

Airfreddy's Guide on Learning To Fly

Step-by-Step Guide On the Private
Pilot License From Start To Finish



Soft Field Takeoffs and Landings

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SOFT FIELD TAKEOFFS AND LANDINGS: There is one little term you want to remember when you are practicing Soft Field Takeoffs and landings: "**SLOW AS POSSIBLE**". Yes, it is that simple! You want to takeoff as slow as possible and you want to land as slow as possible. Your instructor will walk you thru these, but I have put the way that I teach them below.

Scenario: You are taking off or landing on a grass runway. You are taking off or landing on a dirt runway

SOFT FIELD TAKEOFF: When you hear or think: "Show me a soft field takeoff", the first thing you are going to do is pull the control column all the way back. This will keep the weight off of the nose wheel of the airplane. The next thing you will do is extend your flaps; in most cases it will be 10 degrees. Get lined up on the runway and then bring the power in all the way. Your nose is going to be up. You want to hold it at climb attitude or slightly below. Remember if you can't see over the nose of the plane you have it to high.

As the plane accelerates you will have to begin to ease the nose forward, but remember you want to take off as slow as possible so you can't put a lot of forward pressure in or you will keep the plane on the runway. When you feel the plane come off the ground you want to ease the nose of the plane to level attitude. You will now accelerate to your V_y Airspeed. Remember to keep the nose of the plane level as you don't want to climb out of ground effect.

Once you have accelerated to V_y you will bring the nose of the plane to climb attitude. Remember that climb attitude and full power will give you approximately $V_y \pm 10$ knots or so. Once you get the hang of it you will be able to nail this airspeed without even looking at it. Once you get 100 feet above the ground you will then, and only then, start to retract the flaps. I have put this in a simple checklist for you to memorize below:

You hear "Soft field takeoff, **"you also hear slow as possible"**

- 1: Control Column** – back
- 2: Flaps** – 10 degrees or what your airplane requires
- 3: Line up on Runway**
- 4: Throttle** – FULL
- 5: Nose** – Climb Attitude
- 6: When the Plane comes off the Ground** – Ease the Nose to Level Attitude
- 7: Accelerate to V_y** – Then Climb Attitude
- 8: 100 Feet Above the Ground** – Retract Flaps and Maintain Climb Attitude

You don't want to retract the flaps too early. A lot of instructors will say 50 FT. If you are somewhere with a high density altitude and you have 40 foot trees, you could see the airplane drop which is not that much room. I would wait until you are at least 100 ft off the ground. Remember the habits: if you are in the habit of waiting until at least 100 ft then you should be safe; if you are in the habit of retracting flaps at 50 feet you are automatically going to do it. In this case you may only have about 10 feet to play with. You can fly all the way across the country with 10 degrees flap so I wouldn't rush.

SOFT FIELD LANDING: The soft field landing is pretty much your picture perfect landing. Once again you want to hear that little voice in your head; "**Slow as Possible**".

You are going to do a normal approach and you want to get it slowed down as "Slow as Possible" Now most places will teach you to back the power off and then stop it somewhere around 1200 RPM and then just hold it off the runway. In some cases this will work and in some it won't. If you have a high density altitude, high humidity and forget to bring the power back, you are going to float right off the end of the runway. Many times you, the student, will forget to back off the power.

Most of the examiners I know will say; "Show me a soft field landing and don't float all the way down the runway". This is because that habit is not quite in your brain yet and the examiners know that. I remember years back when I was teaching this to a student I was dead set on the power being set at 1200 rpm and he just looked at me and said, "can't I just pull it all the way off and then inch it in when I need it?" Flight Instructor Light bulb!!! Hm, I thought so we tried it and it worked like a charm. Ever since I have been telling students to do what works best for them. Some will leave it set then pull it off and others will inch it in. Either way is fine. As long as you hear that stall warning horn come on just before you touch down.



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