

ON-AIRPLANE UPRT EXERCISES FOR PILOTS

Aircraft Handling Characteristics (Objective: to introduce the aircraft and the concept of 'flying by feel')

Trainee Mistakes

Exercise 1: Rolling, yawing, pitching	Control inputs not decisive enough or too abrupt. No UP rudder causing nose to drop and an increase in airspeed.
Exercise 2: 60° banking turn	No nose-up nudge prior to roll. Abrupt/no application of rudder.
Exercise 3: Rolling hands-off using rudder	Rudder inputs too strong. Startles during steep nose-up attitudes anticipating a stall.
Exercise 4: Experience - Simple Aileron Roll	Looks only ahead instead of outside in all directions.

Nose-High Recovery Exercises (Objective: to teach recovery from upsets that cause the aircraft to pitch up)

Trainee Mistakes

Exercise 1: Lowering nose using PITCH	Does not announce 'Nose High' or 'Auto-Pilot/Throttle OFF'. Weak, delayed control inputs. Does not realize nose is pitching up until airplane is pitched 90°.
Exercise 2: Lowering nose using ROLL	Too much roll entering Spiral Dive. Too little roll into stall.
Exercise 3: Lowering nose using YAW	Abrupt rudder application, stressing vertical stabilizer and leading to Spiral Dive. Indecisive rudder application losing airspeed (not really a problem).
Exercise 4: Stall Recovery	Due to prior training, trainee is tense before/during recovery, focuses too much on altitude loss and possibly startles . Does not RELEASE, NUDGE, LEVEL, PULL. Exit speed too low, entering a secondary stall . Does not recognize spin onset.
Exercise 5: Stall with late recovery into high G	Pulls early into secondary stall .
Exercise 6: Stall with early recovery into Secondary Stall	Pulls too late having to bleed-off too much airspeed.
Exercise 7: Stall with Incipient Spin	Trainee startles and does not release resulting in developed spin.
Exercise 8: Wing-Over	Pilot does not trust airplane's aerodynamic capabilities and heavily controls it at the top without unloading .

Nose-Low Recovery Exercises (Objective: to teach recovery from upsets that cause the aircraft to pitch down)

Trainee Mistakes

Exercise 1: Lifting nose using PITCH	Does not announce 'Nose Low' or 'Auto-Pilot/Throttle OFF'. Control inputs not decisive or too abrupt. Wings not level prior to pull-up. Slow recovery and airspeed approaching V_{ne} .
Exercise 2: Banking past 60°	Startle . Wings not rolled to level before pulling nose up. Failure to roll back the shortest route. Student 'pulls through' into a Split-S approaching V_{ne} .
Exercise 3: Spiral Dive Recovery	Startle . Wings not rolled to level prior to pulling nose up.

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