Figure 1-78. *Vortex generators.*

Figure 1-79. *The Symphony SA-160 has two unique vortex generators on its wing to ensure aileron effectiveness through the stall.*

Often, a gap can exist between the stationary trailing edge of a wing or stabilizer and the movable control surface(s). At high angles of attack, high pressure air from the lower wing surface can be disrupted at this gap. The result can be turbulent airflow, which increases drag. There is also a tendency for some lower wing boundary air to enter the gap

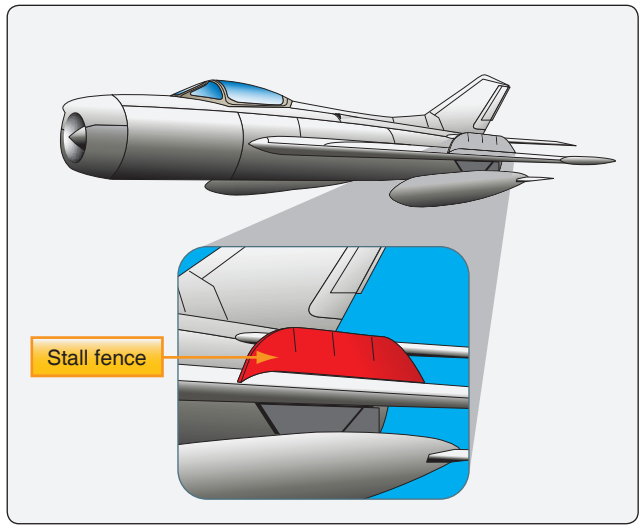

Figure 1-80. *A stall fence aids in maintaining chordwise airflow over the wing.*

and disrupt the upper wing surface airflow, which in turn reduces lift and control surface responsiveness. The use of gap seals is common to promote smooth airflow in these gap areas. Gap seals can be made of a wide variety of materials ranging from aluminum and impregnated fabric to foam and plastic. *Figure 1-81* shows some gap seals installed on various aircraft.

Landing Gear

The landing gear supports the aircraft during landing and while it is on the ground. Simple aircraft that fly at low speeds generally have fixed gear. This means the gear is stationary and does not retract for flight. Faster, more complex aircraft have retractable landing gear. After takeoff, the landing gear is retracted into the fuselage or wings and out of the airstream. This is important because extended gear create significant parasite drag which reduces performance. Parasite drag is caused by the friction of the air flowing over the

Figure 1-81. *Gap seals promote the smooth flow of air over gaps between fixed and movable surfaces.*