

ALERT BULLETIN

AB 2024:17/3-11

7/31/2024

2111776, 1575170

TO: Bombardier Inc. Canadair

INFO: FAA (AVP-1, AVP-200, AFS-200, AFS-260, AFS-100, AIR-720, AIR-780, SEA-AEG), A4A, ALPA, AMFA, ASAP, ATSG, CAPA, IAM, IATA, ICAO, ICASS, IFALPA, NTSB, PAMA, RAA, TWU

FROM: Becky L. Hooley, Director
NASA Aviation Safety Reporting System

SUBJ: Challenger 650 Stabilizer Trim Anomaly

We recently received ASRS reports describing a safety concern that may involve your area of operational responsibility. We do not have sufficient details to assess either the factual accuracy or possible gravity of the report. It is our policy to relay the reported information to the appropriate authority for evaluation and any necessary follow-up. We feel you should be aware of the following:

ASRS received a report from a Challenger 650 Captain describing control difficulties following the loss of the stabilizer trim. Reporter stated the failure occurred at FL400, resulting in the stabilizer being stuck at .2, with normal for landing being .6. Reporter further stated he needed assistance on the controls for the approach, and estimated that 30-40 pounds of pressure were required to follow the glide path.

Report 1575170 describes a similar event. This report is also enclosed.

To properly assess the usefulness of our alert message service, we would appreciate it if you would take the time to give us your feedback on the value of the information that we have provided. Please contact Dr. Becky Hooley at (408) 541-2854 or email at becky.l.hooley@nasa.gov.



Aviation Safety Reporting System
P.O. Box 189 | Moffett Field, CA | 94035-0189



ACN 2111776

DATE / TIME

Date of Occurrence	202404
Local Time Of Day	1201 to 1800

PLACE

Locale	ZZZ.Airport
State	US
Altitude - MSL	40000

AIRCRAFT / EQUIPMENT X

ATC / Advisory - Center	ZZZ
Make Model Name	Challenger 650
Operating Under FAR Part	91

COMPONENT 1

Aircraft Component	Horizontal Stabilizer Trim
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COMPONENT 2

Aircraft Component	Mach Trim
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PERSON 1

Function - Flight Crew	Captain
Function - Flight Crew	Pilot Flying
ASRS Report Number	2111776

EVENTS

Anomaly	Aircraft Equipment Problem - Critical
Detector - Automation	Aircraft Other Automation
Detector - Person	Flight Crew
Result - Flight Crew	Diverted

NARRATIVE 1

Enroute ZZZ-ZZZ1, Divert to ZZZ2. 40,000 feet, lost both stab channels and associated trim. Followed checklist, landed safe on long runway in ZZZ2. Stab was stuck at .2. Normal for landing is .6. As we slowed the autopilot could no longer keep up. Hand flying the last 1500 feet to touchdown. With the airplane trimmed in a nose down configuration, the right seat pilot helped me by pulling the yoke back. Approximately 30-40 pounds of pressure was needed to keep a normal glide path.

This was my SIC's very first leg. He did a very good job with running the checklist and assisting me.

SYNOPSIS

Challenger 650 Captain reported a stabilizer trim malfunction during cruise flight. The Captain diverted to an alternate airport and landed safely.

ACN: 1575170

Time

Date: 201809

Local Time Of Day: 1801-2400

Place

Locale Reference.ATC Facility: ZZZ.ARTCC

State Reference: US

Altitude.MSL.Single Value: 4000

Environment

Flight Conditions: VMC

Aircraft 1

Make Model Name: Challenger 650

Component 1

Aircraft Component: Horizontal Stabilizer Trim

Person 1

Function.Flight Crew: Captain

Function.Flight Crew: Pilot Not Flying

ASRS Report Number: 1575170

Person 2

Function.Flight Crew: Pilot Flying

Function.Flight Crew: First Officer

ASRS Report Number: 1575451

Events

Anomaly.Aircraft Equipment Problem: Less Severe

Detector.Person: Flight Crew

Result.Flight Crew: Landed As Precaution

Result.Flight Crew: Diverted

Narrative 1

Cruising at 4000 feet and 250 knots, stab trim and associated Mach trim amber CAS messages displayed. Unable regain control of stabilizer trim. Diverted [and] landed with reduced flap setting per [the handbook]. Min speed to maintain elevator pitch control 150 knots.

Narrative 2

[Report narrative contained no additional information.]

Synopsis

Bombardier Challenger 650 flight crew reported a failure of the horizontal stabilizer trim.