

Finally, if normal control is ineffective, careful rudder input in the direction of the desired roll may be required to induce a rolling maneuver recovery.

CAUTION

Only a small amount of rudder is needed. Too much rudder applied too quickly or held too long may result in a loss of lateral and directional control. Because of the low energy condition, pilots should exercise caution when applying rudder.

Recovery from a Nose Low, Wings Level Upset / Unusual Attitude

Indications:

- Pitch attitude is unintentionally more than 10 degrees nose down and going lower.
- The airspeed is increasing rapidly.

At moderate pitch attitude, applying nose-up elevator, reducing thrust and extending speed brakes, if necessary, will recover the aircraft to a normal attitude.

At extremely low pitch attitude and high airspeed (well above VMO / MMO), the ability to command a nose-up pitch rate with elevator alone may be reduced because of extreme aerodynamic loads on the elevator. Nose-up elevator and nose-up pitch trim may be required to establish a nose-up pitch rate.

Recovery from a High Bank Angle

Indications:

- Though the bank angle for an upset / unusual attitude has been defined as unintentionally more than 45 degrees, it is possible to experience bank angles greater than 90 degrees.

A smooth application of up to full lateral control should provide enough roll control to establish a very positive recovery roll rate. If full roll control application is not satisfactory, it may then be necessary to apply some rudder in the direction of the desired roll.

CAUTION

Only a small amount of rudder is needed. Too much rudder applied too quickly or held too long may result in loss of lateral and directional control or structural failure.

Recovery from Nose High, High Bank Angle

Pilots must apply nose down elevator but maintain bank angle in order to quickly reduce pitch attitude. As the nose approaches the horizon, bank angle should be reduced to zero and pitch attitude adjusted to recover normal airspeed.

Recovery from Nose Low, High Bank Angle

The nose-down, high bank angle upset / unusual attitude requires prompt action from the pilot since altitude is rapidly exchanged for airspeed. Airspeed in that situation can rapidly increase beyond airplane design limits. It is important to roll the aircraft to wings level before applying nose-up elevator, especially if bank angle exceeds 90 degrees.