releasing back-elevator pressure and, in the case of a departure stall, smoothly advancing the throttle to maximum allowable power. In this case, since the throttle is already at the climb power setting, the addition of power will be relatively slight. [Figure 4-6]

The nose should be lowered as necessary to regain flying speed with the minimum loss of altitude and then raised to climb attitude. Then, the airplane should be returned to the normal straight-and-level flight attitude, and when in normal level flight, the throttle should be returned to cruise power setting. The pilot must recognize instantly when the stall has occurred and take prompt action to prevent a prolonged stalled condition.

SECONDARY STALL

This stall is called a secondary stall since it may occur after a recovery from a preceding stall. It is caused by attempting to hasten the completion of a stall recovery before the airplane has regained sufficient flying speed. [Figure 4-7] When this stall occurs, the back-elevator pressure should again be released just as in a normal stall recovery. When sufficient airspeed has been regained, the airplane can then be returned to straight-and-level flight.

This stall usually occurs when the pilot uses abrupt control input to return to straight-and-level flight after a stall or spin recovery. It also occurs when the pilot fails to reduce the angle of attack sufficiently during stall recovery by not lowering pitch attitude sufficiently, or by attempting to break the stall by using power only.

ACCELERATED STALLS

Though the stalls just discussed normally occur at a specific airspeed, the pilot must thoroughly understand that all stalls result solely from attempts to fly at excessively high angles of attack. During flight, the angle of attack of an airplane wing is determined by a number of factors, the most important of which are the airspeed, the gross weight of the airplane, and the load factors imposed by maneuvering.

At the same gross weight, airplane configuration, and power setting, a given airplane will consistently stall at the same indicated airspeed if no acceleration is involved. The airplane will, however, stall at a higher indicated airspeed when excessive maneuvering loads are imposed by steep turns, pull-ups, or other abrupt changes in its flightpath. Stalls entered from such flight situations are called "accelerated maneuver stalls," a term, which has no reference to the airspeeds involved.

Stalls which result from abrupt maneuvers tend to be more rapid, or severe, than the unaccelerated stalls, and because they occur at higher-than-normal airspeeds, and/or may occur at lower than anticipated pitch attitudes, they may be unexpected by an inexperienced pilot. Failure to take immediate steps toward recovery when an accelerated stall occurs may result in a complete loss of flight control, notably, power-on spins.

This stall should never be practiced with wing flaps in the extended position due to the lower "G" load limitations in that configuration.

Accelerated maneuver stalls should not be performed in any airplane, which is prohibited from such maneuvers by its type certification restrictions or Airplane Flight Manual (AFM) and/or Pilot's Operating Handbook (POH). If they are permitted, they should be performed with a bank of approximately 45°, and in no case at a speed greater

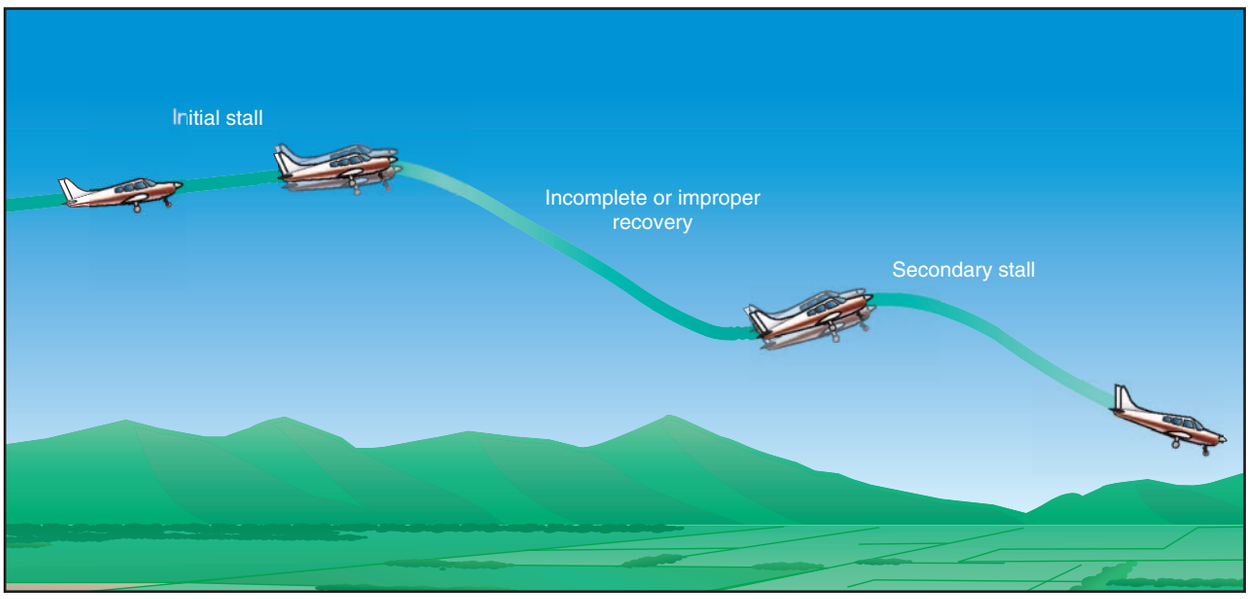

Figure 4-7. Secondary stall.