

PORT OF SEATTLE Use of Reverse Thrust upon Landing

Airport IQ 5010 Airport Master Records and Reports				
Airport Name	SEATTLE-TACOMA INTL	Associated City	SEATTLE	
FAA Site	26395-A	Location Identifier	SEA	
NPIAS Number	53-0062	Hub Type	Large	
Service Level	Primary			
Data Effective Dates: 02/02/11 - 02/02/11				
General Information	Services & Facilities	Based Aircraft & Operations	Runway Information	Remarks
Element Number	Remark Text			
A038	RWY 16R/34L TDT 817			
A110-001	BIRD FLOCKS WITHIN ARPT VCNTY - CHECK LCL ADZYS.			
A110-003	FLIGHT NOTIFICATION SERVICE (ADCUS) AVBL.			
A110-004	BTN THE HRS OF 2200-0700 THE USE OF EXTDD REVERSE THRUST IS DISCOURAGED BYD WHAT IS NECESSARY FOR OPNL OR SAFETY REASONS. NOISE ABATEMENT PROCEDURES IN EFFECT BTN 2200-0600. FOR FURTHER INFO CONTACT SEA NOISE ABATEMENT OFFICE AT 206-787-7496.			
A110-006	RELEASE (LCL) LANDING & DEPARTURE PROCEDURES, FUEL TANKS, ETC. AT THE REQUEST OF THE PORT.			

TO: Port of Seattle:

The Port has the perfect opportunity to help the neighboring communities by encouraging all carriers to limit the use of reverse thrust between the hours of 10:00 PM and 7:00 AM, as noted in the airport master record. This guidance appears to contradict previous statements the Port has made that asking carriers to limit reverse thrust would create greater risk and raise the Port's liability should something go wrong. If I am wrong, explain why. If not, it is time to turn guidance into action NOW.

STANDARD OPERATING CONDITIONS:

Based on your runway research, runway 34L is built to FAA standards with appropriate Runway Safety Areas (RSA). Aircraft landing performance is certified to FAA standards that exclude the use of reverse thrust upon landing. The flights are released (dispatched) to FAA standards without reverse thrust performance reductions. The FAA approved flight manuals calculate landing distances without the use of reverse thrust, and in my experience of 30+ years in the cockpit, the flight manuals only require pilots to deploy the reversers (reverse idle) upon landing. In addition, the Part 135 Operations Specifications also describe the unreliability of thrust reverse. This is all FAA standard and is how the aircraft are designed to operate.

Therefore, asking the carriers to fly the airplanes as certified and released by limiting the use of reverse thrust upon landing to Idle Reverse (except for emergencies) is only reasonable. If you feel this is unsafe or increases your liability, then we should go one-step further in the interest of safety, install Engineered Materials Arrestor System (EMAS), and encourage the use of reverse thrust upon landing. To be clear, the FAA does not require either. Then again, how much "safety" is enough to satisfy your liability concerns? Or, is your liability concern simply a ruse to deceive the communities?

BRAKES OR NO BRAKES:

If an aircraft's brakes fail on landing, it is doubtful that a Runway Safety Area of 1000 feet will do much good. Thrust reverse without brakes is equivalent to "nil braking action" or an icy runway and that requires great distances. In fact, I don't think performance charts are available for that condition and, in most cases, landing on an icy runway with a braking action report of "Nil" (RwyCC = 0) is prohibited.

You say Runway 34L conforms to FAA standards. However, EMAS at the north end of the runway just before the cliff would be a major safety enhancement and would arrest the aircrafts motion in almost every possible instance. How much would that safety cost if the total purchase and installation costs were divided among the thousands of passengers we accommodate annually?

BUT WAIT, COULD THIS BE THE REASON?

Could the real reason that the carriers prefer using reverse thrust upon landing is that it reduces brake wear and consequently saves them money? It is very obvious that the communities around the airport are subsidizing the carriers by absorbing their noise while carriers spend less on brakes.

ONE LAST THOUGHT:

Has the Port ever asked the airlines to reduce the use of reverse thrust? If not, why not? If you have, is there any objective evidence (correspondence) that confirms the carriers have rejected your requests? Furthermore, how was that request presented and was there any incentive from the Port to favor the quiet operators? How did the carriers respond? How can gate allocation be modified to incentivize those "good neighbor airlines" that reduce the use of reverse thrust during quiet hours? Since the Port seems to have worked out one form of gate allocation based on seat share over a nine-month period, why not further enhance that to benefit the quieter airlines? ('**The Port of Seattle** allocates gates [not the FAA] at Sea-Tac (SEA) according to **the seat share among airlines over a nine-month period.**' *Seattle times*, Dominic Gates, May 25, 2018)

If liability is your only concern, knowing that the runways have only the RSA at the end should be sufficient to limit your exposure, with or without reverse thrust. If safety and liability is of concern, not installing EMAS is incomprehensible. However, in either case, reverse thrust above idle is not a requirement. If the brakes work, the plane stops. If the brakes don't work, reverse thrust may not do it alone and the plane will likely run out of runway and over the cliff.

We are asking you to do the right thing by having the carriers limit the use of reverse thrust above Idle during the quiet hours. You have the power and the responsibility.

Sincerely,

Walt Bala

Former: Flight Examiner, USAF; US Airways Captain; FAA Aviation Safety Inspector.