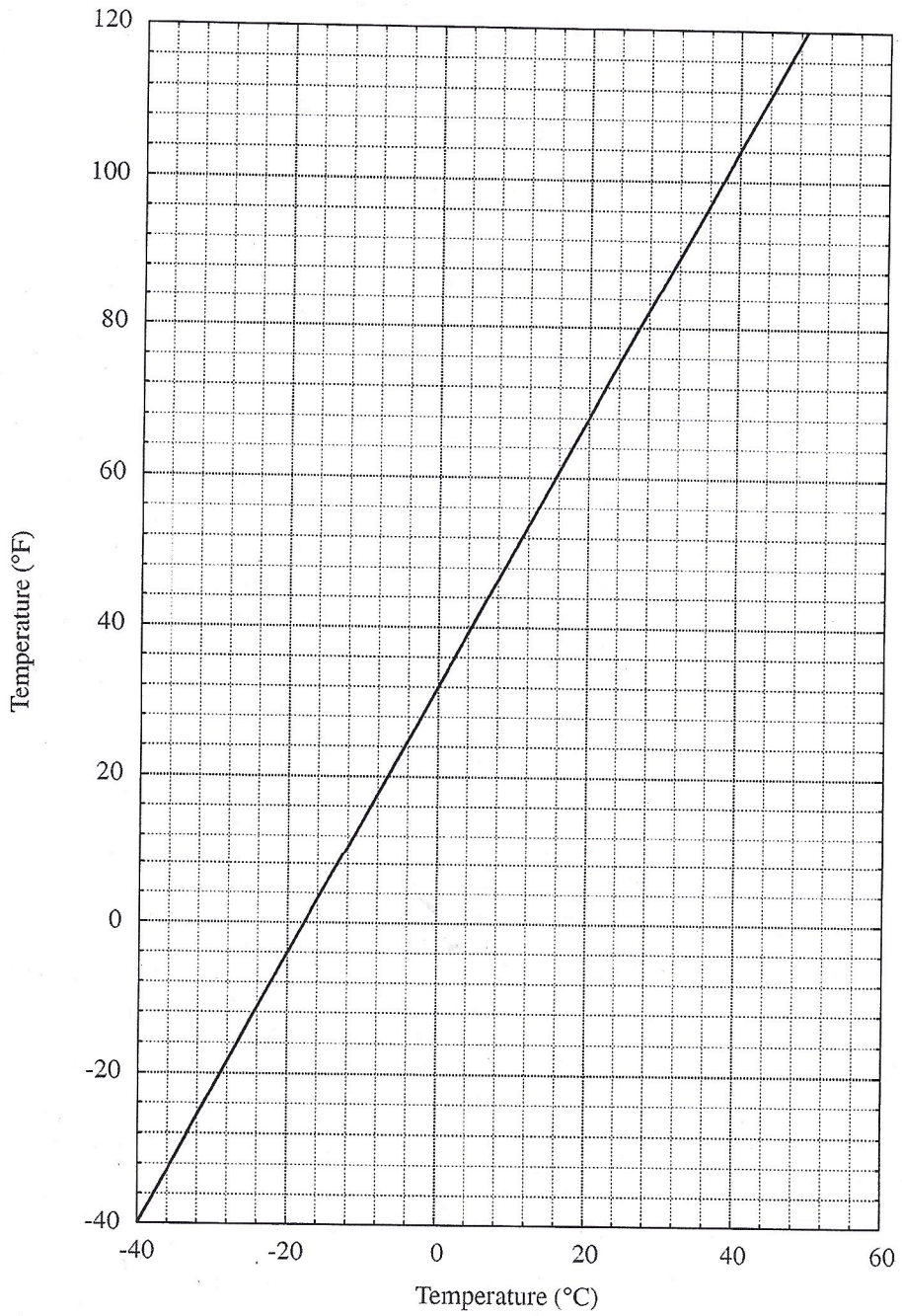


RV-8

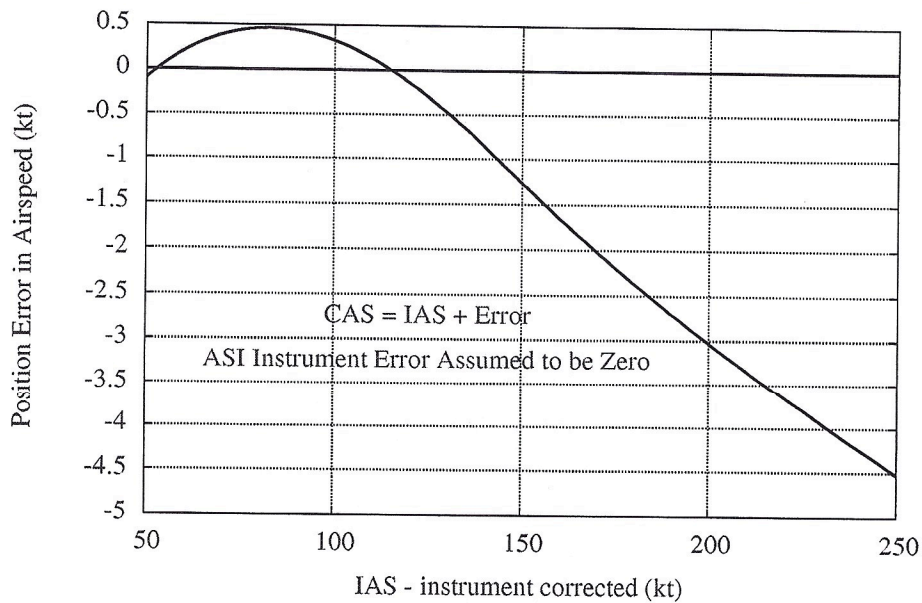
# TEMPERATURE CONVERSION CHART



# POSITION ERROR — AIRSPEED FLAPS RETRACTED

Weight: 1400 lb  
Flaps: Retracted  
Date of flight tests: 14 & 19 Nov 2008

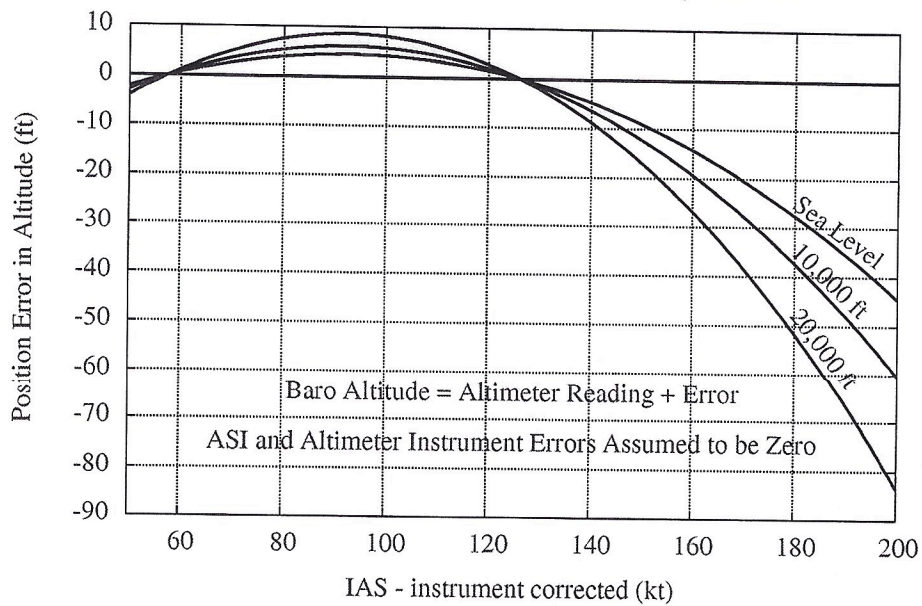
Static Source Position Error - Airspeed - Flaps Retracted



# POSITION ERROR — ALTITUDE FLAPS RETRACTED

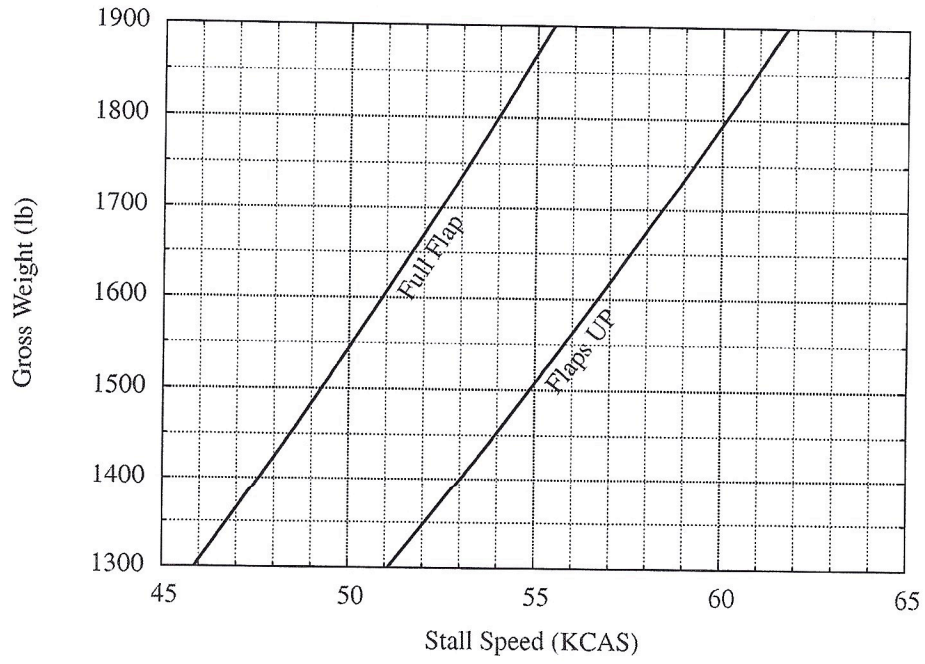
Weight: 1600 lb  
Flaps: Retracted  
Date of flight tests: 14 & 19 Nov 2008

Static Source Position Error - Altitude - Flaps Retracted



# STALL SPEED — KCAS

CONDITIONS:  
Idle power  
Prop control at Max RPM  
Deceleration at 1 kt/s



# NORMAL TAKEOFF DISTANCE 1900 LBS

**CONDITIONS:**

Flaps Retracted 2700 RPM, Full Throttle and Mixture Set prior to Brake Release  
Paved, Level, Dry Runway  
Zero Wind

MIXTURE SETTING	
PRESS ALT	GPH
S.L.	17
2000	16
4000	15
6000	14
8000	13

**NOTES:**

1. Set mixture at placard fuel flow.
2. Decrease distance by 10% for each knots headwind. For operations with tailwinds up to 10 knots, increase distances by 10%.
3. For operation on a dry, grass runway, increase distances by 10% of the ground roll figure.

WEIGHT (LB)	TAKEOFF SPEED (KIAS)		PRESS ALT (FT)	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT
1,900	64	70	S.L.	610	820	640	860	670	910	710	950	740	1,000
	64	70	2,000	710	960	750	1,010	790	1,070	840	1,120	880	1,180
	64	70	4,000	840	1,130	890	1,190	940	1,250	990	1,320	1,040	1,390
	64	70	6,000	1,000	1,330	1,060	1,410	1,120	1,490	1,180	1,570	1,250	1,650
	64	70	8,000	1,200	1,600	1,270	1,690	1,350	1,790	1,430	1,900	1,510	2,000
	64	70	10,000	1,450	1,930	1,540	2,050	1,640	2,180	1,740	2,310	1,840	2,450
	64	70	12,000	1,770	2,360	1,880	2,520	2,000	2,690	2,130	2,860	2,260	3,050

# NORMAL TAKEOFF DISTANCE

## 1800 LBS

**CONDITIONS:**

Flaps Retracted 2700 RPM, Full Throttle and Mixture Set prior to Brake Release  
 Paved, Level, Dry Runway  
 Zero Wind

MIXTURE SETTING	
PRESS ALT	GPH
S.L.	17
2000	16
4000	15
6000	14
8000	13

**NOTES:**

1. Set mixture at placard fuel flow.
2. Decrease distance by 10% for each X knots headwind. For operations with tailwinds up to 10 knots, increase distances by 10%.
3. For operation on a dry, grass runway, increase distances by 10% of the ground roll figure.

WEIGHT (LB)	TAKEOFF SPEED (KIAS)		PRESS ALT (FT)	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT
1,800	62	68	S.L.	530	730	560	770	590	810	620	850	650	890
	62	68	2,000	630	850	660	900	700	940	740	990	770	1,040
	62	68	4,000	740	1,000	780	1,050	830	1,110	870	1,170	920	1,220
	62	68	6,000	880	1,180	930	1,240	980	1,310	1,040	1,380	1,090	1,450
	62	68	8,000	1,050	1,400	1,120	1,490	1,180	1,570	1,250	1,660	1,320	1,750
	62	68	10,000	1,270	1,690	1,350	1,790	1,430	1,900	1,510	2,010	1,600	2,130
	62	68	12,000	1,540	2,050	1,640	2,190	1,740	2,320	1,850	2,470	1,960	2,620

# SHORT FIELD TAKEOFF DISTANCE 1900 LBS

**CONDITIONS:**

Flaps 17° (set flap angle to match down aileron angle at full aileron)  
 2700 RPM, Full Throttle and Mixture Set prior to Brake Release  
 Paved, Level, Dry Runway  
 Zero Wind

**NOTES:**

1. Short field technique as specified in Section 4.
2. Set mixture at placard fuel flow.
3. Decrease distance by 10% for each X knots headwind. For operations with tailwinds up to 10 knots, increase distances by 10%.
4. For operation on a dry, grass runway, increase distances by 10% of the ground roll figure.

MIXTURE SETTING	
PRESS ALT	GPH
S.L.	17
2000	16
4000	15
6000	14
8000	13

WEIGHT (LB)	TAKEOFF SPEED (KIAS)		PRESS ALT (FT)	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT
1,900	60	66	S.L.	520	740	550	780	580	810	610	850	640	900
	60	66	2,000	620	860	650	910	680	950	720	1,000	760	1,050
	60	66	4,000	730	1,010	770	1,070	810	1,120	850	1,180	890	1,240
	60	66	6,000	860	1,190	910	1,260	960	1,330	1,010	1,400	1,070	1,480
	60	66	8,000	1,030	1,430	1,090	1,510	1,150	1,600	1,220	1,690	1,290	1,780
	60	66	10,000	1,240	1,720	1,310	1,830	1,390	1,940	1,470	2,060	1,560	2,180
	60	66	12,000	1,500	2,100	1,600	2,250	1,700	2,400	1,800	2,550	1,900	2,720



# SHORT FIELD TAKEOFF DISTANCE 1800 LBS

**CONDITIONS:**

Flaps 17° (set flap angle to match down aileron angle at full aileron)  
 2700 RPM, Full Throttle and Mixture Set prior to Brake Release  
 Paved, Level, Dry Runway  
 Zero Wind

MIXTURE SETTING	
PRESS ALT	GPH
S.L.	17
2000	16
4000	15
6000	14
8000	13

**NOTES:**

1. Short field technique as specified in Section 4.
2. Set mixture at placard fuel flow.
3. Decrease distance by 10% for each X knots headwind. For operations with tailwinds up to 10 knots, increase distances by 10%.
4. For operation on a dry, grass runway, increase distances by 10% of the ground roll figure.

WEIGHT (LB)	TAKEOFF SPEED (KIAS)		PRESS ALT (FT)	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT	GRND ROLL (FT)	TOTAL DIST TO 50 FT
1,800	58	64	S.L.	460	660	490	690	510	720	540	760	560	790
	58	64	2,000	540	770	570	810	600	850	630	890	670	930
	58	64	4,000	640	900	670	940	710	990	750	1,040	790	1,100
	58	64	6,000	760	1,050	800	1,110	840	1,170	890	1,230	940	1,300
	58	64	8,000	900	1,260	960	1,330	1,010	1,400	1,070	1,480	1,120	1,560
	58	64	10,000	1,080	1,510	1,150	1,600	1,220	1,690	1,290	1,790	1,360	1,890
	58	64	12,000	1,310	1,830	1,390	1,950	1,480	2,070	1,560	2,200	1,660	2,330

## RATE OF CLIMB — 1900 lb

**CONDITIONS:**

1900 lb gross weight

Flaps UP

2650 RPM

Full Throttle

Mixture Set to give EGT 25°F less than EGT during take-off

WEIGHT (LB)	PRESSURE ALTITUDE (FT)	CLIMB SPEED (KIAS)	RATE OF CLIMB (FT/MN)			
			-20°C	0°C	20°C	40°C
1,900	0	102	1,930	1,780	1,630	1,470
1,900	2,000	100	1,740	1,590	1,420	1,270
1,900	4,000	98	1,580	1,400	1,240	1,100
1,900	6,000	96	1,380	1,210	1,060	930
1,900	8,000	94	1,170	1,010	870	750
1,900	10,000	92	970	820	690	570
1,900	12,000	90	770	630	510	400
1,900	14,000	90	580	450	330	240
1,900	16,000	90	390	270	170	80
1,900	18,000	90	200	90	0	-80
1,900	20,000	90	20	-80	-160	-230

## RATE OF CLIMB — 1800 lb

**CONDITIONS:**

1800 lb gross weight

Flaps UP

2650 RPM

Full Throttle

Mixture Set to give EGT 25°F less than EGT during take-off

WEIGHT (LB)	PRESSURE ALTITUDE (FT)	CLIMB SPEED (KIAS)	RATE OF CLIMB (FT/MN)			
			-20°C	0°C	20°C	40°C
1,800	0	102	2,090	1,930	1,770	1,600
1,800	2,000	100	1,890	1,730	1,550	1,390
1,800	4,000	98	1,720	1,530	1,360	1,210
1,800	6,000	96	1,510	1,330	1,170	1,030
1,800	8,000	94	1,290	1,120	970	840
1,800	10,000	92	1,080	920	780	660
1,800	12,000	90	880	730	590	480
1,800	14,000	90	680	540	410	310
1,800	16,000	90	480	350	240	140
1,800	18,000	90	280	160	70	-20
1,800	20,000	90	90	-10	-100	-180

# TIME, FUEL AND DISTANCE TO CLIMB — 1900 lb MAXIMUM CLIMB

**CONDITIONS:**

1900 lb gross weight

Flaps UP

2650 RPM

Full Throttle

Mixture Set to give Take-off EGT

Standard Temperature

**NOTES:**

1. Add 1.0 USG of fuel for engine start, taxi and takeoff.
2. Climb speed is 102 KIAS at sea level, decreasing by 1 kt per 1000 ft.
3. Increase time, fuel and distance by 10% for each 10°C above standard temperatures.
4. Distances shown are based on zero wind.

WEIGHT (LB)	PRESS. ALT. (FT)	TEMP (°C)	CLIMB SPEED (KIAS)	RATE OF CLIMB (FT/MN)	FROM SEA LEVEL		
					TIME (MN)	FUEL USED (USG)	DIST. (NM)
1,900	0	15	102	1,740	0	0	0
	2,000	11	100	1,530	1	0.3	2
	4,000	7	98	1,350	3	0.7	4
	6,000	3	96	1,170	4	1.1	7
	8,000	-1	94	1,000	6	1.5	10
	10,000	-5	92	830	8	2.0	14
	12,000	-9	90	670	11	2.6	19
	14,000	-13	90	520	14	3.2	25
	16,000	-17	90	370	19	4.1	34
	18,000	-21	90	230	25	5.2	47
	20,000	-25	90	90	38	7.2	72

# TIME, FUEL AND DISTANCE TO CLIMB — 1800 lb MAXIMUM CLIMB

**CONDITIONS:**

1800 lb gross weight

Flaps UP

2650 RPM

Full Throttle

Mixture Set to give Take-off EGT

Standard Temperature

**NOTES:**

1. Add 1.0 USG of fuel for engine start, taxi and takeoff.
2. Climb speed is 102 KIAS at sea level, decreasing by 1 kt per 1000 ft.
3. Increase time, fuel and distance by 10% for each 10°C above standard temperatures.
4. Distances shown are based on zero wind.

WEIGHT (LB)	PRESS. ALT. (FT)	TEMP (°C)	CLIMB SPEED (KIAS)	RATE OF CLIMB (FT/MN)	FROM SEA LEVEL		
					TIME (MN)	FUEL USED (USG)	DIST. (NM)
1,800	0	15	102	1,880	0	0	0
	2,000	11	100	1,660	1	0.3	2
	4,000	7	98	1,470	2	0.7	4
	6,000	3	96	1,290	4	1.0	7
	8,000	-1	94	1,100	6	1.4	10
	10,000	-5	92	930	7	1.9	13
	12,000	-9	90	770	10	2.3	17
	14,000	-13	90	610	13	2.9	23
	16,000	-17	90	450	17	3.6	30
	18,000	-21	90	310	22	4.5	40
	20,000	-25	90	160	30	5.9	57

# TIME, FUEL AND DISTANCE TO CLIMB — 1900 lb CRUISE CLIMB

**CONDITIONS:**

Flaps UP

2650 RPM

Full Throttle

Mixture Set to give Take-off EGT

Standard Temperature

**NOTES:**

1. Add 1.5 USG of fuel for engine start, taxi and takeoff.
2. Climb speed is 120 KIAS from sea level to 10,000 ft, then decreasing by 4 kt per 1000 ft above 10,000 ft.
3. Increase time, fuel and distance by 10% for each 10°C above standard temperatures.
4. Distances shown are based on zero wind.

WEIGHT (LB)	PRESSURE ALTITUDE (FT)	TEMP (°C)	CLIMB SPEED (KIAS)	RATE OF CLIMB (FT/MN)	FROM SEA LEVEL		
					TIME (MN)	FUEL USED (USG)	DIST. (NM)
1,900	0	15	120	1,670	0	0	0
	2,000	11	120	1,430	1	0.4	3
	4,000	7	120	1,220	3	0.8	6
	6,000	3	120	1,020	5	1.2	10
	8,000	-1	120	810	7	1.7	14
	10,000	-5	120	610	10	2.4	21
	12,000	-9	112	530	13	3.1	29
	14,000	-13	104	450	17	3.9	38
	16,000	-17	96	350	22	4.8	48
	18,000	-21	90	230	29	6.0	62
	20,000	-25	90	90	42	8.0	87

# TIME, FUEL AND DISTANCE TO CLIMB — 1800 lb CRUISE CLIMB

**CONDITIONS:**

Flaps UP

2650 RPM

Full Throttle

Mixture Set to give Take-off EGT

Standard Temperature

**NOTES:**

1. Add 1.5 USG of fuel for engine start, taxi and takeoff.
2. Climb speed is 120 KIAS from sea level to 10,000 ft, then decreasing by 4 kt per 1000 ft above 10,000 ft.
3. Increase time, fuel and distance by 10% for each 10°C above standard temperatures.
4. Distances shown are based on zero wind.

WEIGHT (LB)	PRESSURE ALTITUDE (FT)	TEMP (°C)	CLIMB SPEED (KIAS)	RATE OF CLIMB (FT/MN)	FROM SEA LEVEL		
					TIME (MN)	FUEL USED (USG)	DIST. (NM)
1,800	0	15	120	1,800	0	0	0
	2,000	11	120	1,550	1	0.3	2
	4,000	7	120	1,330	3	0.7	5
	6,000	3	120	1,110	4	1.1	9
	8,000	-1	120	900	6	1.6	13
	10,000	-5	120	690	9	2.1	19
	12,000	-9	112	610	12	2.8	26
	14,000	-13	104	520	15	3.5	34
	16,000	-17	96	430	20	4.2	43
	18,000	-21	90	310	25	5.2	54
	20,000	-25	90	160	34	6.6	71

# TIME, FUEL AND DISTANCE TO CLIMB — 1900 lb HIGH SPEED CLIMB

**CONDITIONS:**

Flaps UP

2650 RPM

Full Throttle

Mixture Set to give Take-off EGT

Standard Temperature

**NOTES:**

1. Add 1.5 USG of fuel for engine start, taxi and takeoff.
2. Climb speed is 130 KIAS, until the rate of climb reduces to 500 ft/mn. Then hold 500 ft/mn until the speed reduces to  $V_Y$ .
3. Increase time, fuel and distance by 10% for each 10°C above standard temperatures.
4. Distances shown are based on zero wind.

WEIGHT (LB)	PRESSURE ALTITUDE (FT)	TEMP (°C)	CLIMB SPEED (KIAS)	RATE OF CLIMB (FT/MN)	FROM SEA LEVEL		
					TIME (MN)	FUEL USED (USG)	DIST. (NM)
1,900	0	15	130	1,560	0	0	0
	2,000	11	130	1,310	1	0.4	3
	4,000	7	130	1,090	3	0.8	7
	6,000	3	130	870	5	1.4	12
	8,000	-1	130	650	8	2.0	18
	10,000	-5	127	500	11	2.8	27
	12,000	-9	115	500	15	3.6	36
	14,000	-13	96	500	19	4.4	45
	16,000	-17	90	370	24	5.2	53
	18,000	-21	90	230	30	6.3	66
	20,000	-25	90	90	43	8.3	92



# TIME, FUEL AND DISTANCE TO CLIMB — 1800 lb HIGH SPEED CLIMB

**CONDITIONS:**

Flaps UP

2650 RPM

Full Throttle

Mixture Set to give Take-off EGT

Standard Temperature

**NOTES:**

1. Add 1.5 USG of fuel for engine start, taxi and takeoff.
2. Climb speed is 130 KIAS, until the rate of climb reduces to 500 ft/mn. Then hold 500 ft/mn until the speed reduces to  $V_Y$ .
3. Increase time, fuel and distance by 10% for each 10°C above standard temperatures.
4. Distances shown are based on zero wind.

WEIGHT (LB)	PRESSURE ALTITUDE (FT)	TEMP (°C)	CLIMB SPEED (KIAS)	RATE OF CLIMB (FT/MN)	FROM SEA LEVEL		
					TIME (MN)	FUEL USED (USG)	DIST. (NM)
1,800	0	15	130	1,680	0	0	0
	2,000	11	130	1,410	1	0.4	3
	4,000	7	130	1,180	3	0.8	6
	6,000	3	130	960	5	1.2	11
	8,000	-1	130	730	7	1.8	16
	10,000	-5	130	510	10	2.5	24
	12,000	-9	119	500	14	3.4	34
	14,000	-13	106	500	18	4.1	43
	16,000	-17	90	450	22	4.9	52
	18,000	-21	90	310	28	5.8	62
	20,000	-25	90	160	36	7.1	79

# CRUISE POWER

**NOTES:**

1. Add 0.4" M.P. for each 10°C above standard temperature.
2. Subtract 0.4" M.P. for each 10°C below standard temperature.
3. If above standard temperature precludes obtaining the desired M.P., use the next higher RPM/M.P. with appropriate temperature correction to M.P.

**NOTE**

Mixture must be full rich when above 75% power.  
Lean using fuel flow meter at 75% power or less.

PRESSURE ALTITUDE (FT)	RPM		75% POWER 150 HP				65% POWER 130 HP				55% POWER 110 HP						
			2400	2500	2600	2700	2300	2400	2500	2600	2200	2300	2400	2500	2600		
			FUEL FLOW	BEST ECON.	BEST POWER	STD. TEMP	FUEL FLOW	BEST ECON.	BEST POWER	STD. TEMP	FUEL FLOW	BEST ECON.	BEST POWER	STD. TEMP	FUEL FLOW	BEST ECON.	BEST POWER
0	15 °C	25.4	24.5	23.6	22.8	23.7	22.8	22.0	21.2	22.0	21.0	20.2	19.5	18.9			
2,000	11 °C	24.9	23.9	23.1	22.3	23.2	22.3	21.5	20.7	21.5	20.5	19.7	19.0	18.4			
4,000	7 °C	24.4	23.4	22.6	21.9	22.7	21.8	21.0	20.3	21.0	20.0	19.3	18.5	17.9			
6,000	3 °C	23.9	23.0	22.1	21.5	22.3	21.4	20.5	19.8	20.5	19.6	18.9	18.1	17.5			
8,000	-1 °C	23.5	22.5	21.7	21.1	21.9	21.0	20.1	19.4	20.1	19.2	18.5	17.7	17.1			
10,000	-5 °C	-	-	-	-	21.5	20.6	19.7	19.0	19.7	18.9	18.1	17.3	16.7			
12,000	-9 °C	-	-	-	-	-	20.2	19.3	18.7	19.3	18.5	17.7	16.9	16.4			

# CRUISE SPEED

## CONDITIONS:

Wheel Pants and Gear Leg Fairings ON

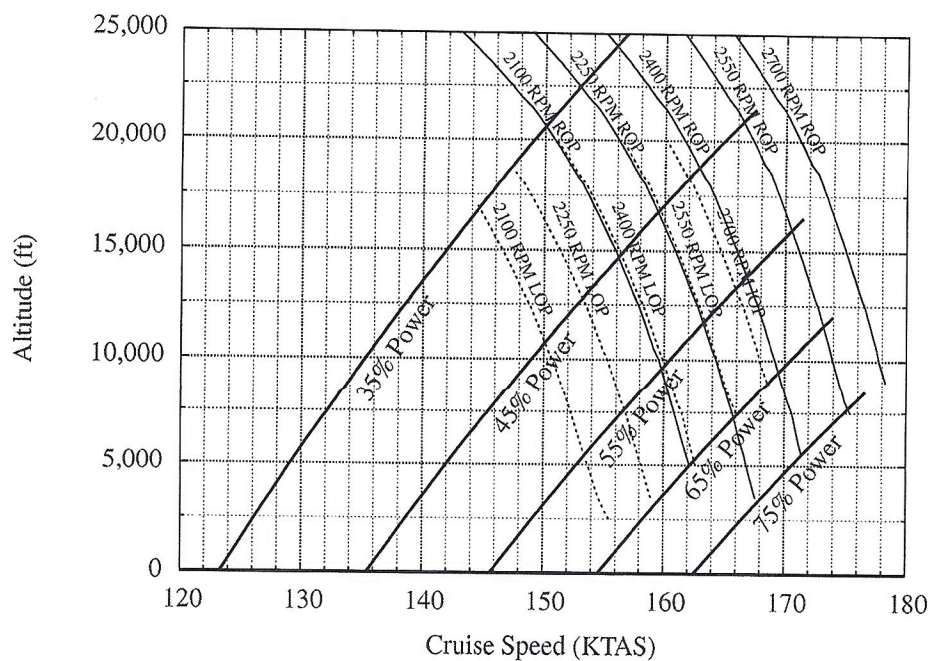
Standard atmosphere.

Mixture set to best power for 75% power.

Mixture set to 50°F lean of peak EGT for 65% and 55% power, except mixture set to best power if more than 2600 rpm required with mixture set lean of peak EGT.

Full throttle, but no less than 2100 rpm.

Speed vs RPM lines are at full throttle, with mixture set to best power or 50 deg F Lean of Peak EGT.



# CRUISE SPEED - WHEEL PANTS OFF

## CONDITIONS:

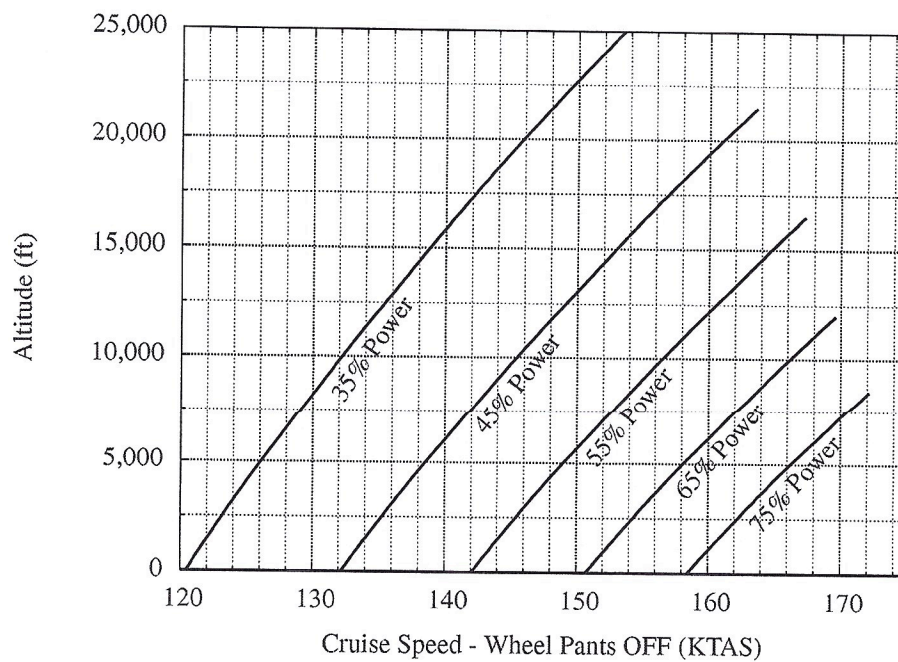
Wheel Pants OFF, Gear Leg Fairings ON

Standard atmosphere.

Mixture set to best power for 75% power.

Mixture set to 50°F lean of peak EGT for 65% and 55% power, except mixture set to best power if more than 2600 rpm required with mixture set lean of peak EGT.

Full throttle, but no less than 2100 rpm.



# CRUISE RANGE

## CONDITIONS:

Wheel Pants and Gear Leg Fairings ON

43 USG Usable Fuel.

Standard atmosphere.

No wind.

Includes 1.0 USG fuel for start, taxi and takeoff and 8 USG or 45 mn reserve.

Climb at full power and best climb speed as defined on the Maximum Climb Chart

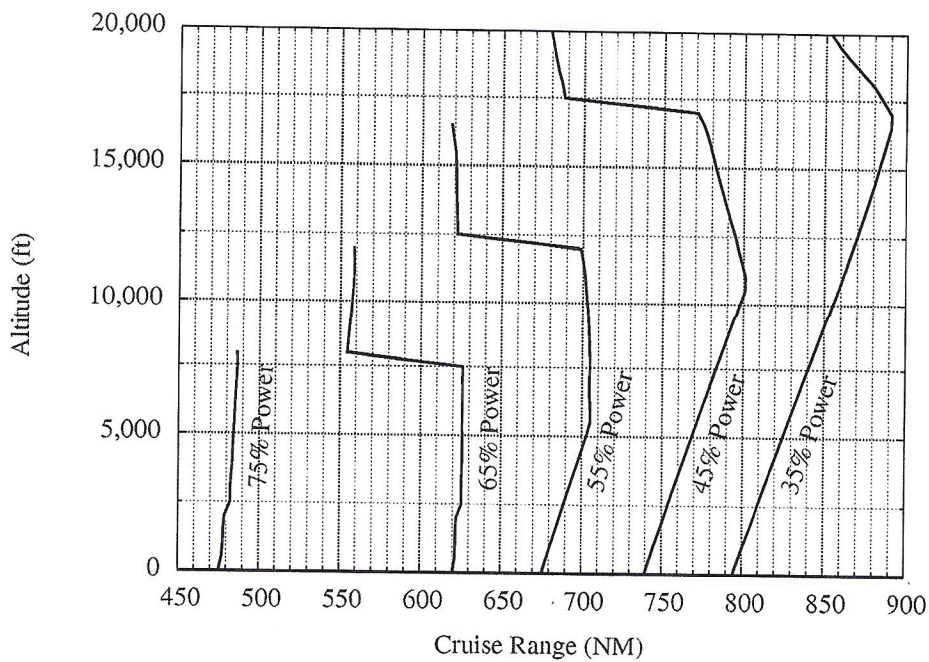
Lean during climb for best power.

Cruise with mixture set to best power for 75% power.

Cruise with mixture set to 50°F lean of peak EGT for 65% power or less, except mixture set to best power if more than 2600 rpm required with mixture set lean of peak EGT.

Full throttle, but no less than 2100 rpm.

Descend at cruise TAS at 6 nm per 1000 ft.



# CRUISE RANGE - WHEEL PANTS OFF

## CONDITIONS:

Wheel Pants OFF, Gear Leg Fairings ON

43 USG Usable Fuel.

Standard atmosphere.

No wind.

Includes 1.0 USG fuel for start, taxi and takeoff and 8 USG or 45 mn reserve.

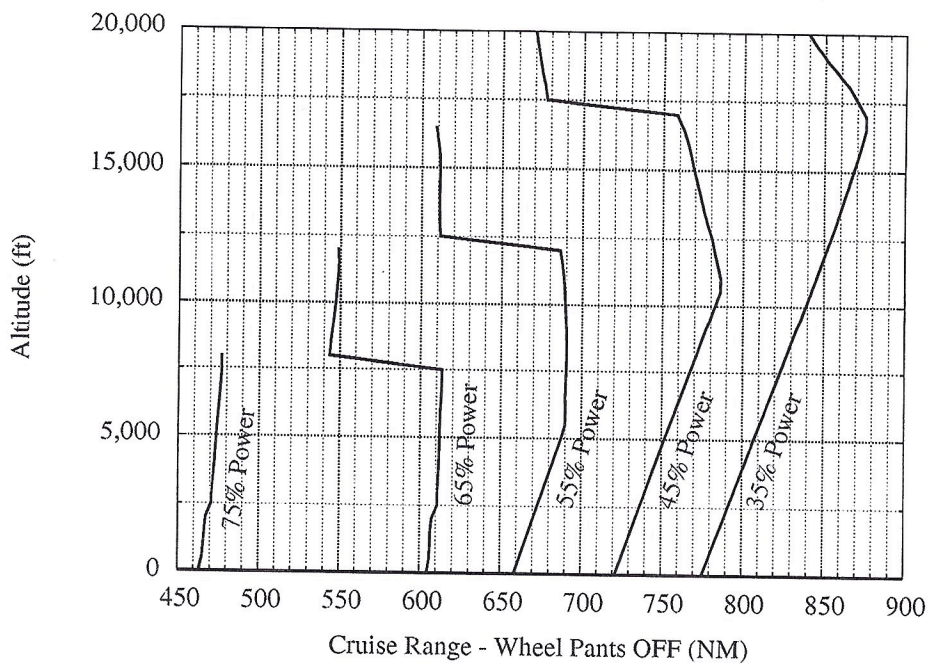
Climb at full power and best climb speed as defined on the Maximum Climb Chart

Lean during climb for best power.

Cruise with mixture set to best power for 75% power.

Cruise with mixture set to 50°F lean of peak EGT for 65% power or less, except mixture set to best power if more than 2600 rpm required with mixture set lean of peak EGT.

Descend at cruise TAS at 6 nm per 1000 ft.



# NORMAL LANDING DISTANCE

## 1800 LBS

**CONDITIONS:**

Full Flaps  
 Power for smooth wheel landing, then idle  
 Moderate Braking  
 Paved, Level, Dry Runway  
 Zero Wind

**NOTES:**

1. Normal field technique as specified in Section 4.
2. Decrease distances by 10% for each 5 knots headwind. For operations with tailwinds up to 10 knots, increase distances by 10% for each 2 knots.
3. For operation on a dry, grass runway, increase distances by 20% of the ground roll figure.
4. For operation on a wet, grass runway, increase distances by 60% of the ground roll figure.

WEIGHT (LB)	SPEED AT 50 FT (KIAS)	PRESS ALT (FT)	0°C		10°C		20°C		30°C		40°C	
			GRND ROLL (FT)	TOTAL DIST FROM 50 FT	GRND ROLL (FT)	TOTAL DIST FROM 50 FT	GRND ROLL (FT)	TOTAL DIST FROM 50 FT	GRND ROLL (FT)	TOTAL DIST FROM 50 FT	GRND ROLL (FT)	TOTAL DIST FROM 50 FT
1,800	70	S.L.	690	1,640	710	1,670	740	1,700	770	1,720	790	1,750
	70	2,000	740	1,700	770	1,720	800	1,750	820	1,780	850	1,810
	70	4,000	800	1,750	830	1,780	860	1,810	890	1,840	910	1,870
	70	6,000	860	1,810	890	1,850	920	1,880	950	1,910	990	1,940
	70	8,000	930	1,880	960	1,920	1,000	1,950	1,030	1,980	1,060	2,020
	70	10,000	1,000	1,960	1,040	1,990	1,070	2,030	1,110	2,070	1,150	2,100
	70	12,000	1,080	2,040	1,120	2,080	1,160	2,120	1,200	2,160	1,240	2,200

# SHORT FIELD LANDING DISTANCE

## 1800 LBS

**CONDITIONS:**

- Full Flaps
- Power OFF
- Maximum Braking
- Paved, Level, Dry Runway
- Zero Wind

**NOTES:**

1. Short field technique as specified in Section 4.
2. Decrease distances by 10% for each 5 knots headwind. For operations with tailwinds up to 10 knots, increase distances by 10% for each 2 knots.
3. For operation on a dry, grass runway, increase distances by 20% of the ground roll figure.
4. For operation on a wet, grass runway, increase distances by 60% of the ground roll figure.

WEIGHT (LB)	SPEED AT 50 FT (KIAS)	PRESS ALT (FT)	0°C		10°C		20°C		30°C		40°C	
			GRND ROLL (FT)	TOTAL DIST FROM 50 FT	GRND ROLL (FT)	TOTAL DIST FROM 50 FT	GRND ROLL (FT)	TOTAL DIST FROM 50 FT	GRND ROLL (FT)	TOTAL DIST FROM 50 FT	GRND ROLL (FT)	TOTAL DIST FROM 50 FT
1,800	65	S.L.	470	1,190	490	1,210	510	1,230	530	1,240	540	1,260
	65	2,000	510	1,230	530	1,240	550	1,260	570	1,280	580	1,300
	65	4,000	550	1,270	570	1,290	590	1,310	610	1,330	630	1,350
	65	6,000	590	1,310	610	1,330	630	1,350	660	1,370	680	1,390
	65	8,000	640	1,350	660	1,380	680	1,400	710	1,420	730	1,450
	65	10,000	690	1,400	710	1,430	740	1,460	760	1,480	790	1,510
	65	12,000	740	1,460	770	1,490	800	1,520	830	1,540	850	1,570



# VANS RV-8 N917SK

**DATUM:** 70.0" Fwd. of wing leading edge.  
**C.G. RANGE:** (78.7) to (86.82)  
**FUEL:** 42.0 Gal. @ (80.0)  
**PILOT:** (92.74)  
**PAX:** (119.12)  
**FWD BAGGAGE:** 50 Lbs. @ (58.51)  
**AFT BAGGAGE FLOOR:** 50 Lbs. @ (138.0)  
**AFT BAGGAGE SHELF:** 25 Lbs. @ (152.91)  
**NOTE** Aircraft was weighed with no Fuel  
 And full Oil.  
**MAX WEIGHT:** 1900 Lbs.

**Empty Weight = 1200.0 LBS.**  
**Empty Weight C.G. = 79.60 INCHES**  
**Total Moment = 95518.5 MOM.**

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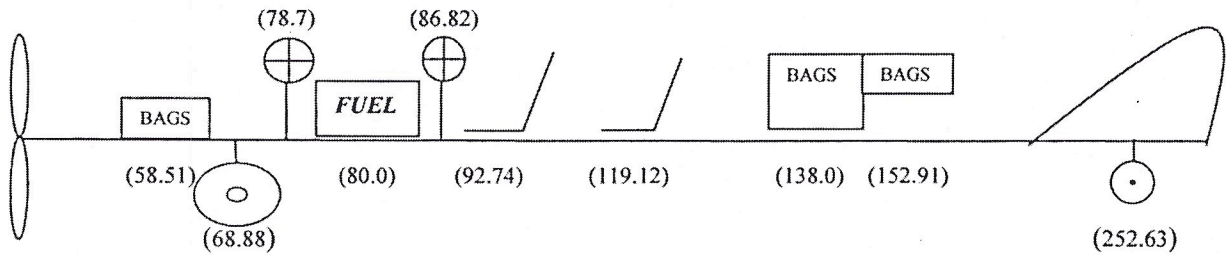
Forward Check = 80.41" (In Range)  
 Aft Check = 87.85" (Out of Range)  
 Gross Wt. Check = 86.25" (In Range)

**Placards:**

1. Do not exceed gross weight.
2. A/C aft CG. critical.
3. In aft config. load front baggage first.
4. In aft configuration perform w&b for destination.

### SCALE WEIGHT

ITEM	WEIGHT	TARE	NET WT
LW	564.0	0.0	564.0
RW	566.0	0.0	566.0
TW	70.0	0.0	70.0



### E.W. & E.W.C.G. CALCULATION

ITEM	WEIGHT	ARM	MOMENT
LW	564.0	68.88	38848.3
RW	566.0	68.88	38986.1
TW	70.0	252.63	17684.1
	<b>1200.0</b>	<b>79.60"</b>	<b>95518.5</b>

### AFT CONDITION CHECK

ITEM	WEIGHT	ARM	MOMENT
A/C	1200.0	----	95518.5
MIN FUEL	48.0	80.00	3840.0
PILOT	170.0	92.74	15765.8
PAX	170.0	119.12	20250.4
BAG FLOOR	50.0	138.00	6900.0
BAG SHELF	25.0	152.91	3822.8
	<b>1663.0</b>	<b>87.85"</b>	<b>146097.5</b>

### FORWARD CONDITION CHECK

ITEM	WEIGHT	ARM	MOMENT
A/C	1200.0	----	95518.5
FWD BAG	50.0	58.51	2925.5
MIN FUEL	48.0	80.00	3840.0
PILOT	170.0	92.74	15765.8
	<b>1468.0</b>	<b>80.41"</b>	<b>118049.8</b>

### GROSS WEIGHT CHECK

ITEM	WEIGHT	ARM	MOMENT
AFT CONFIG.	1663.0	----	146097.5
+FWD BAG	50.0	58.51	2925.5
+ADD FUEL	204.0	80.00	16320.0
	<b>1917.0</b>	<b>86.25"</b>	<b>165343.0</b>



1. This aircraft does not meet the airworthiness requirements specified in Annex 8 to the Convention on International Civil Aviation. Operations in civil airspace outside of the United States will require the written permission of the applicable Civil Aviation Authorities (CAA). That written permission must be carried aboard the aircraft together with the U.S. airworthiness certificate and, upon request, be made available to an FAA inspector or the CAA in the country of operation. Operations may be further restricted by the foreign CAA. This may include not allowing use of an airport, requiring specific routing, and restricting flight over specific areas. The operator must comply with any additional limitation prescribed by the CAA when operating in its airspace. (1)
2. No person may operate this aircraft for any other purpose specified on the face of the FAA Form 8130-7. These operating limitations do not provide any relief from any applicable law or regulation. This aircraft must be operated in accordance with applicable regulations and the additional limitations prescribed herein. Note that a clearance from air traffic control (ATC) is not authorization for a pilot to deviate from any rule, regulation, operating limitation, or minimum altitude, or to conduct unsafe operation of the aircraft. If ATC issues a clearance that would cause a pilot to deviate from a rule, regulation, or operating limitation, or in the pilot's opinion, would place the aircraft in jeopardy, it is the pilot's responsibility to request an amended clearance. These operating limitations are a part of FAA Form 8130-7 and are to be carried in the aircraft at all times and to be available to the pilot in command of the aircraft. (2)
3. This special airworthiness certificate and attached operating limitations are not in effect during public aircraft operations (PAO). Concurrent public/civil operations are not permitted; the aircraft cannot be operated as a civil aircraft and as a public aircraft at the same time. This airworthiness certificate is not in effect during flights related to providing military services (that is, air combat maneuvering, air-to-air gunnery, target towing, electronic countermeasures simulation, cruise missile simulation, and air refueling). These activities are inherent military training activities, not civil activities. The FAA makes the distinction between the authorized flights for experimental purposes, as described in the program letter, and PAO. Before operating this aircraft under this special airworthiness certificate following a PAO, the aircraft must be returned via an approved method to the condition and configuration at the time of airworthiness certification. This action must be documented in the aircraft records. The aircraft records and entries must clearly differentiate between a civil experimental flight per this certificate and any other flights. (3)
4. No person may operate this aircraft for other than the purpose of meeting the requirements of 14 CFR § 91.319(b) during phase I flight testing, and for recreation and education during phase II operations. (4)
5. Application to amend these operating limitations must be made to the local Flight Standards District Office (FSDO) or Manufacturing Inspection District Office (MIDO). (6)



6. The pilot in command of this aircraft must hold Airplane category and Single-engine land class certificate or privilege. The pilot in command must hold all required ratings or authorizations, and endorsements required by 14 CFR part 61. (7)
7. When filing a flight plan, the experimental nature of this aircraft must be listed in the remarks section. (10)
8. This aircraft must not be used for towing, including, but not limited to glider towing, banner towing, target towing or towing electronic receivers or emitters. This aircraft must not be used for intentional parachute jumping. (12)
9. If aircraft, engine, or propeller operating limitations are exceeded outside of planned test conditions, an appropriate entry will be made in the aircraft records. (13)
10. No person may operate this aircraft unless within the preceding 12 calendar months it has had a condition inspection performed in accordance with the scope and detail of 14 CFR part 43, appendix D, manufacturer or other FAA-approved programs, and was found to be in a condition for safe operation. The inspections must be recorded in the aircraft maintenance records showing the following, or a similarly worded, statement: "I certify that this aircraft has been inspected on [insert date] in accordance with the [insert either: scope and detail of 14 CFR part 43, appendix D; manufacturer's inspection procedures] and was found to be in a condition for safe operation." The entry will include the aircraft's total time-in-service (cycles if appropriate), and the name, signature, certificate number, and type of certificate held by the person performing the inspection. (14)
11. An experimental aircraft builder certificated as a repairman for this aircraft under § 65.104, or an appropriately rated FAA-certificated mechanic, may perform the condition inspection required by these operating limitations. (17)
12. The aircraft may not be operated unless the replacement for life-limited articles specified in the applicable technical publications pertaining to the aircraft and its articles are complied with in one of the following manners:
  - (a) Type-Certificated Products: Replacement of life-limited parts required by § 91.409(e) applies to experimental aircraft when the required replacement times are specified in the U.S. aircraft specifications, or type certificate data sheets.
  - (b) Non-Type-Certificated Products: All articles installed in non-type-certificated products operated under an airworthiness certificate issued for an experimental purpose, in which the manufacturer has specified limits, must include in their program an equivalent level of safety for those articles. These limits must be evaluated for their current operating environment and addressed in the approved inspection program. All articles installed in non-type-certificated products in which the manufacturer has specified limits, must include in their program an equivalent level of safety for those articles. The article must be inspected to ensure that the equivalent level of safety still renders the product in a serviceable condition for safe



operation. (19)

13. For aircraft originally incorporating fatigue life recording systems, the owner/operator must maintain and use the system as prescribed by the aircraft manufacturer and comply with the manufacturer's fatigue life limits. (20)

14. After incorporating a major change as described in § 21.93, the aircraft owner is required to reestablish compliance with § 91.319(b) and notify the geographically responsible FSDO of the location of the proposed test area. The aircraft owner must obtain concurrence from the FSDO as to the suitability of the proposed test area. If the major change includes installing a different type of engine (reciprocating to turbine) or a change of a fixed-pitch from or to a controllable propeller, the aircraft owner must fill out a revised FAA Form 8130-6 to update the aircraft's file in the FAA Aircraft Registration Branch. All operations must be conducted under day visual flight rules (VFR) conditions in a sparsely populated area in compliance with § 91.305. The aircraft must remain in flight test for a minimum of 5 hours. The FSDO may require additional time (more than 5 hours) depending on the extent of the modification. Persons nonessential to the flight must not be carried. The aircraft owner must make a detailed aircraft logbook and maintenance records entry describing the change before the test flight. Following satisfactory completion of the required number of flight hours in the flight test area, the pilot must certify in the records that the aircraft has been shown to comply with § 91.319(b). Compliance with § 91.319(b) must be recorded in the aircraft records with the following, or a similarly worded, statement: "I certify that the prescribed flight test hours have been completed and the aircraft is controllable throughout its normal range of speeds and throughout all maneuvers to be executed, has no hazardous characteristics or design features, and is safe for operation. The following aircraft operating data has been demonstrated during the flight testing: speeds  $V_{so}$  \_\_\_\_\_,  $V_x$  \_\_\_\_\_, and  $V_y$  \_\_\_\_\_, and the weight \_\_\_\_\_, and CG location \_\_\_\_\_ at which they were obtained." (22)

-- The following limitations apply during phase 1:

15. No person may operate this aircraft for other than the purpose of meeting the requirements of 14 CFR § 91.319(b).

The PIC must comply with § 91.305 at all times.

This aircraft is to be operated under VMC, day only.

This aircraft must be operated for at least 40 hours with at least null takeoffs and landings in this geographic area: Depart French Valley Airport, Murrieta/Temecula, CA. Make a turn to the East to the area east of Lake Skinner. The maneuver practice area is a rectangle located from a north-south line located one (1) mile east of Lake Skinner, to a north-south line located thirty (30) miles east and from an east-west line through the center of Lake Skinner, three (3) miles north and eight (8) miles south. Use a reciprocal course to return to French Valley Airport.

Aircraft base of operations: French Valley Airport, Temecula, CA (F70)  
(34)

16. Unless operating in accordance with AC 90-116, Additional Pilot Program for Phase I Flight Test, only the minimum crew necessary to fly the aircraft during normal operations may be on board. (36)

17. Following satisfactory completion of the required number of flight hours in the flight test area, the pilot must certify in the records that the aircraft has been shown to comply with § 91.319(b). Compliance with § 91.319(b) must be recorded in the aircraft records with the following, or a similarly worded, statement: "I certify that the prescribed flight test hours have been completed and the aircraft is controllable throughout its normal range of speeds and throughout all maneuvers to be executed, has no hazardous operating characteristics or design features, and is safe for operation. The following aircraft operating data has been demonstrated during the flight testing: speeds  $V_{so}$  \_\_\_\_\_,  $V_x$  \_\_\_\_\_, and  $V_y$  \_\_\_\_\_, and the weight \_\_\_\_\_ and CG location \_\_\_\_\_ at which they were obtained." (38)

18. During Phase I test flight operations, aerobatic maneuvers intended to be performed during Phase II, must be satisfactorily accomplished and recorded in the aircraft records. Aerobatic flight testing is not complete until sufficient flight experience has been gained to establish that the aircraft is satisfactorily controllable during the aerobatic maneuver tested.

Upon completion of flight testing, the owner/operator must make the following or similar entry in the aircraft records:

"I certify that the following aerobatic maneuvers have been test flown, and that the aircraft is controllable throughout the maneuvers' normal range of speeds. The flight-tested aerobatic maneuvers and speeds are \_\_\_\_\_ at \_\_\_\_\_, \_\_\_\_\_ at \_\_\_\_\_, \_\_\_\_\_ at \_\_\_\_\_, and \_\_\_\_\_ at \_\_\_\_\_."

During Phase II operations, aerobatic maneuvers that were not documented per this limitation may not be performed. The owner may place the aircraft back into Phase I for the sole purpose of adding additional aerobatic maneuvers to the aircraft authorized maneuvers. (39)

19. If the aircraft will have removable externally mounted equipment, it must be test flown in all configurations. An entry must be made in the aircraft records indicating the configurations flight tested, unless the original manufacturer's flight test data for that equipment is included in the aircraft limitations. If relying on the manufacturer's data, the aircraft and load must conform to the manufacturer's design and be maintained to manufacturer's instructions. Otherwise, the aircraft owner/operator must conduct test flights in all configurations and make an entry in the aircraft records indicating the configurations flight tested. (40)

-- End of Phase I section --



U.S. Department of Transportation  
Federal Aviation Administration

Operating limitations for N917SK  
Stefan Kothe, RV-8, 83109  
12 Nov 2016

-- The following limitations apply during Phase 2 operations.

20. Day VFR flight operations are authorized.  
Night flight operations are authorized if the instruments specified in § 91.205(c) are installed, operational, and maintained in accordance with the applicable requirements of part 91.  
Instrument flight operations are authorized if the instruments specified in § 91.205(d) are installed, operational, and maintained in accordance with the applicable requirements of part 91. All maintenance or inspection of this equipment must be recorded in the aircraft maintenance records and include the following items: date, work performed, and name and certificate number of person returning aircraft to service. (41)
21. The pilot in command must not perform any maneuvers that have not been flight tested or operate the aircraft outside the weight, airspeeds, and center of gravity limits tested. (42)
22. Flight over a densely populated area or in a congested airway is authorized for the purpose of takeoff or landing; or unless sufficient altitude is maintained to make a safe emergency landing in the event of a power unit failure, without hazard to persons or property on the ground. (46)
23. This aircraft is prohibited from flight with any externally mounted equipment unless the equipment is mounted in a manner that will prevent in-flight jettison. The aircraft must be configured as documented in the aircraft's flight test records or as allowed in the original manufacturer's aircraft limitations. If relying on the manufacturer's data, the aircraft must conform to the manufacturer's design and be maintained to manufacturer's instructions. (50)

Mathew Hlavac  
DARF 446614155