Uncontained engine failure and fuel tank puncture, Boeing 747-130, August 14, 1995

Micro-summary: Uncontained #1 engine failure results in collateral damage in the reserve fuel tank for this Boeng 747-130.

Event Date: 1995-08-14 at 1950 EDT

Investigative Body: National Transportation Safety Board (NTSB), USA

Investigative Body's Web Site: http://www.ntsb.gov/

Cautions:

1. Accident reports can be and sometimes are revised. Be sure to consult the investigative agency for the latest version before basing anything significant on content (e.g., thesis, research, etc).

2. Readers are advised that each report is a glimpse of events at specific points in time. While broad themes permeate the causal events leading up to crashes, and we can learn from those, the specific regulatory and technological environments can and do change. Your company's flight operations manual is the final authority as to the safe operation of your aircraft!

3. Reports may or may not represent reality. Many many non-scientific factors go into an investigation, including the magnitude of the event, the experience of the investigator, the political climate, relationship with the regulatory authority, technological and recovery capabilities, etc. It is recommended that the reader review all reports analytically. Even a "bad" report can be a very useful launching point for learning.

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National Transformation Stars, Bound FACTI LAL REPORT NTSB ID: NYC95UA192 Averaft Registration Number: N803FF Location/Time Increase City/Place State Courrence Date: 08/14/1995 Most Critical Injury. None Location/Time Increase City/Place State Type Code Investigated By: NTSB Assense City/Place State Type Code Increase Time Investigated By: NTSB Assense City/Place State Type Code Increase Time Investigated By: NTSB Assense City/Place State State Type Code Increase EDT Assense City/Place Model/Series Type of Alecost Arplane Sightseeing Flight: No Art Medical Transport Flight: No Marplane Narrative Increase Time, and Varia Manacias, New York. The airplane received alunce damase, and theory than a uncountalined engine failure and was forced to restrum to of one P. Keenedy International Alignet to Alignet to Sec. The airplane received alunce damase, and theory. The airplane received alunce damase, and theory theory and received alunce damase, and theory. Theory and received alunce damase, and theory and received alunce damase, and theory are received alunce damase, and theory are received alunce damase, and theory are received alunce damase damase damase damase alunce of the flight varia base											
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FACTUAL REPORT - AVIATION Page 1											

National Transportation Safety Boar	ď	NTSB	ID: NYC9	5IA192								
FACTUAL REPORT		Occur	rence Date	ence Date: 08/14/1995								
AVIATION			rence Type: Incident									
Landing Facility/Approach Inform	nation											
Airport Name			Airport ID:	Airport Eleva	tion	Run	way Used	Runwa	ay Length	n Ru	nway Width	
				Ft	. MSL	0						
Runway Surface Type:		I						1				
Runway Surface Condition:												
Type Instrument Approach:												
VFR Approach/Landing: Precautionar	y Landing											
Aircraft Information												
Aircraft Manufacturer Boeing			Model 747-	/Series I 30					Serial N 19746			
Airworthiness Certificate(s): Transport												
Landing Gear Type: Retractable - Tri	cycle											
Homebuilt Aircraft? No Nur	nber of Seats: 4	171	Certifie	d Max Gross W	/t.		734000	LBS	Number	of Engine	es: 4	
Turbo Fan				Engine Manufacturer:Model/Series:P&WJT9D7A							ted Power: 6250 LBS	
- Aircraft Inspection Information												
Type of Last Inspection			Date of Las	t Inspection	Ti	ime Si	nce Last Inspe	ection	'		Total Time	
AAIP			07/1995					Ho	ours		10690 Hours	
- Emergency Locator Transmitter (ELT)	Information											
ELT Installed? No	ELT Operate	ed?			ELT A	Aided i	n Locating Ac	cident S	Site?			
Owner/Operator Information												
Registered Aircraft Owner			Street A		R #17, -	JFK A	AIRPORT					
TOWER AIR			City State								Zip Code	
			JAMAICA NY 11430 Street Address								11430	
Operator of Aircraft			Same as Reg'd Aircraft Owner								_	
Same as Reg'd Aircraft Owner				City State								
Operator Does Business As: TOWER AIR				Operator Designator Code: TWRA								
- Type of U.S. Certificate(s) Held:												
Air Carrier Operating Certificate(s): Fla	g Carrier/Dom	IESTIC										
Operating Certificate:				Operator 0	Certifica	ite:						
Regulation Flight Conducted Under: Pa	art 121: Air Ca	rrier										
Type of Flight Operation Conducted: So	cheduled; Inte	rnation	al; Passer	ger Only								
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Nation	TRANS	Safety Board	1	NTSB ID:	NYC95IA	192								
F	ACTUAL RI	PORT		Occurren	ce Date: 08	/14/19	95							
	1 28,00 100				ce Type: Ind				-					
	AVIATI ETYBO	Part		Occurrent	ce rype. Ind	Juent								
	t Information													
Name						City					State		ate of Birth	Age
On File						On Fi	le				On File	С	n File	49
Sex: M	Seat Occupied	: Left	Pr	incipal Profes	sion: Civilia	n Pilot				Cer	tificate N	umber	: On File	
Certificate	(s): Airlir	ne Transpor	t							•				
Airplane R	ating(s): Mult	i-engine La	nd											
Rotorcraft/	Glider/LTA: Non	-												
	Rating(s): Airpl													
Instructor														
	ng/Endorsement fo							Current E	Biennial Fl	ight R	eview?			
Medical Ce	ert.: Class 1	Medica	al Cert. Statu	is: Valid Me	dicalno w	aivers/	lim.		Date	e of La	st Medic	al Exa	m: 08/1995	
- Flight Tir	ne Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Ni	ght	Actual	Instrument	nulated	Rotoro	raft	Glider	Lighter Than Air
Total Time)		4700											
Pilot In Co	mmand(PIC)		4700											
Instructor											_			
Last 90 Da			214		214						_			
Last 30 Da	-					_					_			
Last 24 Ho												<u> </u>		
Seatbelt U	sed? Yes	Shou	Ilder Harnes	s Used? Yes			Toxico	ology Pe	erformed?	No		Seco	ond Pilot? Ye	S
	an/Itinerary													
	ght Plan Filed: IF	R												
Departure	Point						State	•	Airport Id	entifie	r De	epartu	re Time	Time Zone
Same as	Accident/Incide	nt Location							JFK		00	00		
Destination	n						State	,	Airport Id	entifie	r		I	
PARIS							OF		ORY					
Type of Cl	earance: IFR							_						
Type of Ai	rspace:													
Weather	Information													
Source of	Briefing: Compa	any												
Method of	Briefing:													
	-			FACTUAI	REPORT	- AVI		N						Page 3

Cocurrence Date: $20/14/1995$ Occurrence Type: Incident Woether Information Work Information WOF Discretion Time Ime Zone WOF Discretion Time Direction From Accident Site O Ref. WOF Discretion Time O Ref. Mail More Total and Provide Site O Ref. Mail WOF Discretion: O Ref. AGL Condition: Figure Mail O Ref. AGL O Ref. AGL O Bensity Altitude: Tell Lowest Condition: Unknown O Fit AGL O Mineter: "Hig Temperature: O Ref. AGL Visibility: Nore Altimeter: Mine O Fit AGL O Ref. AGL O Ref. AGL O Ref. AGL O Fit AGL O Ref. AGL O Ref. AGL O Ref. AGL O Ref. AGL Visibility (RVV) O O Ref. AGL O Ref. AGL Visibility (RVV) O O Ref. AGL O Ref	Nationa	al Transportation Safety	Board	NT	SB ID: N	VYC95	5IA192						
Occurrence Type: Incident Weather Information Time Zone WOF Elevation WOF Distance From Accident Site Direction From Accident Site 0000 Image: More Some Some Some Some Some Some Some Som	FA	ACTUAL REPOI	RT	Oc	currence	Date:	08/14/19	995		1			
Weather Information Work Pion Work Pion WOF Distance From Accident Site Direction From Accident Site 0000 0 FL MSL 0 NM 0 Deg. Mag. SkryLawest Cloud Condition: Unknown 0 FL AGL Visibility: 0 MM Attimater: ''Hg Lowest Cloud Condition: Unknown 0 FL AGL Visibility: 0 SM Attimater: ''Hg Temperature: °C Dew Point: °C Wind Spaed: Density Attitude: FL Wind Spaed: Gusts: Weather Conditions at Accident Site: Visual Conditions Conditions FL Visibility (RVR): 0 FL Visibility (RVV) 0 SM Intensity of Precipitation: Unknown Exercise Site: Visual Conditions Accident Information Arcraft Fire: None Aircraft Explosion None Aircraft Explosion None Classification: U.S. Registered/U.S. Soil Intensity of TOTAL Intensity of TOTAL Intensity of TOTAL Find Namer Fatal Serious Minor TOTAL Intensity of TOTAL Find Namer Intensity of Intension Intensity of I		7 The tel land <								1			
WOF ID Observation Time Time Zone WOF Elevation WOF Distance From Accident Site Direction From Accident Site 0000 0 Fi. MSL 0 NM 0 Deg. Mag. SkyLowest Cloud Condition: Unknown 0 Fi. MSL 0 Fi. AGL Condition: Uight/Bright Lowest Cloud Condition: Unknown 0 Fi. AGL Visibility: 0 SM Attimeter: "Hg Temperature: "C 0 error Gusts: Wathretions at Accident Site: Visual Conditions: Pensity Altitude: Ft. Wind Speed: Gusts: Gusts: Weather Conditions at Accident Site: Visual Conditions Pensity Altitude: Ft. Yisibility (RVR): 0 Ft. Visibility of Precipitation: Unknown Intensity of Precipitation: Unknown Intensity of Precipitation: Unknown Accident Information Aircraft Fire: None Aircraft Explosion None Intensity of Precipitation: US. Registered/US. Soil Intensity of TOTAL - Injury Summary Matrix Fatal Serious Minor None TOTAL Flight Instructor I I 1 1 1 Stadeer Ploot I I	Weather					.) [0.							
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Temperature: °C Dew Point: °C Wind Direction: Density Altitude: FL Wind Speed: Gusts: Weather Conditions at Accident Site: Visual Conditions Density Altitude: FL Visibility (RVR): 0 FL Visibility (RVV) 0 SM Intensity of Precipitation: Unknown Restrictions to Visibility: None Micraft Fire: None Aircraft Explosion None Accident Information Aircraft Fire: None Aircraft Explosion None Aircraft Explosion None Classification: U.S. Registered/U.S. Soil 1 1 1 - Injury Summary Matrix Fatal Serious Minor None TOTAL First Pilot 1 1 1 Second Pilot 1 1 Flight Engineer 1 1 Clasin Attendants 1 1 Passengers 420 420	Sky/Lowes	st Cloud Condition: Unl	known					0 Ft. AG	L	Condition of	of Lig	nt: Night/Bright	
Wind Speed: Gusts: WeatHer Conditions at Accident Site: Visual Conditions Visibility (RVR): 0 Ft. Visibility (RVV) 0 SM Intensity of Precipitation: Unknown Restrictions to Visibility: None None Aircraft Aircraft Aircraft Accident Information Aircraft Fire: None Aircraft Explosion None Classification: U.S. Registered/U.S. Soil Minor None TOTAL First Plot A Fatal Serious Minor TOTAL Second Plot I I 1 1 Student Plot I I I 1 1 Flight Instructor I I 1 1 1 Flight Instructor I I 1 1 1 Check Plot I I 1 1 1 1 Guide All Plot I I 1 1 1 1 1 1 Second Plot I I 1 1 1 1 1 1 1 1 1<	Lowest Ce	illing: Unknown			0 Ft. A	GL	Visibi	lity:	0	SM	Alti	meter:	"Hg
Visibility (RVR): 0 FL Visibility (RVV) 0 SM Intensity of Precipitation: Unknown Restrictions to Visibility: None Intensity of Precipitation: Unknown Type of Precipitation: None Intensity of Precipitation: Unknown Accident Information Aircraft Fire: None Aircraft Explosion None Classification: U.S. Registered/U.S. Soil Aircraft Fire: None TOTAL First Plot Fatal Serious Minor None TOTAL First Plot Intensity of Precipitation: Intensity of Precipitation: None TOTAL Flight Instructor Intensity Intensity of Precipitation: Intensity of Precipitation: Intensity of Precipitation: Flight Instructor Injury Summary Matrix Fatal Serious Minor None TOTAL Flight Instructor Intensity of Precipitation: Intensity of Precipitation: Intensity of Precipitation: Intensity of Precipitation: None Injury Summary Matrix Fatal Serious Minor None TOTAL Injury Summary Matrix Injury Sumary Matrix Injury Sum	Temperatu	ure: °C	Dew Point:		°C	Wind	Direction:				De	nsity Altitude:	Ft.
Restrictions to Visibility: None Type of Precipitation: None Accident Information Aircraft Fire: Aircraft Damage: Minor Aircraft Damage: Minor Classification: U.S. Registered/U.S. Soil - Injury Summary Matrix Fatal Serious Minor None TOTAL First Plot 1 Second Plot 1 Student Pilot 1 Flight Instructor 1 Check Plot 1 Flight Regineer 1 Ingures 1 Passengers 420 - TOTAL ABOARD - 0 0 0	Wind Spee	ed:	Gusts:			Weath	ner Condti	ons at Accid	lent S	ite: Visual (Cond	itions	
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Aircraft Damage: Minor Aircraft Fire: None Aircraft Explosion None Classification: U.S. Registered/U.S. Soil None TOTAL - Injury Summary Matrix Fatal Serious Minor None TOTAL First Pilot 1 1 1 1 Second Pilot 1 1 1 Student Pilot 1 1 Flight Instructor 1 1 Check Pilot 1 1 1 Cabin Attendants 1 1 1 Passengers 420 420 420 Other Ground 0 0 0 0 0 0 0	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,												
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Other Ground O O O O	Passer	ngers					420	420					
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	- GRANE	D TOTAL -	0	0		0	436	436					
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nvestigator-In-Charge (IIC) ALAN J. YURMAN dditional Persons Participating in This Accident/Incident Investigation: JOHN M KREEP NEW YORK FSDO	Administrative Information nvestigator-In-Charge (IIC) ALAN J. YURMAN Additional Persons Participating in This Accident/Incident Investigation: JOHN M KREEP NEW YORK FSDO	Administrative Information nvestigator-In-Charge (IIC) ALAN J. YURMAN Additional Persons Participating in This Accident/Incident Investigation: JOHN M KREEP NEW YORK FSDO	National Transportation Safety Board	NTSB ID: NYC95IA192	
Additional Persons Participating in This Accident/Incident Investigation:	Administrative Information nvestigator-In-Charge (IIC) ALAN J. YURMAN Additional Persons Participating in This Accident/Incident Investigation: JOHN M KREEP NEW YORK FSDO	Administrative Information nvestigator-In-Charge (IIC) ALAN J. YURMAN Additional Persons Participating in This Accident/Incident Investigation: JOHN M KREEP NEW YORK FSDO	FACTUAL REPORT	Occurrence Date: 08/14/1995	
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dditional Persons Participating in This Accident/Incident Investigation: JOHN M KREEP NEW YORK FSDO	Additional Persons Participating in This Accident/Incident Investigation: JOHN M KREEP NEW YORK FSDO	Additional Persons Participating in This Accident/Incident Investigation: JOHN M KREEP NEW YORK FSDO	Investigator-In-Charge (IIC)		
JOHN M KREEP NEW YORK FSDO	JOHN M KREEP NEW YORK FSDO	JOHN M KREEP NEW YORK FSDO	ALAN J. YURMAN		
NEW YORK FSDO	NEW YORK FSDO	NEW YORK FSDO	Additional Persons Participating in This Accident	/Incident Investigation:	
			JOHN M KREEP NEW YORK FSDO VALLEY STREAM, NY 11582		