

## Chapter Ten

There is a real potential for wearing out the brakes when the rudder pedal serves the dual purpose of rudder control and braking. Unfortunately the only cure is never to taxi with your feet flat on the pedal; instead, put your feet on the floor and toes on the bottom part of the pedal. It's a simple matter to slide your foot up and press the brake when you need it. If you feel you must keep your feet on the brakes while taxiing to be able to instantly react, you are probably taxiing too fast. Riding the brakes causes unnecessary, and rapid, wear of the linings. During taxi, you should seldom, if ever, touch the brakes. Using them to keep your taxi speed slow is an indication of carrying too much power. The automotive equivalent is to pull out of your driveway by flooring the accelerator with one foot and standing on the brakes with the other.

Another common problem is using the brakes to turn. Generally it is a sign of poor planning by not mentally staying ahead of the airplane. Rather than using brakes for turning in the multiengine airplane, there is the advantage of differential power. If you desire to turn left, you just idle power on the left engine and slightly increase power on the right while using left rudder.

### Operational Considerations

Never raise flaps on the landing roll! That simple rule, ingrained in countless students over the years, has absolutely nothing to do with stopping the airplane. Rather, it stems from the sad fact that many pilots have inadvertently retracted the gear instead of the flaps during landing. Never mind the landing gear squat switch; it fails. Never mind that the gear switch is round and the flap handle is flat; preoccupation tends to cover that up, and never mind that they are typically located in totally different places. An alarming number of pilots have overcome all of these obstacles and managed to retract the gear on the runway. Therefore, most instructors tell you to never raise flaps on the landing roll! Unfortunately, that is contrary to maximum-performance landings.

Okay, let's be honest. If you are landing your Cessna 152 at Chicago's O'Hare International Airport and you have two miles of runway, who cares? Well, assuming there isn't a DC 10 right behind you, nobody. In fact, it is prudent to use little or no brakes on landing; brakes wear out when they are used. Given the opportunity, I will roll out to the end of the runway to save on brakes. What happens when you are forced to make an actual short-field landing? In that situation, everything you have learned about landings, and routinely practiced, will give you the most inefficient technique. For maximum performance landings, you should touch down slightly nose-high, at the slowest safe speed for your gross weight, with full flaps. This configuration will be effective to approximately 60% of your touchdown speed. For example, if your touchdown speed is 100 knots, aerodynamic braking will be more effective than friction down to approximately 60 knots. The reason: The wings will still be creating sufficient lift to reduce weight on the tires, which minimizes friction braking. Once you reach 60% of your touchdown speed, let the nosewheel contact the ground, retract the flaps, and begin to apply smooth, maximum brake pressure without allowing the tires to skid.