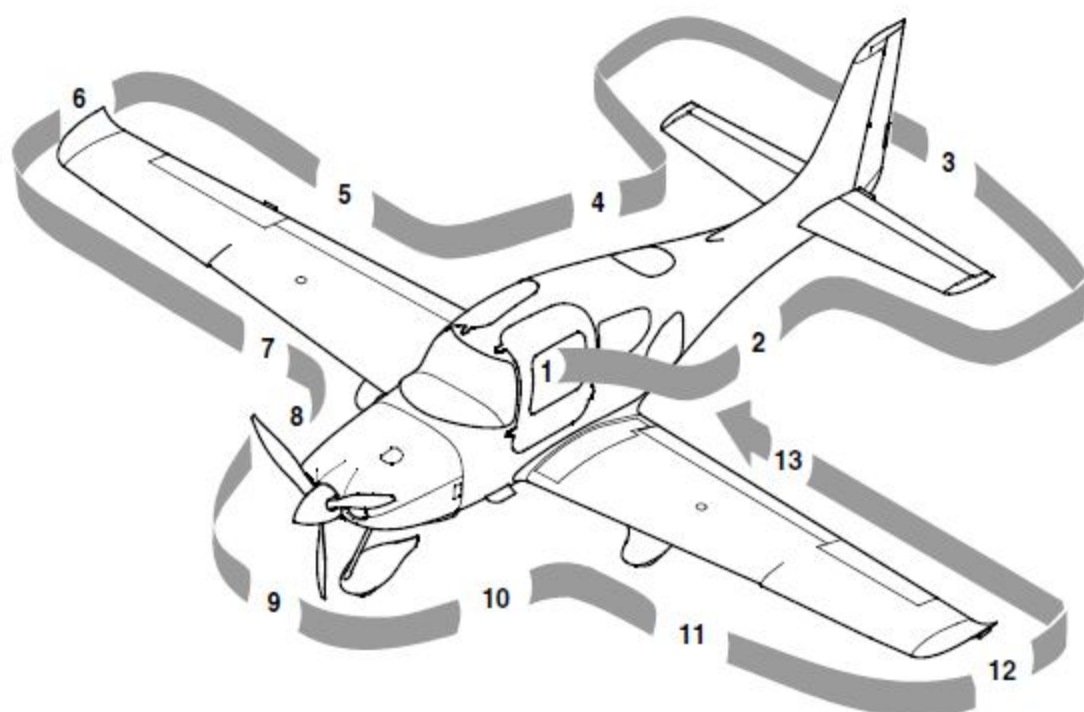


Normal Procedures

Preflight Inspection

Before carrying out preflight inspections, ensure that all required maintenance has been accomplished. Review your flight plan and compute weight and balance. Throughout the walk-around: check all hinges, hinge pins, and bolts for security; check skin for damage, condition, and evidence of delamination; check all control surfaces for proper movement and excessive free play; check area around liquid reservoirs and lines for evidence of leaking.

In cold weather, remove all frost, ice, or snow from fuselage, wing, stabilizers and control surfaces. Ensure that control surfaces are free of internal ice or debris. Check that wheel fairings are free of snow and ice accumulation. Check that Pitot probe warms within 30 seconds of setting Pitot Heat to ON.



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1. Cabin
 - a. Required Documents.....ON BOARD
 - b. Avionics Power Switch.....OFF

(Continued on following page)

- c. Bat 2 Master SwitchON
- d. PFD VERIFY ON
- e. Essential Bus Voltage..... 23-25 VOLTS
- f. Flap Position Light OUT
- g. Bat 1 Master SwitchON
- h. Avionics Cooling FanAUDIBLE
- i. Oxygen Masks/Cannulas and Hoses CHECK CONDITION
- j. Oxygen SystemON
 - (1) Quantity..... VERIFY ADEQUATE SUPPLY FOR FLIGHT WITH RESERVE
 - (2) Flow CHECK FLOWMETER ON ALL MASKS
 - (3) Oxygen System..... OFF
- k. Lights..... CHECK OPERATION
- l. Stall Warning TEST

• Note •

Test stall warning system by applying suction to the stall warning system inlet and noting the warning horn sounds.

- m. Fuel QuantityCHECK
 - n. Fuel Selector SELECT FULLEST TANK
 - o. Flaps..... 100%, CHECK LIGHT ON
 - p. Bat 1 and 2 Master Switches..... OFF
 - q. Circuit Breakers IN
 - r. Fire Extinguisher CHARGED AND AVAILABLE
 - s. Emergency Egress Hammer AVAILABLE
 - t. CAPS Handle PIN REMOVED
2. Left Fuselage
- a. Door Lock UNLOCK
 - b. COM 1 Antenna (top) CONDITION AND ATTACHMENT
 - c. Transponder Antenna (underside) CONDITION AND ATTACHMENT
 - d. Wing/Fuselage Fairing.....CHECK

(Continued on following page)

Before Taxiing

1. Flaps UP (0%)
2. Radios/Avionics..... AS REQUIRED
3. Cabin Heat/Defrost AS REQUIRED
4. Fuel Selector.....SWITCH TANK

Taxiing

1. Parking Brake.....DISENGAGE
2. Brakes CHECK
3. HSI Orientation CHECK
4. Attitude Gyro CHECK
5. Turn Coordinator CHECK

Amplification

• WARNING •

Maximum continuous engine speed for taxiing is 1000 RPM on flat, smooth, hard surfaces. Power settings slightly above 1000 RPM are permissible to start motion, for turf, soft surfaces, and on inclines. Use minimum power to maintain taxi speed.

If the 1000 RPM taxi power limit and proper braking procedures are not observed, the brake system may overheat and result in brake damage or brake fire.

When taxiing, directional control is accomplished with rudder deflection and intermittent braking (toe taps) as necessary. Use only as much power as is necessary to achieve forward movement. Deceleration or taxi speed control using brakes but without a reduction in power will result in increased brake temperature. Taxi over loose gravel at low engine speed to avoid damage to the propeller tips.

Before Takeoff

1. Doors LATCHED
2. CAPS Handle VERIFY PIN REMOVED
3. Seat Belts and Shoulder Harness SECURE
4. Air Conditioner AS DESIRED

• **Caution** •

Use of RECIRC mode prohibited in flight.

• **Note** •

If Air Conditioner is ON for takeoff roll, see Section 5, *Takeoff Distance* for takeoff distance change. No takeoff distance change is necessary if system remains OFF for takeoff roll.

5. Fuel Quantity CONFIRM
6. Fuel Selector FULLEST TANK
7. Fuel Pump BOOST
8. Mixture FULL RICH
9. Flaps SET 50% & CHECK
10. Transponder SET
11. Autopilot CHECK
12. Navigation Radios/GPS SET FOR TAKEOFF
13. Cabin Heat/Defrost AS REQUIRED
14. Brakes HOLD
15. Power Lever 1700 RPM
16. Alternator CHECK
 - a. Pitot Heat ON
 - b. Navigation Lights ON
 - c. Landing Light ON
 - d. Annunciator Lights CHECK
Verify both ALT 1 and ALT 2 caution lights out and positive
amps indication for each alternator.
17. Voltage CHECK
18. Pitot Heat AS REQUIRED

(Continued on following page)

Amplification

The fuel pump should be in the BOOST position during takeoff and for climb as required for vapor suppression with hot or warm fuel.

Takeoff Power Check

Check full-throttle engine operation early in takeoff run. The engine should run smoothly and turn approximately 2500 RPM. All engine parameters are not in caution or warning ranges. Discontinue takeoff at any sign of rough operation or sluggish acceleration. Make a thorough full-throttle static run-up before attempting another takeoff.

Manifold pressure may temporarily increase to 36.0 - 37.0 in.Hg on first flight of the day due to cooler oil temperatures and associated higher oil pressures. This is acceptable under these conditions but normal full throttle manifold pressure should be 36.0 in.Hg. The fuel flow will normally also increase in proportion to the increase in manifold pressure. If manifold pressure exceeds 37.0 in.Hg on takeoff or during full power climbs, reduce power to maintain no more than 37.0 in.Hg.

For takeoff over a gravel surface, advance Power Lever slowly. This allows the airplane to start rolling before high RPM is developed, and gravel will be blown behind the propeller rather than pulled into it.

Takeoff Flap Settings

Normal and short field takeoffs are accomplished with flaps set at 50%. Takeoffs using 0% are permissible, however, no performance data is available for takeoffs in the flaps up configuration. Takeoffs with 100% flaps are not approved.

Soft or rough field takeoffs are performed with 50% flaps by lifting the airplane off the ground as soon as practical in a tail-low attitude. If no obstacles are ahead, the airplane should be leveled off immediately to accelerate to a higher climb speed.

Takeoffs into strong crosswinds are normally performed with the flaps set at 50% to minimize the drift angle immediately after takeoff. With the ailerons fully deflected into the wind, accelerate the airplane to a speed slightly higher than normal while decreasing the aileron deflection as speed increases then - with authority - rotate to prevent possibly settling back to the runway while drifting. When clear of the ground, make a coordinated turn into the wind to correct for drift.

Takeoff Distance

Conditions:

- Winds.....Zero
 - Runway.....Dry, Level, Paved
 - Flaps.....50%
 - Air Conditioner.....OFF
 - Power:
 - ThrottleFull Open
 - Mixture.....Set per Placard
- Set prior to brake release for short field takeoff.

The following factors are to be applied to the computed takeoff distance for the noted condition:

Headwind - Subtract 10% from computed distance for each 12 knots headwind.

Tailwind - Add 10% for each 2 knots tailwind up to 10 knots.

Dry Grass Runway - Increase distances by 15% of the ground roll distance.

Sloped Runways - Increase distances by 22% of the ground roll value at Sea Level, 30% of the ground roll value at 5000 ft, 43% of the ground roll value at 10000 ft for each 1% of upslope; decrease distances by 7% of the ground roll value at Sea Level, 10% of the ground roll value at 5000 ft, and 14% of the ground roll value at 10000 ft for each 1% of downslope.

• Caution •

The above corrections for runway slope are required to be included herein under FAR 23. They should be used with caution since published runway slope data is usually the net slope from one end of the runway to the other. Many runways will have portions of their length at greater or lesser slopes than the published slope, lengthening (or shortening) takeoff ground run values estimated from the published slope as described above.

If brakes are not held while applying power, distances apply from the point where full throttle and mixture setting is complete.

For operation in outside air temperatures colder than the Takeoff Distance table provides, use the coldest data shown.

For operation in outside air temperatures warmer than the Takeoff Distance table provides, use caution.

Aircraft with optional Air Conditioning System: Add 100 feet to ground roll distance and 150 feet to distance over 50' obstacle if Air Conditioner is ON during takeoff.

Takeoff Distance: 3600 LB

Weight: 3600 LB
Approx. Speed at Liftoff: 80 KIAS
Speed over 50 Ft. Obstacle: 85 KIAS
Flaps: 50%
Power: Full Throttle, Mixture Set
Runway: Dry, Paved, Level

Headwind: Subtract 10% for each 12 knots headwind.
Tailwind: Add 10% for each 2 knots tailwind up to 10 knots.
Dry Grass: Add 15% of ground roll to distances.
Runway Slope: Reference Caution.
Air Conditioner: Add 100' to ground roll and 150' to distance over 50' obstacle if Air Conditioner is ON during takeoff.

PRESS ALT FT	DISTANCE FT	TEMPERATURE ~°C						ISA
		0	10	20	30	40	50	
SL	Grnd Roll	1352	1461	1574	1692	1814	1941	1517
	Total	1865	2007	2154	2307	2465	2629	2080
1000	Grnd Roll	1443	1559	1680	1805	1936	2071	1595
	Total	1980	2131	2288	2450	2618	2792	2178
2000	Grnd Roll	1540	1664	1793	1927	2066	2210	1677
	Total	2104	2264	2431	2603	2782	2967	2281
3000	Grnd Roll	1645	1777	1914	2058	2206	2361	1764
	Total	2236	2407	2584	2767	2958	3154	2390
4000	Grnd Roll	1757	1898	2045	2198	2357	2522	1856
	Total	2378	2559	2748	2943	3146	3355	2505
5000	Grnd Roll	1878	2029	2186	2350	2520	2696	1954
	Total	2530	2723	2924	3132	3347	3570	2627
6000	Grnd Roll	2008	2170	2338	2513	2694	2883	2058
	Total	2693	2899	3113	3334	3564	3802	2756
7000	Grnd Roll	2149	2322	2501	2688	2883	3084	2168
	Total	2868	3088	3315	3552	3796	4050	2892
8000	Grnd Roll	2300	2485	2678	2878	3086	3302	2284
	Total	3056	3290	3533	3785	4046	4316	3036
9000	Grnd Roll	2463	2661	2868	3082	3305	3536	2408
	Total	3258	3508	3767	4036	4314	4603	3188
10000	Grnd Roll	2640	2852	3073	3303	3541	3789	2540
	Total	3476	3742	4019	4306	4603	4911	3350

Takeoff Distance: 2900 LB

Weight: 2900 LB Approx. Speed at Liftoff: 67 KIAS Speed over 50 Ft. Obstacle: 72 KIAS Flaps: 50% Power: Full Throttle, Mixture Set Runway: Dry, Paved, Level		Headwind: Subtract 10% for each 12 knots headwind. Tailwind: Add 10% for each 2 knots tailwind up to 10 knots. Dry Grass: Add 15% of ground roll to distances. Runway Slope: Reference Caution. Air Conditioner: Add 100' to ground roll and 150' to distance over 50' obstacle if Air Conditioner if ON during takeoff.						
PRESS ALT FT	DISTANCE FT	TEMPERATURE ~°C						
		0	10	20	30	40	50	ISA
SL	Grnd Roll	485	524	564	606	650	695	544
	Total	766	823	882	944	1007	1073	852
1000	Grnd Roll	517	559	602	647	694	742	571
	Total	812	872	935	1000	1068	1138	891
2000	Grnd Roll	552	596	642	690	740	792	601
	Total	861	925	992	1061	1133	1207	932
3000	Grnd Roll	589	637	686	737	791	846	632
	Total	914	982	1053	1126	1202	1281	975
4000	Grnd Roll	630	680	733	788	845	904	665
	Total	970	1043	1118	1196	1277	1360	1021
5000	Grnd Roll	673	727	783	842	903	966	700
	Total	1030	1108	1188	1271	1357	1446	1069
6000	Grnd Roll	720	778	838	900	965	1033	737
	Total	1095	1177	1262	1351	1442	1537	1120
7000	Grnd Roll	770	832	896	963	1033	1105	777
	Total	1164	1252	1343	1437	1534	1634	1174
8000	Grnd Roll	824	890	959	1031	1106	1183	819
	Total	1239	1332	1428	1529	1632	1739	1231
9000	Grnd Roll	883	954	1028	1104	1184	1267	863
	Total	1318	1418	1521	1627	1738	1852	1291
10000	Grnd Roll	946	1022	1101	1183	1269	1358	910
	Total	1404	1510	1620	1733	1851	1973	1354

Landing Distance - Flaps 0%

WEIGHT: 3600 LB		Headwind: Subtract 10% for each 13 knots headwind.						
Speed over 50 Ft Obstacle: 94 KIAS		Tailwind: Add 10% for each 2 knots tailwind up to 10 knots.						
Flaps: 0%		Runway Slope: Reference Notes						
Power: Idle		Dry Grass: Add 20% to Ground Roll						
Runway: Dry, Paved, Level		Wet Grass: Add 60% to Ground Roll						
PRESS ALT FT	DISTANCE FT	TEMPERATURE ~°C						ISA
		0	10	20	30	40	50	
SL	Grnd Roll	1365	1415	1465	1515	1565	1615	1440
	Total	3165	3241	3319	3398	3478	3558	3280
1000	Grnd Roll	1415	1467	1519	1571	1623	1675	1483
	Total	3242	3323	3404	3487	3571	3656	3347
2000	Grnd Roll	1468	1522	1576	1629	1683	1737	1527
	Total	3324	3409	3495	3582	3670	3759	3418
3000	Grnd Roll	1523	1579	1635	1690	1746	1802	1574
	Total	3411	3500	3590	3682	3775	3868	3491
4000	Grnd Roll	1581	1638	1696	1754	1812	1870	1621
	Total	3503	3597	3692	3788	3885	3984	3569
5000	Grnd Roll	1641	1701	1761	1821	1881	1941	1671
	Total	3600	3699	3799	3900	4003	4106	3650
6000	Grnd Roll	1703	1766	1828	1890	1953	2015	1723
	Total	3703	3807	3913	4019	4127	4236	3736
7000	Grnd Roll	1769	1834	1899	1963	2028	2093	1776
	Total	3813	3922	4033	4145	4258	4373	3825
8000	Grnd Roll	1838	1905	1972	2040	2107	2174	1832
	Total	3929	4044	4161	4279	4398	4518	3919
9000	Grnd Roll	1910	1980	2049	2119	2189	2259	1890
	Total	4052	4173	4296	4420	4545	4671	4018
10000	Grnd Roll	1985	2058	2130	2203	2276	2348	1950
	Total	4183	4310	4439	4569	4701	4833	4122