

Docket No. SA-531

Exhibit No. 2-SS

NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C.

Bombardier Q400 DASH 8 AOM
Volume 1, Abnormal and Emergency Procedures
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3.4.6.4 Holding and Approach

Before entering the hold or commencing approach, re-confirm all anti-icing systems are selected. The AIRFRAME selector must be selected to FAST for the entire hold, approach and landing.

When holding in icing conditions, the landing gear must be retracted and flaps at Flap 0 setting. Hold at an airspeed no slower than 190 KIAS. The increased airspeed ensures an adequate airspeed margin above stall speed and the increased airspeed and Flap 0 configuration decrease the angle of attack on the wing, maximizing the efficiency of the boot de-icing system.

Prior to commencing approach, revised approach, landing and go-around speeds must be calculated. Refer to chapter 4 of the AOM for the appropriate values. Again, all increases account for actual stalling speeds with ice on protected surfaces of the aeroplane and raised stall warning thresholds.

Accumulated ice on the airframe extracts a small mass penalty on the aeroplane and combined with the increased approach and landing speeds, result in an increase in Landing Field Lengths and Brake Energies. The mass penalty on the aeroplane, as well as decreased net engine power due to electrical loads, combined with the increased go-around speed result in a reduction in Landing MAT limits, and Approach and Bailed Landing Climb gradients.

3.4.6.5 Landing

If landing flap selection is accompanied by stick force lightning or stick force irregularities, immediately retract flap to lesser setting. Cycle wing/tail de-icer boots several times and if possible, land using a smaller flap setting. (This condition, which is the precursor to tail stall, will not occur if AOM icing procedures are followed).

The airplane should be flown to a firm touchdown at the aiming point. Immediately after main wheel touchdown, retard the Power Levers to Disc and lower the nose wheel to the runway to enhance directional control. Apply anti-skid brakes as required.

Let the anti-skid system do its work. Do not pump the brake pedals. The anti-skid system will monitor the onset of tire skidding and modulate brake pressures to achieve maximum braking.

Avoid the use of reverse thrust on icy or slippery runways. If reverse thrust is used in a cross-wind, be prepared for a possible down-wind drift on slippery runways. To correct back to the runway centerline, advance the Power Levers toward Flight Idle and reduce braking. After regaining directional control, increase braking and select Disc. Do not select reverse thrust unless required.

If the Water Equivalent Depth (WED) of contaminant on the runway surface is greater than 3 mm (0.125 in), selection of Power Levers aft of Disc is prohibited to avoid ingesting contaminant into the engines and suffering a possible flame-out.

Do not attempt to turn off the runway until speed has been reduced to a manageable level.