

Takeoff Roll Procedure For a 2-33

The Schweizer 2-33 is towed slower than the ASK 21 or other fiberglass trainers. Not only is the tow speed slower, but the power you add on the initial roll is slower too. Consistently adding power slowly at the start and then bringing it in smoothly during takeoff is the objective for towing a 2-33. At no time is this more important than on the student's first solo flight.

The first solo flight is a dramatic one for the student. He is on his own, solo. He is responsible for everything, no one in the back seat to save it, yet when successfully accomplished, he gets all the glory! Having someone in the back seat psychologically adds to the student's confidence, but what it also does, is physically add weight (ballast) to the 2-33. Thus, this first solo takeoff is going to be somewhat different for him. The plane is going to be lighter and will tend to "leap" off the ground more quickly because there is no instructor in the back seat serving as ballast. He is not accustomed to this feeling, unless his instructor is very light or petite!

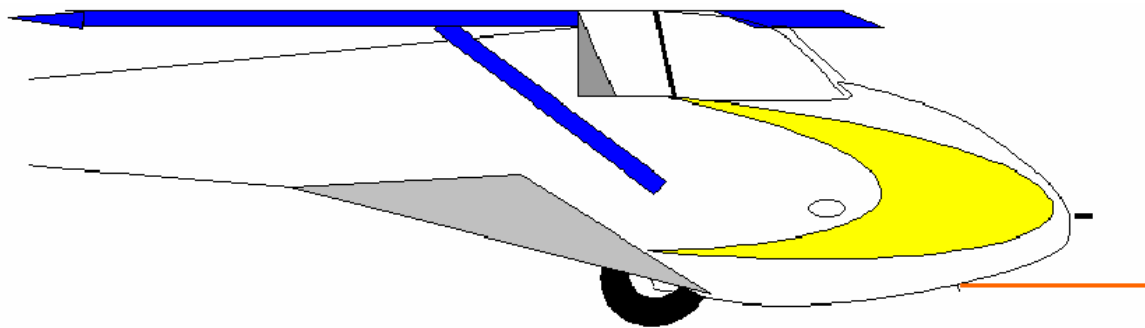
As a tow pilots, we can make the takeoff easier for him if we add power slowly at first and then gradually, smoothly bring in full power. Take a quick glance in your mirror just as you add power on the roll. Pay attention to the glider's nose. The Pawnee has enough horsepower to pull the nose up if power is applied too rapidly. When we add power too quickly, the glider's nose pitches up and the tail slams down. If this happens, the 2-33 and unsuspecting solo pilot begin to slither down the runway, usually from one side to the other. The nose is high in the air, as it rides along on it's tail wheel. Often, the student has no idea why his takeoff was so difficult. After his flight he may ask, "What happened on takeoff? What did I do wrong?" What happened is I (the towpilot) added power too quickly. He did nothing wrong.

If you think you have added power too quickly, check your mirror. If the glider's nose is high in the air, then go ahead and smoothly add full power. His nose is *not going to come back down* until he gets more airspeed. With added airflow over his controls, he will be able to lower the nose of the glider.

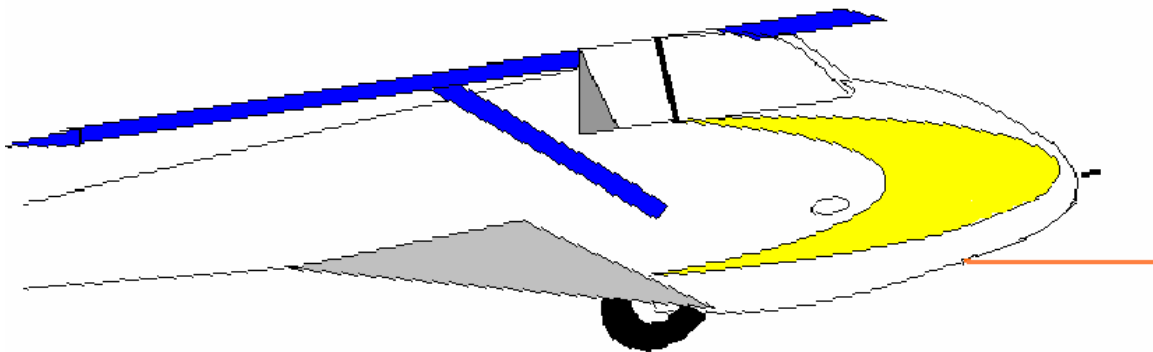
It also may be that the student himself is a lightweight (physically, not mentally). Add extra ballast in the front of the glider if indeed the student is small in stature. Adding a little extra ballast in the front of the glider helps prevent the nose from coming up too quickly on takeoff. If you have the maximum weight (heavy pilot) in the front of the 2-33, then the nose is not going to pop up and you can just bring in the power smoothly, without hesitation.

Other tow planes may not have the power to pull the nose up on the glider. For example, we used to pull the stick back in the 2-33 on takeoff when we towed with a Super Cub on asphalt. The Super Cub would drag the glider at the start. We kept the stick back in order to get the skid up off the asphalt. This reduced the wear and tear on the skid. But with the Pawnee on grass, it's a different story. There is no need for this technique.

The 2-33 needs an even, slow building initial pull from the tow plane. The students are better able to handle this gradual pull than an abrupt pull caused by bringing all the power in at once.



Correct Position During Ground Roll



Nose Too High During Initial Ground Roll