



Suitable Braking Practices

IMPORTANT: Excessive brake use during taxiing can result in the brakes overheating, which in turn can cause damage to the brakes or brake failure. Brake damage or failure can result in a loss of directional control, possible aircraft damage or personal injury.

The brake systems installed on the TL aircraft are not unique to TL-ULTRALIGHT. Indeed, many other aircraft report a high level of reliability when using the same brake system design. Importantly, aggressive or improper brake use can lead to the brakes overheating on any brake system. TL-ULTRALIGHT aircraft are designed to use throttle as the primary control to regulate taxiing speed (brake use in this case is strongly not recommended). In addition, rudder and front leg system are meant to be used as primary controls for ground steering of the aircraft. Proper braking practices are thus vitally important to avoid potential damage to the brakes. Our recommendation is to use full rudder input before applying the brakes to supplement steering. Excessive heat caused by improper operation of the brakes is the most common factor resulting in brake failure. Continuous braking while taxiing is like driving with one foot on the brake and one foot on the gas, and causes a continuous build-up of energy that should be used to move the aircraft.

Excessive heat can lead to:

- Warped brake rotors
- Damaged or glazed linings
- Damaged O-rings
- Vapourised brake fluid

To reduce the risk of brake failure, we advise that the following maintenance and operation practices are observed:

1. Before starting the aircraft and again before taxiing the brakes should be checked. Please refer to Chapter 4 of the POH for pre-flight inspection of wheels and brakes.
2. Approximately every 50 flight hours the brake linings, brake fluid reservoir and basic condition of the brakes should be inspected. Please refer to the Aircraft Maintenance Manual Section 2. Always ensure that the parking brake (where applicable) is off before taxiing.
3. **Only use the required amount of throttle to maintain forward movement.** Excess power is absorbed in the brakes to maintain constant speed.

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Suitable Braking Practices – Manufacturer’s Statement

4. **The rudder and front leg control system should be used as an effective method for steering on the ground.**

5. **Pilots should remove pressure from the brakes while taxiing.** Failure to follow this advice can lead to excessive heat, premature brake wear and an increased likelihood of brake failure.

6. **Avoid unnecessary high-speed taxiing.** High-speed taxiing can result in excessive pressure on the brakes, increased brake erosion, and the possibility of brake failure.

7. Always use full flaps during landing and avoid heavy braking or rapid deceleration from high-speed.

8. Always allow sufficient time for the brakes to cool after use. It can take up to an hour for the energy absorbed in the brakes during landing to completely dissipate.

Never use the aircraft with overheated, damaged, or leaking brakes. These conditions include, but are not limited to:

a. Leaking fluid from the brake caliper. Fluid can generally be seen on the ground or on the underside of the wheel fairing. Clean the underside of the fairing and inspect it for fluid.

b. Overheated components are visible by discolouration or warping of the disk rotor. Caliper components can become discoloured due to excessive heat.

Conclusion regarding the TL ULTRALIGHT brake system:

1. The brake system has sufficient energy capacity and is up to the regulatory requirements for brake performance.

2. The brakes do not overheat when used under our advisory conditions.

3. The most significant cause of overheating is excessive and improper use during landing and taxiing.

4. The majority of pilots have reported no problems with our braking system, and indeed it has proven to be very reliable.

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