



U.S. Department of Transportation Federal Aviation Administration ADS-B Compliance Monitor

ADS-B Aircraft Operation Compliance Report

ICAO: A54A25 (51245045) Tail Number: N44VF

Flight Id: N44VF

Period: 10-26-2014 18:24:48 to 10-26-2014 18:54:36

Aircraft: 2007 - FERRELL B/SZOKE E FERRELL/SZOKE XL FG

Year - Make / Model

Non-Compliance Issues Identified

Items high-lighted in red within this report indicate the ADS-B Out system installed on this aircraft failed to meet the corresponding performance requirement as specified in § 91.227. Prior to January 1, 2020, the owner/operator must take action to correct identified system performance deficiencies as soon as practical. After January 1, 2020, system performance issues must be corrected prior to operation of the aircraft in the airspace specified in §91.225. Requests for authorization to deviate from §91.225 to support movement of the aircraft to effect ADS-B Out system repairs and testing may be made to the appropriate ATC facilities per §91.225(g).

	Analysis	Exceptions
Airborne 1090	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Surface 1090	<input type="checkbox"/>	<input type="checkbox"/>
Surface RWY/Taxi 1090	<input type="checkbox"/>	<input type="checkbox"/>
Airborne UAT	<input type="checkbox"/>	<input type="checkbox"/>
Surface UAT	<input type="checkbox"/>	<input type="checkbox"/>
Surface RWY/Taxi UAT	<input type="checkbox"/>	<input type="checkbox"/>

Prepared For Owner of Record:

FERRELL BRETT D

3708 TOP FLITE LN

MASON, OH 45040-4716

Prepared By

Surveillance and Broadcast Services (SBS) Program
ADS-B Compliance Monitor

October 28, 2014

Operation Summary

Operation Id:	613918	Start Time:	10-26-2014 18:24:48
ICAO Reported:	A54A25 (51245045)	End Time:	10-26-2014 18:54:36
ICAO Assigned:	A54A25 (51245045)	Duration (s):	00:29:48
Tail Number:	N44VF	Total Reports:	8170
Country:	United States - Civil		

Detection: ☒ Airborne ☐ Surface **Service Area(s):** ☐ Western ☒ Central ☒ Eastern

Service Volume Initial: 2021 - Cincinnati & Columbus TRACONS CTW

Service Volume Final: 163 - Indianapolis

Link Version: 2 **Out Capability:** 1090 **In Capability:** UAT

Flight Id: N44VF ☐ Military

Operator: ☐ Anonymous

Exceptions: **Airborne 1090 in rule airspace** ☐ **Airborne UAT in rule airspace** ☐

Airborne 1090 ☒ **Surface 1090** ☐ **Airborne UAT** ☐ **Surface UAT** ☐

Aircraft Summary

Type Aircraft: Fixed-Wing Single Engine	Type Engine: Reciprocating
Certification: Not Type Certified	Airworthiness Date: 07/13/2007
Cert Date: 05/13/2005 Expiration 04/30/2017	Classification: Experimental
Make: FERRELL B/SZOK E	Year: 2007
Model: FERRELL/SZOK E XL FG	Serial: 3FX023

Type Registration: Co-Owned

Owner: FERRELL BRETT D

Street: 3708 TOP FLITE LN

Street:

City: MASON **State:** OH **Zip:** 45040-4716

[FAA Civil Aviation Registry Link...](#)

Airborne 1090 Analysis Summary

Start Time: 10-26-2014 18:24:48

End Time: 10-26-2014 18:54:36

Duration (s): 00:29:48

Processed Reports: 1610

Total Reports: 8170

Service Volume Initial: 2021 - Cincinnati & Columbus TRACONS CTV

Service Volume Final: 163 - Indianapolis

Link Version: 2

Out Capability: 1090

In Capability: UAT

Emitter Category: 1 - Light (<15,500lbs)

Antenna(s): 1 - Single

SILsupp: 0 - Per Hour

Flight Id: N44VF

☒ Vert Velocity Baro

Mode 3A: 1200

☐ Vert Velocity Geo

Exceptions:

Rule	Miss Ele	Int \ Acc	Kin	Other	NIC	NACp	NACv	SIL	SDA
No	No	Yes	No	No	No	No	No	No	No

Class A	Class B	Class C	Class D	Class E	Part91AppD
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Missing Elements

Category	NACp	NACv	Vel	Baro Alt	Geo Alt	Flight Id	Mode 3A	Emit Cat
% Fail	0.31%	0.00%	0.50%	0.00%	0.25%	0.00%	0.00%	0.00%
Max dT(s)	00:00:01	00:00:00	00:00:08	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00
MCF	2	0	2	0	1	0	0	0

Integrity & Accuracy

Category	NIC	NACp	NACv	SIL	SIL Sup	SDA	NIC_SVT	NACp_SVT	Val	eVAL	eVal NIC
% Fail	0.12%	0.00%	0.00%	0.31%	0.00%	0.31%	0.12%	0.00%	0.87%	0.00%	0.00%
Max dT(s)	00:00:01	00:00:00	00:00:00	00:00:01	00:00:00	00:00:01	00:00:01	00:00:00	00:00:13	00:00:00	00:00:00
MCF	2	0	0	2	0	2	2	0	14	0	0

Category	NIC	NACp	NACv	SIL	SDA
Avg	9.0	10.0	2.0	3.0	2.0
Min	0	10	2	0	0
Max	9	10	2	3	2

Kinematics

	Baro Alt	Baro Alt Δ	Geo Alt	Geo Alt Δ	Velocity	Position Δ
% Fail	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MCF	0	0	0	0	0	0

Other Checks

	Link Version	Emitter Cat	Flight ID	Mode 3A
% Fail	0.00%	0.00%	0.00%	0.31%
MCF	0	0	0	3

	ICAO Duplicate	Anonymous	UAT Only above 18K
% Fail	0.00%	0.00%	0%
Max dT (s)	00:00:00	00:00:00	00:00:00
MCF	0	0	0

Notes:

MCF - Maximum Consecutive Failures

Distributions

NIC - Horizontal Containment Bound

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Unkn	< 20NM	< 8NM	< 4NM	< 2NM	< 1NM	< .6NM	< .2NM	< .1NM	< 75m	< 25m	< 7.5m	XXX	XXX	XXX	XXX
0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	99.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2	0	0	0	0	0	0	0	3	1605	0	0	0	0	0	0

NACp - 95% Horizontal Accuracy Bound (EPU)

NA	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	$\geq 10\text{NM}$	$< 10\text{NM}$	< 4NM	< 2NM	< 1NM	< .5NM	< .3NM	< .1NM	$< .05\text{NM}$	< 30m	< 10m	< 3m	XXX	XXX	XXX	XXX
0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	99.7%	0.0%	0.0%	0.0%	0.0%	0.0%
5	0	0	0	0	0	0	0	0	0	0	1605	0	0	0	0	0

NACv - 95% Horizontal Velocity Error

NA	0	1	2	3	4	5	6	7
	$\geq 10\text{m/s}$	$< 10\text{m/s}$	$< 3\text{m/s}$	$< 1\text{m/s}$	$< .3\text{m/s}$	Reserved	Reserved	Reserved
0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
0	0	0	1610	0	0	0	0	0

SIL - Source Integrity Level

0	1	2	3
$> 1 \times 10^{-3}$	$\leq 1 \times 10^{-3}$	$\leq 1 \times 10^{-5}$	$\leq 1 \times 10^{-7}$
0.3%	0.0%	0.0%	99.7%
5	0	0	1605

SILs - SIL Supplement

0	1
/Hour	/Sample
100.0%	0.0%
1610	0

SDA -System Design Assurance

0	1	2	3
$> 1 \times 10^{-3}$	$\leq 1 \times 10^{-3}$	$\leq 1 \times 10^{-5}$	$\leq 1 \times 10^{-7}$
0.3%	0.0%	99.7%	0.0%
5	0	1605	0

GVA - Geometric Velocity Accuracy

0	1	2	3
$> 150\text{m}$	$\leq 150\text{m}$	$\leq 45\text{m}$	Reserved
0.3%	0.0%	99.7%	0.0%
5	0	1605	0

Distributions (continued)

Validation

0	1	2	3
Unknown	Invalid	Reserved	Valid
6.9%	0.9%	0.0%	92.2%
111	14	0	1485

Enhanced Validation

0	1	2	3
Unknown	Invalid	Reserved	Valid
100.0%	0.0%	0.0%	0.0%
1610	0	0	0

NIC Baro

0	1	2	3
Not XCheck	X Check	Reserved	Reserved
0.0%	100.0%	0.0%	0.0%
0	1610	0	0

SQL - Signal Quality Level

Category	0	1	2	3	4	5	6	7
1090 ES	≤ -90dBm	≤ -87dBm	≤ -84dBm	≤ -81dBm	≤ -78dBm	≤ -72dBm	≤ -66dBm	> -66dBm
UAT	≤ -96dBm	≤ -93dBm	≤ -90dBm	≤ -87dBm	≤ -84dBm	≤ -78dBm	≤ -72dBm	> -72dBm
	0.5%	0.9%	1.4%	1.9%	3.6%	23.6%	53.4%	14.8%
	8	15	22	30	58	380	859	238