

Proper Braking Practices in Light Aircraft

Braking Definitions

Off the Brakes – Heels are on the floor. Soles of feet are only depressing the lower half of the brake/rudder pedal.

Cover the Brakes – Heels are raised off the floor and toes are only resting on upper half of the brake/rudder pedal with no brake pressure applied.

Apply the Brakes – Gradual pressure from the ball of the feet is applied to the upper half of the brake/rudder pedal as needed.

Ride the brakes – Applying inadvertent pressure on the brakes while moving.

Testing the brakes

- Clear the area before starting the engine or moving the aircraft.
- Gradually increase power to get aircraft to start moving, typically less than 1500 RPM.
- Once moving, slowly apply the right brake to ensure proper operation, then release.
- Slowly apply the left brake to ensure proper operation, then release.
- Simultaneously apply both brakes to make sure they feel the same, then release.

Taxiing and Turning

- Cover the brakes with no brake pressure.
- Use only enough power so that you don't have to use brakes. This is typically around 1100 RPM on level ground. If you are using over 1300 RPM power to taxi, you are riding the brakes!
- Taxi at a jogging pace, not over 10 knots.
- Ideally the aircraft should make turns with rudder use only, however slight brake pressure may be necessary for sharp turns.
- Do not attempt turns at a fast taxi speed. Slow down to turn.

Engine Runup

- Apply both brakes firmly. This is considered 100% braking pressure.
- Use the emergency brake as well, but don't depend solely on emergency brake to hold the airplane.
- Watch that the aircraft does not creep forward when applying runup power.

Takeoff

- Stay off the brakes completely with your heels on the floor.
- Hold centerline control with rudder use only.

Landing

- Stay off the brakes completely with your heels on the floor.
- Once both mains are on the ground, slide your feet up to **cover** the brakes.
- Slowly and gradually apply braking pressure to both brakes simultaneously. Start with 10% of the pressure used to hold the aircraft during runup, and then gradually increase brake pressure until you reach your desired taxi speed, typically no more than 50% of runup brake pressure.
- Unless necessary to make a taxi exit, use more of the runway to slow down to conserve brake life.
- Remember to cover brakes while taxiing, do not ride the brakes.

Short Field Landing

- This is a landing where many tires get flat spots because of locking up the brakes. After all, the idea is to land as short as possible and apply maximum braking to stop in the shortest distance practical. This landing requires practice to get good at. Brake pressure should be applied incrementally to determine the proper amount of pressure to use without skidding.
- Stay off the brakes completely with your heels on the floor while landing.
- Once both mains are on the ground, slide your feet up to **cover** the brakes.
- Increase braking pressure gradually from 0% at landing to about 70% just before stopping. This should be done in a smooth and gradual manner to prevent wheels from locking up.

Skidding

- Avoid skidding tires at all times.
- Skidding wears flat spots onto the tires and dramatically reduces your stopping ability.
- If you hear a skidding screech while braking, immediately let off some brake pressure.
- Every skid will wear a flat spot of some sort onto the tires, even a very quick skid.
- Sustained skidding may result in a tire blowing or large flat spots developing, and a reason to ground the airplane for tire replacement.
- Flat spots that extend deeper than the tread groove *may* be cause for grounding the airplane. Notify the Maintenance Director immediately when discovered.
- Flat spots that expose underlying tire cords is cause for immediate grounding the airplane. Notify the Maintenance Director immediately when discovered.
- Every tire replaced costs the Club a minimum of \$500.