE NUMBERS – HAVE I TESTED THEM,
CAN I GET MAXIMUM PERFORMANCE OUT OF MYSELF AND THE
AIRCRAFT ?**

**YES – AS LONG AS TEMP DOES NOT EXCEED 80 Deg AND LESS THAN
5 KT**

TAKE-OFF – 71% OF TAKEOFF SPEED AT 50% OF RUNWAY – ELSE ABORT

- Check taxi – takeoff path for rocks, chuck-holes, dips, etc.
- Check P.A. Temp. winds - do take-off, rate of climb calculations if necessary.
- Locate 50% runway length mark and know 71% V_x .
- Mixture for best power – run-up on the back-taxi if no good location for run-up.
- Flaps at short/soft setting – usually flap parallel to down aileron (20° Cessna's)
- Review departure route and abort plan.
- Use **Extreme** caution if taking off in tailwind. – wait until it dies down.
- Communicate intentions.
- Keep feet off the brakes.
- Soft field take-off, but not too much backpressure. Keep on centerline.

BACK COUNTRY CHECK LIST

PREFLIGHT PLANNING

GENERAL

- Aircraft** – Extra attention to brakes, wheels, tires. Remove wheel fairings prior to flying into backcountry. Bring tie down ropes, stakes, tow bar, extra oil, window cleaner, towels, survival and 1st aid kit, fuel measuring stick.
- Pilot** – Minimum 175 hrs PIC, 50 recent in make & model. Competent in slow flight, short/soft field operations. Be familiar with POH: performance charts; take-off, rate of climb, landing, weight & balance, D.A. calculations, short/soft take-off landing procedure. Know critical V speeds for anticipated weight and altitudes. V_x , V_y , V_{fe} , V_a , V_{so} , approach and final speeds.

ROUTE PLANNING

- Select destinations capable of plane performance, weight, and pilot skill.
- Plan route – fly roads, rivers, valleys, meadows, airstrips – maximize emerg. landing possibilities.
- Choose Altitude – VFR alt. when possible, at least 1000' over peaks, passes.
- Plan alternate routes (low level) for weather, low ceilings.
- Estimate flight times, fuel burn (1 hr. min reserve to refueling locations)

WEATHER BRIEFING – FLIGHT PLAN - Do NOT go if winds aloft > 25 Kts

- Standard weather briefing and get forecast for duration of trip. Use closest weather reporting stations – McCall, Salmon, Challis, Stanley, Grangeville, PIREPS. Call McCall Air or Arnold Aviation (Cascade) for Backcountry Pilot reports.
- Special attention to: Winds Aloft, ceilings, temp-dew point (morning fog), anticipated surface temp winds at time of arrival. – TFR'S
- Forecast may change drastically for long stays. Use best judgment, take-off and look, call flight watch 122.0 when able.
- File flight plan with F.S.S. or make sure someone knows your plan and expected return date/time.
- Close flight plan when aloft before decent – nearest RCO's. (Stanley 122.6, Salmon 122.55, Cascade 122.35). Salmon has best reception in most middle fork areas.

PERFORMANCE – KNOW EFFECT OF DENSITY ALT. AND PERFORMANCE CHARTS

- **DO** weight & balance; and expected % of gross weight at critical strips.
- **Calculate** Take-off distances and climb out rate at anticipated temperature and DA. Know worst case Temp. Use POH (add 30% fudge factor), KOCH card or take-off calculator (Sporty's TOC which I've found to be safe)

AIRSTRIP RESEARCH

- ❑ Useable length and width (often less than published)
- ❑ Location of wind sock(s) – often there are several.
- ❑ Altitude, slope (from topo map or experience if not given) and surface.
- ❑ Current Conditions – Ask
- ❑ Arrival and approach pattern, touch-down point, take-off and departure plan. Most are non standard and many one way, often land upriver and take off downriver.
- ❑ Climb out requirements and go-around options – go-around decision point.
- ❑ Special considerations: Sunrise/set blinding, potential for sinkers, soft areas, turbulence and swirling wind.
- ❑ Tie down locations, trees, obstacles, potential for animals.

FLYING THE PLAN

ENROUTE - ALWAYS HAVE AN OUT - TO LOWERING TERRAIN

- Fly the planned altitude and route (unless unable due to weather-report deviations)
- Use Pilotage – know your location at all times -.magnetic heading to planned course.
- Monitor 122.9 and give frequent position reports (location, altitude, and pressure setting if close traffic.
- Ridge crossings at 45⁰ – 90⁰ turn to lowering terrain.
- Anticipate updrafts, downdrafts, turbulence over peaks and ridges.
- Slow to Va (according to weight) in turbulence.

CANYON FLYING - ALWAYS BE ABLE TO DO A 180⁰

- Fly the right side of the canyon (unless turbulence or downdrafts, dictate left), keep the river under your armpit.
- Fly at slow cruise – minimum RPM for low noise.
- Never turn up a drainage without a significant creek or at altitude to see it's not blind.

ARRIVAL – TAKE TIME FOR A GOOD CHECK-OUT

- Plan decent to avoid shock cooling. – Close Flight Plan before decent.
- Make radio call for fly-over.
- Slow down to Vfe or less for fly over. Start to get stabilized for approach.
- Circle strip, check and feel winds, **Know** what the wind is doing, look for traffic, obstacles, animals on runway.
- If turbulence or mild winds at pattern altitude, **Strongly** consider not landing.
- If wind socks blowing in opposite directions or gusting – **Do Not** land.
- Locate landing target (worn area) and runway markers (if any)

APPROACH – THE KEY TO A GREAT LANDING IS A STABILIZED APPROACH

Getting slow and set up early reduces the variables. Expect higher than normal ground speeds at high DA. **IAS** is the same.

- Make radio call on downwind (river). Typical call: Indian Creek traffic, Skylane 91X downriver (eastbound) for a upriver (westbound) landing, Indian Creek. Runway numbers are seldom used.
- Fly the downwind slower than normal ~ 0.8 Vfe with 20° of flaps.

LANDING – LAND AT MINIMUM AIR SPEED

- Base and final at 30° flaps with short field approach speed.
- Short approach, full flaps, with some power.
- Touchdown at MCA with stall horn blasting, land as soft and slow as possible.
- Keep nose up and maintain centerline – hard braking is seldom necessary.

TAXIING – PROTECT THE PROP

- Taxi with nose high – full up elevator.
- Watch for rocks, chuck holes, trees, sprinkler lines, rough spots, etc. If you can't see what's ahead, pull off to the side, get out and check it out.
- Always tie down if expected to stay for a few hours.

TAKE-OFF – 71% OF TAKEOFF SPEED AT 50% OF RUNWAY – ELSE ABORT

- Check taxi – takeoff path for rocks, chuck-holes, dips, etc.
- Check P.A. Temp. winds - do take-off, rate of climb calculations if necessary.
- Locate 50% runway length mark and know 71% V_x .
- Mixture for best power – run-up on the back-taxi if no good location for run-up.
- Flaps at short/soft setting – usually flap parallel to down aileron (20° Cessna's)
- Review departure route and abort plan.
- Use **Extreme** caution if taking off in tailwind. – wait until it dies down.
- Communicate intentions.
- Keep feet off the brakes.
- Soft field take-off, but not too much backpressure. Keep on centerline.

Accidents / Fatalities

NTSB Data

YEAR	Total State / BC	FATAL STATE/BC
2000	34 / 8	13 / 1
2001	24 / 3	7 / 4
2002	48 / 13	17 / 6
2003	52 / 15	21 / 11
2004	41 / 6	8 / 2
2005	38 / 7	12 / 4

SUMMARY

- Mountain/ Canyon flying is fun and exciting.
- Mountain / Canyon is different type of flying.
- Mountain / Canyon takes lots of work and effort.
- Get instruction from experienced backcountry pilots or take one of the clinics.
- Stay Current - Complacency Kills.
- Know your limits.
- Be Safe - Have Fun.

RESOURCES

- Lori MacNichol, McCall Mountain Flying, LLC: 208-634-1344
www.mountaincanyonflying.com
- Bob Plummer, River of No Return - Mountain Flying Clinic, Challis:
208-879-5900
- Idaho Aviation Association: www.flyidaho.org
- Galen Hanselman, Fly Idaho Guide Book 1-800-574-9702
- Sparky Imeson, Mountain Flying Bible and Flight Operations, 1-480-
855-7444 or www.mountainflying.com
- Boise FAA Safety Program manager: John Goostry 334-1238 Web
<http://www2.faa.gov/fsdo/boi/>
- Idaho Division of Aeronautics: Frank Lester - Safety/Education
Coordinator, 334-8780, <http://www2.state.id.us/itd/aero/aerohome.htm>