

SECTION I: SE OVERVIEW

Study Topic
Overview
Summary

CAST chartered the Airplane State Awareness (ASA) Joint Safety Analysis Team (JSAT) in August 2010 and the ASA Joint Safety Implementation Team (JSIT) in 2012 as a follow-on activity to the previous Loss of Control (LOC) JSAT in 2000. Historically, Loss of Control-Inflight (LOC-I) has been, and continues to be, one of the largest categories of commercial aviation fatal accidents. Loss of ASA is a subset of LOC-I accidents and incidents, defined as events in which the flightcrew lost awareness of the airplane's attitude or energy state. Between 2001 and 2010, half of all LOC-I accidents involved loss of ASA. The ASA JSIT recommended, and CAST adopted, 19 ASA SEs, 5 of which focus on air carrier training.

The ASA JSAT's study of 18 LOC accidents and incidents showed that in many situations the flightcrew did not make controlling the airplane their primary objective during non-normal situations. In many of these events, the flightcrew did not apply workload management or flightcrew coordination skills and did not initiate or complete the appropriate non-normal checklist after the airplane entered an upset.

SE Objective

CAST recommends each air carrier clearly state a policy, reinforced in training, that emphasizes establishing controlled and stabilized flight as the primary consideration during non-normal situations.

Primary Risks
Mitigated

Loss of Control-Inflight (LOC-I)

Action	Organization(s)	Strategy	Description	Due Date
Action 1	Air Carriers	Policy	Publish policy emphasizing the importance of flying the aircraft and flightcrew coordination in non-normal situations.	08/31/2014
<i>Comments: CAST closed this action based on publication of policy at air carriers.</i>				
Action 2	Air Carriers	Training	Review and amend flightcrew training syllabuses to emphasize policy relating to the handling of non-normal situations as stated in Action 1.	08/31/2016
<i>Comments: CAST closed this action based on air carrier industry association member implementation surveys.</i>				

See section II of this SE for detailed action descriptions.

References: The detailed analysis in the ASA JSAT Final Report (June 5, 2015) and the ASA JSIT Final Report (December 31, 2014) is available through CAST.

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SE 197 consists of two actions, which this section lays out in detail.

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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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SECTION IV: REVISION LOG

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This section provides a history of revisions to this SE.

SECTION II: DETAILED ACTION INFORMATION

Action 1: Publish policy emphasizing importance of flying the aircraft and flightcrew coordination

Primary
Implementer

Air Carriers

Action Objective

Air carriers should publish a policy emphasizing the importance of flying the aircraft and flightcrew coordination in non-normal situations.

Action Timeline

Flow Time: 12 months

Due Date: 08/31/2014

Timeline/Flow for
Future Adopters

TBD

CAST Lead

National Air Carrier Association (NACA)

#	Organization(s)	Detailed Steps
1a	Air Carrier Industry Assns.	Communicate with air carrier members, explaining the analysis undertaken by CAST regarding loss of ASA, the role of improper prioritization of tasks in non-normal situations, and the purpose of the CAST SE. <i>Complete.</i>
1b	Air Carriers	Review policies and procedures for handling non-normal situations to ensure they clearly include the following concepts: a. Fly the airplane first (establish controlled and stabilized flight); b. Practice flightcrew coordination (for example, determine who will fly the aircraft, who will read the checklist, and who will communicate with air traffic control); c. Identify the non-normal situation and correct checklist; d. Identify the appropriate time to complete the non-normal checklist (for example, if on takeoff, complete the after-takeoff checklist first if the situation does not require immediate attention); and e. Complete the appropriate checklist. <i>Complete.</i>
1c	Air Carriers	Based on the review, revise manuals, as necessary, to include the information above. <i>Complete.</i>
1d	Air Carriers	Coordinate with pilot labor organizations to communicate the policies, ensure they are understood by the line pilot community, and gather feedback. <i>Complete.</i>
1e	Air Carriers	Air carrier actions are complete when the air carrier has reviewed and revised its policies and manuals as recommended. <i>Complete.</i>
1f	Air Carrier Industry Assns.	Track implementation of member air carriers and report progress to JIMDAT and CAST. <i>Reported to JIMDAT and CAST in October 2014.</i>

Notes

- Assumes manual revisions occur as part of normal air carrier update cycle.

Note: See section III for detailed costs and resources.



SECTION II: DETAILED ACTION INFORMATION

Action 2: Publish policy emphasizing importance of flying the aircraft and flightcrew coordination

Primary
Implementer

Air Carriers

Action Objective

Air carriers should review and amend, as necessary, flightcrew training syllabuses to emphasize the air carrier's policy relating to the handling of non-normal situations as stated in [Action 1](#). Training should emphasize the importance of flying the airplane and flightcrew coordination.

Action Timeline

Flow Time: 24 months (upon completion of Action 1)

- o 12 months to have new training programs in place
- o 24 months to have all pilots through revised training

Due Date: 08/31/2016

- o 08/31/2015 to have new training programs in place
- o 08/31/2016 to have all pilots through revised training

Timeline/Flow for
Future Adopters

TBD

CAST Lead

National Air Carrier Association (NACA)

#	Organization(s)	Detailed Steps
2a	Air Carriers	<p>Review and amend, as necessary, ground and flight training syllabuses to ensure they emphasize the concepts below:</p> <ol style="list-style-type: none"> a. Fly the airplane first (establish controlled and stabilized flight); b. Flightcrew coordination (for example, determine who will fly the aircraft, who will read the checklist, and who will communicate with air traffic control); c. Identify the non-normal situation and correct checklist; d. Identify the appropriate time to complete the non-normal checklist (for example, if on takeoff, complete the after-takeoff checklist first if the situation does not require immediate attention); and e. Complete the appropriate checklist. <p><i>Complete.</i></p>
2b	Air Carriers	<p>Air carrier actions are complete when the air carrier has—</p> <ol style="list-style-type: none"> a. Revised training in accordance with the recommendations of Action 1, as necessary, and b. Trained all pilots employed by the carrier (initial or recurrent). <p><i>Complete.</i></p>
2c	Air Carrier Industry Assns.	<p>Track implementation at member carriers, and report progress and completion to CAST.</p> <p><i>Reported to CAST in February 2017.</i></p>

Notes

Assumes the following:

- All air carriers will review their syllabuses (40 hours) and 25 percent of the 55 air carriers would need to amend syllabuses (120 hours).
- Amended training does not add time to current flightcrew training footprint; rather, current training is revised and improved.
- Revised concepts will be included in initial and recurrent training.
- Training revisions will occur as part of normal air carrier training program update cycle.

Note: See section III for detailed costs and resources.



SECTION III: SUPPLEMENTAL INFORMATION

Source Study	ASA Joint Safety Analysis Team (JSAT) Final Report (June 5, 2014) ASA Joint Safety Implementation Team (JSIT) Final Report (December 31, 2014)
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Related Initiatives	CAST SE 26, LOC Policies and Procedures – Standard Operating Procedures (SOP)
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Total Cost	\$1,200,000	<i>Note: For labor, 1 Full Time Equivalent (FTE) = \$250,000</i>
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<u>Action 1</u>	\$600,000	2.4 FTE
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<u>Action 2</u>	\$600,000	2.4 FTE
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	Organization	Resources Needed
Direct Resource Overview – Government	N/A	N/A

	Organization	Resources Needed
Direct Resource Overview – Industry	Air Carrier Industry Associations	<ul style="list-style-type: none"> Action 1: 0.1 FTE (assumes ~0.05–0.1 FTE per association) Action 2: 0.25 FTE (assumes ~0.05–0.1 FTE per association to track implementation and coordinate with CAST) <p><i>Note: 55 air carriers are represented by three CAST-member air carrier industry associations:</i></p> <ul style="list-style-type: none"> <i>Airlines for America (A4A),</i> <i>Regional Airline Association (RAA), and</i> <i>National Air Carrier Association (NACA).</i>
	Air Carriers	<ul style="list-style-type: none"> Action 1: 2.2 FTE (assumes 0.04 FTE per carrier) Action 2: 2.15 FTE (assumes 0.02 FTE at all 55 air carriers to review syllabuses, and 0.07 FTE at additional 15 carriers to update syllabuses)
	Labor Organizations	<ul style="list-style-type: none"> Action 1: 0.1 FTE (assumes ~0.05–0.1 FTE per association) <p><i>Note: 2 pilot labor organizations are represented at CAST:</i></p> <ul style="list-style-type: none"> <i>Air Line Pilots Association (ALPA)</i> <i>Coalition of Air Line Pilots Associations (CAPA, represented by Allied Pilots Association)</i>

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.
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Organization	Description
FAA AFS	Inspector resources required for normal review and approval of air carrier training programs associated with Actions 1 and 2 as part of duties performed.



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
1.0	09/17/2018	New SE format. Content reorganized and terminology updated. No substantive changes.
0.1	02/02/2017	Action 2 closed. Action 1 due date extended from 08/31/2014 to 10/01/2014 at August 2014 CAST meeting.
Original	08/01/2013	CAST adopted SE 197.