
Applicability All employees responsible for ground handling SkyWest CRJ aircraft

Effective Date Immediately

Policy When ramp surface conditions (ice, snow, etc.) prevent adequate pushback unit traction, only one engine may be started during the pneumatic air start engine start sequence prior to pushing back CRJ aircraft. The marshaller is responsible to notify the PIC accordingly.

Never conduct CRJ aircraft pushback procedures with both engines running when ramp surface conditions prevent adequate pushback unit traction.

Procedure **Marshaller**

1. Arrives at parking location to examine ramp surface and evaluate impact on pushback unit traction and engine start sequence.
2. Conducts a briefing with the flight deck crew and agents assisting in the air start prior to initiating air start procedures.
3. Communicates proper engine start sequence and location to flight deck crew in accordance with local ramp surface conditions.
4. Ensures all CRJ pneumatic air start procedures are followed as outlined in:
 - [Station Operations Manual \(Below Wing\) SP 5500 Chapter 07 CRJ 200 Paragraph 09 Pneumatic Air Start](#)
 - [Station Operations Manual \(Below Wing\) SP 5500 Chapter 08 CRJ 700 Paragraph 09 Pneumatic Air Start](#)
 - [Station Operations Manual \(Below Wing\) SP 5500 Chapter 09 CRJ 900 Paragraph 09 Pneumatic Air Start](#)

Pushback Operator

1. Ensures all CRJ aircraft movement procedures are followed as outlined in:
 - [Station Operations Manual \(Below Wing\) SP 5500 Chapter 07 CRJ 200 Paragraph 14 Aircraft Movement](#)
 - [Station Operations Manual \(Below Wing\) SP 5500 Chapter 08 CRJ 700 Paragraph 14 Aircraft Movement](#)
 - [Station Operations Manual \(Below Wing\) SP 5500 Chapter 09 CRJ 900 Paragraph 14 Aircraft Movement](#)

Dispatch Agent

1. Ensures tow bar or Lektro has been disconnected from aircraft Nose Landing Gear (NLG).
2. Ensures all ground operations personnel and equipment are clear of NLG and engine hazard area prior to communicating second engine start sequence to flight deck crew.
3. Conducts engine start sequence as directed by the flight deck crew.



WARNING - WHEN THE FLIGHT DECK CREW STARTS CROSS-BLEED ENGINE START, USE EXTREME CAUTION IN THE IMMEDIATE VICINITY OF THE AIRCRAFT AS AIRCRAFT MOVEMENT IS IMMINENT.



**WARNING - ENSURE ALL GROUND OPERATIONS PERSONNEL
AND EQUIPMENT ARE CLEAR OF THE ENGINE HAZARD AREA
DURING CROSS-BLEED ENGINE START AS INJURY CAN OCCUR.**

4. Waits for the PIC to initiate the ready-to-taxi signal.
5. Verifies clearance and returns with a salute.

Compliance Station Operations Manual (Below Wing) SP 5500

Questions SLC CS Ground Operations Training 801.258.4041
Manager CS Compliance and Standards 801.258.4050

From: Stowe, Keith

To:

Sent: Fri Dec 03 17:08:50 2010

Subject: *****Immediate Action*****

*******Immediate Action*******

On November 24th we issued an IMMEDIATE ACTION BULLETIN as a result of the incident where a RJ was damaged during pushback. You may recall during the pushback process the tug began to lose traction and the nose wheel of the aircraft began to slip. The forward momentum created by both engines running on the aircraft and the slippery ramp surface allowed the aircraft to jack knife eventually shearing the tow bar in half near the head. With the tow bar broken the aircraft rolled forward striking the push tug.

As a result of this incident SkyWest has issued the attached bulletin and we have reviewed our procedures regarding Inoperative APU and pushback during icy or slippery conditions.

During Icy Conditions:

APU Operative Conditions:

1. Engine startup should be delayed until the pushback operation is complete, parking brake set, tow bar disconnected and all ground personnel are clear.

APU Inoperative Conditions:

1. Prior to initiating pushback coordinate with the Flight Deck about ramp conditions.
2. Advise Flight Deck emergency braking may be required.
3. Flight Deck should start only one engine and leave at idle until pushback is complete and brakes are set. Second engine start should be initiated after the tow bar is disconnected and all ground personnel are clear.
4. Straight pushback out of the gate is now required to minimize risk of personnel injury or aircraft damage.

These changes are to be implemented immediately and reflect our current procedures for handling mainline aircraft as outlined in GOM 50.40.20.

The following information being furnished to NTSB Investigator-in-Charge Elliott Simpson pertains to the SkyWest Airlines accident on November 23, 2010 at SLC where a tug damaged a SkyWest CRJ700 (N614SK) during push-back on an icy ramp.

SkyWest Airlines is a Party Representative to the NTSB investigation WPR11LA058.