

SECTION I: SE OVERVIEW

Study Topic Overview Summary

Following a wrong runway departure accident on August 27, 2006, in Lexington, Kentucky, ASIAs initiated a study to gather wrong runway event reports from several databases and found 117 reports of attempted or actual wrong runway takeoffs involving airplanes operating under 14 CFR part 121 between 1981 and 2006. A panel from CAST member organizations reviewed the reports to identify common factors and proposed mitigations. After the CAST panel eliminated duplicate reports and reports without sufficient information to determine contributing factors, 80 reports remained. The panel review identified several contributing factors, including crew resource management (CRM) deficiencies, airport geometry/complexity issues, human factors issues, and communications deficiencies. CAST adopted seven SEs as a result of the study, five of which were directed at airports and air traffic control. The remaining two SEs were targeted toward air carriers for aircraft equipment and flightcrew training.

SE Objective

CAST recommends the FAA—

- Develop policies, procedures, and implementation guidelines for pilot training programs to prevent wrong runway departures. The outcome of this work will be as follows:
 - Establishment of risk-based wrong runway departure training programs emphasizing issues at carrier specific airports.
 - Training and/or standardization programs emphasizing situational awareness, standard operating procedures, and pre-flight planning.
 - Emphasis on cockpit CRM and command leadership training skills to address the dynamic operating environment faced by pilots.
 - Guidance for prioritization in a multitasking environment to emphasize situational awareness, ground operations, and use of all resources.
- Substantially reduce or eliminate the risk of wrong runway operations by the incorporation of wrong runway operations training into flightcrew qualification, approved training, and other pilot training programs that were initiated by SE 60. This training will increase the pilot’s ability to recognize and avoid situations leading to wrong runway departures.

Primary Risks Mitigated

Runway Excursion (RE), Runway Incursion (RI), Loss of Control-Inflight (LOC-I), Navigation Errors (NAV)

Action	Organization(s)	Strategy	Description	Due Date
Action 1	FAA AFS	Guidance	Distribute information highlighting the risks/contributing factors associated with wrong runway departures for education, training, and awareness of pilots	N/A
<i>Comments: CAST closed this action.</i>				
Action 2	FAA Runway Safety Program Office	Research	Identify, compile, and make available runway and taxiway safety materials for education, training, and awareness of pilots.	N/A
<i>Comments: CAST closed this action.</i>				



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Action	Organization(s)	Strategy	Description	Due Date
Action 3	FAA AFS	Guidance	Issue guidance as necessary regarding the increased significance of ground operation performance on all pilot flight training and discussing the issues of wrong runway operations.	N/A
<i>Comments: CAST closed this action.</i>				

See section II of this SE for detailed action descriptions.

References: The detailed analysis in the Wrong Runway Departures Final Report (August 2007) is available through CAST.



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Issue guidance regarding the increased significance of ground operation performance

SECTION III: SUPPLEMENTAL INFORMATION

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This section contains the following additional information that may be of interest to implementers:

- Source Study
- Related Initiatives
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This section provides a history of revisions to this SE.



SECTION II: DETAILED ACTION INFORMATION

Action 1: Distribute information highlighting wrong runway departure risks/contributing factors

Primary Implementer

FAA Flight Standards Service, Safety Standards (AFS)

Action Objective

FAA AFS should distribute via Information for Operators (InFO) or Safety Alerts for Operators (SAFO) information highlighting the risks/contributing factors associated with wrong runway departures for education, training, and awareness of pilots.

Action Timeline

Flow Time: 3 months

Due Date: N/A

Timeline/Flow for Future Adopters

N/A

CAST Lead

FAA AFS-200

#	Organization(s)	Detailed Steps
1a	FAA AFS	Develop and distribute InFO or SAFOs.
Complete.		
1b	FAA AFS	<p>In the next revision of applicable advisory circulars (AC) (120-74A, 120-35C, and 120-51D) and written/practical test standards incorporate the following:</p> <ul style="list-style-type: none"> • Increase the number of surface movement tasks on all written and practical test standards. • Methods to establish aircraft position using all available resources and tools (charts, air traffic control (ATC), inter/intra crew communication, electronic flight bag (EFB), or moving map). • Provide guidance regarding situational awareness, including verbally announcing when a pilot is "heads down," knowledge and understanding of the relevant elements of the pilot surroundings, including the pilot's aircraft location, other aircraft on short final, aircraft systems, airport construction, short taxi times, usage of runways as taxiways, and the pilot's intentions. • Provide guidance on the importance of adequate pre-taxi planning and briefing, including before taxi out. • Provide background information for standard operating procedures (SOP) and training programs to ensure pilots understand the rationale behind those procedures and programs.
Complete.		
1c	FAA AFS	<p>In the next revision of AC 91-73A and written/practical test standards incorporate the content of the InFO (subaction 1a) regarding wrong runway departures as it applies to the following:</p> <ul style="list-style-type: none"> • Increase the number of surface movement tasks on all written and practical test standards. • Identify methods to determine aircraft position using all available resources and tools (charts, ATC, inter/intra crew communication, EFB, or moving map). • Provide guidance regarding situational awareness, including verbally announcing when a pilot is "heads down," knowledge and understanding of the relevant elements of the

Note: See Section III for detailed costs and resources.



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pilot surroundings, including the pilot’s aircraft location, other aircraft on short final, aircraft systems, airport construction, short taxi times, usage of runways as taxiways, and the pilot’s intentions.

- Provide guidance on the importance of adequate pre-taxi planning and briefing, including before taxi out.
- Provide background information for SOPs and training programs to ensure pilots understand the rationale behind those procedures and programs.

Complete.

Notes



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Action 2: Identify, compile, and make available runway/taxiway safety materials

Primary Implementer **FAA Runway Safety Program Office**

Action Objective The FAA Runway Safety Program Office should identify and compile runway and taxiway safety materials currently available from Government, industry, academia, and the U.S. Department of Defense (DOD) and make that material available for education, training, and awareness of pilots.

Action Timeline Flow Time: 6 months
Due Date: N/A

Timeline/Flow for Future Adopters N/S

CAST Lead ARI-1

#	Organization(s)	Detailed Steps
2a	FAA Runway Safety Program Office	Compile and publish an electronic reference library to be shared with industry users and made available on the Runway Safety Program website.
	<i>Complete.</i>	

Notes

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Note: See Section III for detailed costs and resources.



SECTION II: DETAILED ACTION INFORMATION

Action 3: Issue guidance regarding the increased significance of ground operation performance

Primary
Implementer

FAA Flight Standards Service, Safety Standards (FAA AFS)

Action Objective

FAA AFS should issue guidance as necessary directing all Flight Standards District Offices (FSDO), aviation safety inspectors (ASI), and principal operations inspectors (POI) to place increased significance on ground operation performance on all pilot flight training and discuss the issues of wrong runway operations and include those topics covered in the Information for Operators (InFO) ([Action 1](#)).

Action Timeline

Flow Time: 9 months

Due Date: N/A

Timeline/Flow for
Future Adopters

N/A

CAST Lead

FAA AFS

#	Organization(s)	Detailed Steps
3a	FAA AFS	Republish Joint Flight Standards Information Bulletin (FSIB) for Aviation Transportation (FSAT 00-09) and General Aviation (FSGA 00-06) (Increased Surveillance and Testing of Surface Movement Operations) to include information included in the InFO (Action 1) without an expiration date and including a PTRS code for ASIs to document their increased surveillance and testing in these areas.
		Complete.
3b	FAA AFS	Communicate in writing to all FSDO managers and POIs the critical importance of rapid implementation with these bulletins.
		Complete.
3c	CAST	Communicate in writing to all members and associated pilots the critical importance of rapid implementation with these bulletins.
		Complete.

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Note: See Section III for detailed costs and resources.



SECTION III: SUPPLEMENTAL INFORMATION

Source Study Wrong Runway Departures Final Report (August 2007)

Related Initiatives N/A

Total Cost \$30,000

Action 1 \$20,000

Action 2 \$10,000

Action 3 N/A

	Organization	Resources Needed
<i>Direct Resource Overview – Government</i>	FAA AFS	<ul style="list-style-type: none"> 1 full-time equivalent (FTE) 3 months, and mailing expense to CAST members.

	Organization	Resources Needed
<i>Direct Resource Overview – Industry</i>	N/A	N/A

Indirect Resource Overview The organizations identified in this section are not expected to incur direct costs associated with implementing this SE, but they may incur indirect costs within their normal line of work.

	Organization	Description
	N/A	N/A

SECTION III



SECTION IV: REVISION LOG

Major revisions (whole numbers) represent CAST-approved changes to SE language. Minor revisions (decimals) represent minor changes to target dates or completion notes that do not affect implementer actions.

Revision	Date	Description
2.0	09/17/2018	New SE format. Content reorganized and terminology updated. No substantive changes.
1.0	02/07/2007	
Original	2007	CAST adopted SE 179.

