



**SAFETY
ISSUE
REVIEW
MEETING**

**SIRM 31
Brussels, March 14-15
2024**

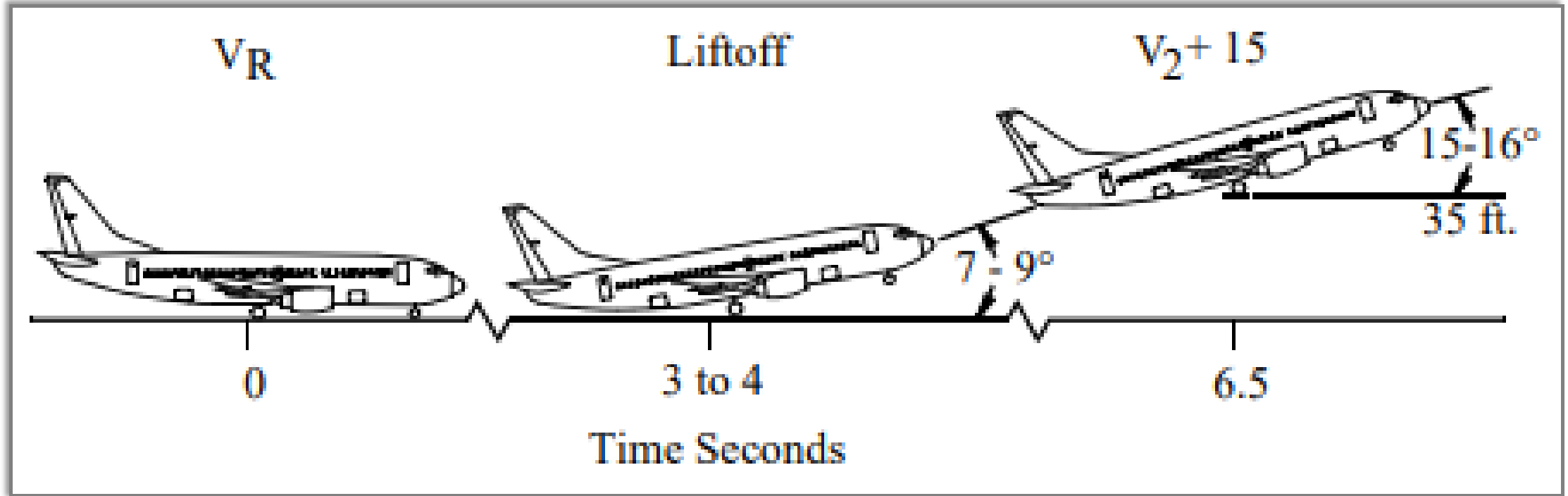


SIRM 31: Use of Flight Data (Tailstrike)

15 March 2024



Background



- Rotation rate: 2-3 degrees per second
- Pitch attitude: 7-9 degrees
- Duration: 3-4 seconds.

Statistics & Analysis

Flight Videos

Usage Metrics

Welcome

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Summary

Pilot vs Fleet Comparison

TKOF Performance

LDG Performance

UA

Taxi

FRMS & SMS

Thresholds

Statistics & Analysis

Flight Videos

Usage Metrics

Date

Last 6 Months

2/18/2023 - 8/17/2023

Role in Flight

PF

PM

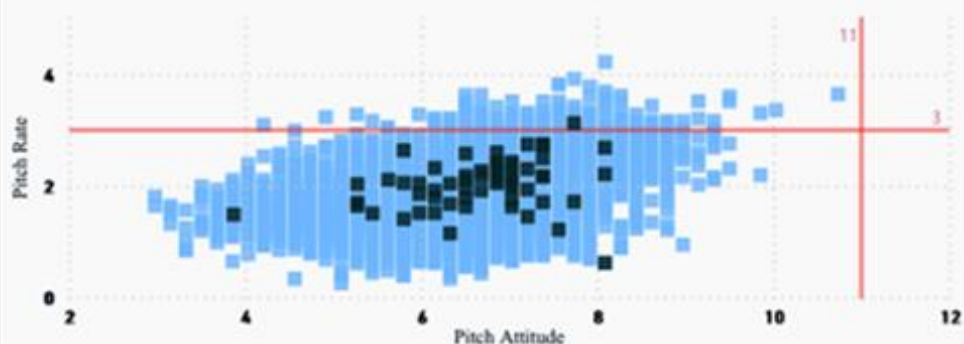
TKOF AP-RWY

All

TKOF Details

TKOF Date	ACFT	CS	TKOF AP	LDG AP	Lateral G	Airspeed vs Vr	Pitch Rate	Pitch Attitude	N1 Switch Altitude	EGT Max
			AYT	CGN	0.10	10.75	2.11	7.03	888	870
			TLV	AYT	0.14	8.50	1.51	5.45	979	855
			AYT	TLV	0.14	9.50	2.03	5.27	890	829
			TLV	AYT	0.08	4.25	1.51	5.98		884
			POZ	AYT	0.05	9.75	1.73	7.03	866	831
			HAJ	AYT	0.06	6.13	2.58	6.50	842	824
			AYT	UFA	0.08	8.50	1.62	6.50		932
			AYT	STN	0.10	5.00	1.51	6.15		899
			AYT	GOJ	0.06	8.25	2.05	6.86		966
			NQZ	AYT	0.07	0.75	1.71	7.38		907
			GDN	AYT	0.08	10.75	1.96	7.03	3151	812
			CGN	AYT	0.06	9.13	2.05	5.98	1008	816
			KCF	AYT		11.50	2.20	7.21	1011	810
Total										

Pitch Rate-Attitude Comparison with Fleet



Pilot Event Comparison with Fleet

Event Name	Event Count	Pilot Score	Fleet Score
GPWS Warning Sink Rate	1	162	20
Pitch rate high on take-off	1	61	67

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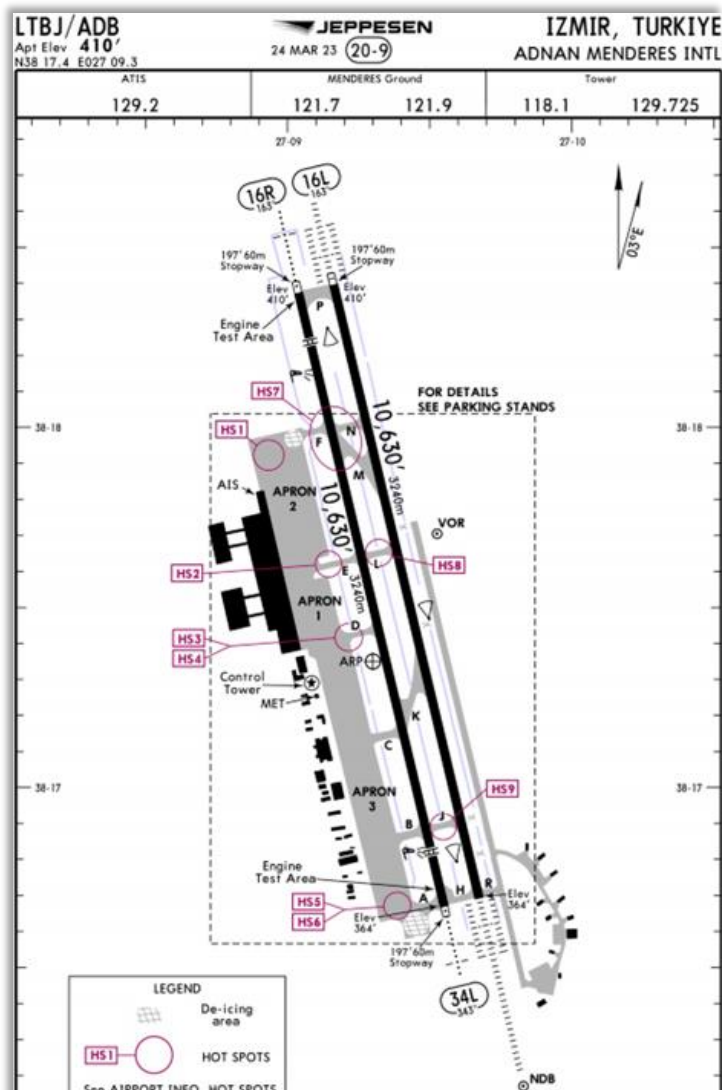
UA

Taxi

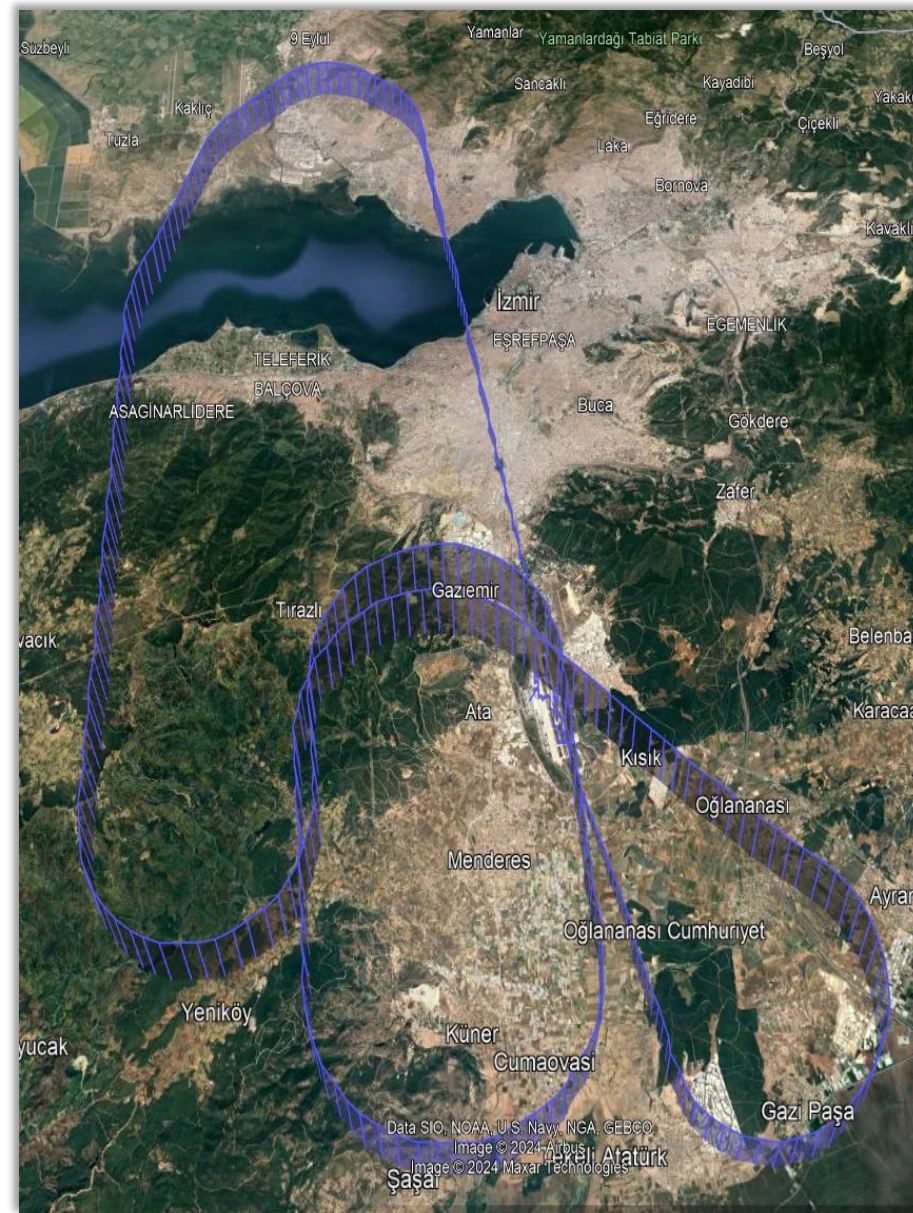
FRMS & SMS

Thresholds

Tailstrike, ADB Airport



**Boeing 737-800
(NG)**



Damage



- High rotation rate,
- Unexpected sudden changes in wind speed and direction.

Pilots' Takeoff History

Aircraft	Flight No	TO Airport	TD Airport	1-Lateral G	2-Airspeed vs Vr	3-Pitch Rate	4-Pitch Attitude	5
				0.08	8	2.05	6.50	
				0.05	6	1.76	6.68	
				0.12	6	3.12	7.38	
				0.15	6	2.11	7.38	
				0.05	9	2.76	9.84	
				0.07	8	2.27	7.73	
				0.06	6	3.28	10.37	
				0.05	8	2.74	7.38	
				0.00	6	3.25	6.86	
				0.08	7	2.64	5.98	
				0.10	12	2.37	5.45	
				0.11	4	2.56	7.56	
				0.08	5	3.26	9.67	
				0.11	5	2.88	7.56	
				0.10	7	2.49	7.91	
				0.03	6	2.95	8.09	
				0.04	8	2.34	7.91	
				0.13	3	3.34	7.56	
				0.08	10	1.84	6.50	
				0.09	4	2.88	8.09	
				0.13	7	3.28	8.26	
				0.08	7	2.88	7.91	
				0.11	7	2.39	6.50	
				0.00	10	2.11	6.15	
				0.12	-6	1.07	7.38	
				0.10	5	1.11	5.80	
				0.00	5	3.16	8.61	

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5

4

3

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1

This information is shared with the permission of the pilot who experienced this incident.

Findings

Pilot

ignored the data.

SMS

failed to notice the
negativity.

Trend Follow-up of Pitch Rate Values



Trend Follow-up of Pitch Rate Values



Outcome

Trainee Group

- No tailstrike during training

Fleet

- No tailstrike since 2021

Lesson Learned

