

WPR24FA083

OPERATIONAL FACTORS/HUMAN PERFORMANCE

Attachment 3

Hawker Beechcraft Corporation Pilot's Operating Manual [Excerpt]

February 11, 2025

STALLS**Conditions For Stalls**

When intentional stalls are carried out the following conditions apply:

1. The altitude must be above 10,000 ft AGL, 10,000 ft above clouds and below 18,000 ft MSL.
2. Stalls must be conducted during day VMC with good visual horizon.
3. The autopilot must be disengaged.
4. The Stall Identification System must be operative.
5. All the external surfaces must be free from ice.
6. The ventral fuel tank must be empty.
7. The weather radar must be at standby.

Stalls may be demonstrated with the yaw damper switched on or off. To limit the altitude loss, to maintain acceptable stalling characteristics and to prevent structural abuse, it is strongly recommended that the procedure given below should be followed.

Technique For Stalls

The stalling technique is as follows:

1. All stalls are to be made in straight (wings level) flight.
2. Stalls with flaps retracted and in the take-off configuration should be carried out at idle thrust. To reduce altitude loss with approach or landing flaps, thrust should be adjusted not to exceed 77% N_1 .

Once thrust is set it should not be reduced during the approach to the stall and recovery.

3. The airplane should be trimmed at an airspeed of approximately $1.4 V_{S1}$ in the appropriate configuration after setting the required thrust.
4. The airspeed should be reduced at not more than one knot per second. Rapid or violent movements of any control during the approach to the stall should be avoided, particularly at air speeds below the operation of the stick shaker.

With the yaw damper off, any tendency to yaw during the approach to the stall should be corrected by normal use of the rudder.

5. The stall is identified by a short forward movement of the control column provided by the Stall Identification System. The red STALL VLV OPEN annunciators will illuminate. The airplane should be allowed to pitch nose down until the stick push has cancelled, and should then be recovered to normal controlled flight. Any tendency to roll should be corrected by use of ailerons.

Do not attempt to hold the airplane in the stall.

Stall Characteristics

CAUTION: A FREQUENT REASON FOR UNACCEPTABLE STALL CHARACTERISTICS IS A TENDENCY TO ROLL AT THE STALL. IT IS ACCEPTABLE FOR A MODERATE ROLL TO OCCUR, PROVIDED THAT NORMAL USE OF AILERONS CAN LIMIT THE ROLL ANGLE TO NO MORE THAN 20°.

AILERON SNATCH MAY OCCUR AT OR PRIOR TO STALL AND IS NOT ACCEPTABLE. THE AILERON SNATCH MAY BE STRONG ENOUGH TO AFFECT RECOVERY USING AILERON INPUT, IN WHICH CASE THE ELEVATOR CONTROL MUST BE MOVED FORWARD TO DECREASE THE ANGLE OF ATTACK AND ALLOW THE RETURN OF NORMAL AILERON CONTROL. IN SUCH AN EVENT THE PILOT MUST BE PREPARED TO RECOVER FROM AN UNUSUAL ATTITUDE.

PILOTS CONDUCTING STALL CHECKS SHOULD HAVE PRIOR EXPERIENCE IN PERFORMING STALLS IN THE HAWKER AND MUST BE PREPARED FOR UNACCEPTABLE STALL BEHAVIOR AT ANY POINT LEADING UP TO AND THROUGHOUT THE MANEUVER.

There is no natural stall warning or aerodynamic buffet prior to the stall.

Stall warning is provided by a stick shaker which is set to operate at an indicated airspeed of 7% to 9% above the stalling speed.

It is acceptable for stick pusher operation to be coincident with the natural stall, provided that any rolling tendency can be restrained to within 20° of bank angle by normal use of ailerons. Some aerodynamic buffet may occur briefly at the point of stall.

Power-off stalling speeds in terms of indicated air speed (IAS) are given for various configurations in the Airplane Flight Manual, Section 5 - PERFORMANCE, Sub-section 5.05 - GENERAL. These airspeeds apply to an altitude of 15,000 feet and are the stall identification speeds at forward CG and therefore differ from the values shown in the AFM Figure 5.10.4 which are based on the minimum airspeed obtained during the stall.