



National Transportation Safety Board Aviation Accident Final Report

Location:	DENVER, CO	Accident Number:	FTW95LA127
Date & Time:	02/21/1995, 0845 MST	Registration:	N66JE
Aircraft:	Israel Aircraft Industries 1124	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General Aviation - Business		

Analysis

DURING PREFLIGHT OF THE AIRPLANE, THE FIRST OFFICER OPENED THE MAIN OXYGEN SUPPLY VALVE IN THE COCKPIT AND HEARD A LOUD HISSING SOUND. ALMOST IMMEDIATELY THEREAFTER, THE COCKPIT WAS ENGULFED IN FLAMES, BUT THE COPILOT WAS ABLE TO ESCAPE. HE EXITED THE AIRPLANE UNINJURED. THE FIRE MELTED THE OXYGEN SYSTEM PRESSURE REDUCER-REGULATOR ASSEMBLY, BURNED A HOLE IN THE RIGHT FORWARD SIDE WALL OF THE AIRPLANE, AND CAUSED SUBSTANTIAL DAMAGE TO THE CABIN INTERIOR BEFORE IT WAS EXTINGUISHED BY RAMP PERSONNEL. A LABORATORY ANALYSIS DISCLOSED THE PRESENCE OF OIL IN A 'DEPOSIT' FOUND ON THE INTERIOR OF THE OXYGEN CYLINDER.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: AN OXYGEN LEAK AT THE OXYGEN SYSTEM PRESSURE REDUCER-REGULATOR ASSEMBLY, RESULTING IN A CREW COMPARTMENT FIRE.

Findings

Occurrence #1: FIRE
Phase of Operation: STANDING - PRE-FLIGHT

Findings

1. MAINTENANCE, SERVICE OF AIRCRAFT/EQUIPMENT - INADEQUATE - OTHER MAINTENANCE PERSONNEL
2. (C) OXYGEN SYSTEM - LEAK
3. (C) OXYGEN SYSTEM - FIRE
4. OXYGEN SYSTEM - CONTAMINATION

Factual Information

On February 21, 1995, at 0845 mountain standard time, an Israel Aircraft Industries 1124, N66JE, sustained substantial damage from an onboard fire while standing on the ramp at Stapleton International Airport, Denver, Colorado. The copilot, who was aboard, was not injured. Cabin preparation for a flight later in the day was being conducted at the time of the incident.

According to the first officer who was conducting cabin checks with no power on the aircraft, he turned on the oxygen valve, heard a loud hissing sound and an immediate fire occurred. The first officer evacuated the aircraft and local ramp personnel extinguished the fire before the airport fire department arrived. However, the cabin and flight deck were scorched with substantial melting, and a large hole was burned in the pressure vessel in the vicinity of the oxygen regulator.

The oxygen regulator was melted in the fire and meaningful examination for function and leaks was not possible. The oxygen bottle was removed and forwarded to Israel Aircraft Industries, Engineering Division, for detailed examination. Their report is attached and provides information that the oxygen bottle contained deposits consisting of phthalates, hydrocarbons, fatty acids and zinc bis (n,n-diethyldithiocarbamate), the latter being documented as a catalyst. Their conclusions were that there was oil present in the oxygen cylinder.

A review of maintenance activity on the oxygen cylinder was conducted and records were located which provided information that the oxygen bottle had been tested and cleaned by TEC AIR Services, Northport, New York, on November 4, 1990, and on January 11, 1994. (Copies of work orders are attached.) TEC AIR Services was a Certified Repair Station (CRS) No. MA1R315K.

The FAA provided information that TEC AIR Services, had been investigated by the FAA for failing to properly overhaul and repair oxygen cylinder assemblies before returning those items to service. The FAA investigation resulted in repair station certificate revocation.

The President of Professional Jet Management, the operator of the incident aircraft, was queried. He stated that he had a Hawker 700 jet, N700AC, which had oxygen bottle service by TEC AIR. This bottle was inspected and the inspection revealed that the bottle was unserviceable due to internal corrosion.

Further, the FAA published an Advisory Circular 43-16, dated February 1995. In that publication Mr. Fred Stein, Technical Branch Manager (AEA 230), with the Eastern Regional Office pointed out that TEC AIR, in many instances, may have failed to properly overhaul and repair oxygen cylinder assemblies before returning them to service.

Pilot Information

Certificate:	Airline Transport; Commercial	Age:	50, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last Medical Exam:	10/14/1994
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	8200 hours (Total, all aircraft), 1400 hours (Total, this make and model), 5500 hours (Pilot In Command, all aircraft), 70 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Israel Aircraft Industries	Registration:	N66JE
Model/Series:	1124 1124	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	326
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	06/07/1994, Continuous Airworthiness	Certified Max Gross Wt.:	23500 lbs
Time Since Last Inspection:	144 Hours	Engines:	2 Turbo Fan
Airframe Total Time:	4098 Hours	Engine Manufacturer:	GARRETT
ELT:	Not installed	Engine Model/Series:	731-3-1G
Registered Owner:	NJE CORPORATION	Rated Power:	3700 lbs
Operator:	PROFESSIONAL JET MANAGEMENT	Air Carrier Operating Certificate:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	DHBA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Unknown	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Observation Time:	0000
Distance from Accident Site:	0 Nautical Miles	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Temperature/Dew Point:	
Lowest Ceiling:	Unknown / 0 ft agl	Visibility	0 Miles
Wind Speed/Gusts, Direction:		Visibility (RVR):	0 ft
Altimeter Setting:		Visibility (RVV):	0 Miles
Precipitation and Obscuration:			
Departure Point:	(DEN)	Type of Flight Plan Filed:	None
Destination:	(DEN)	Type of Clearance:	None
Departure Time:	0000	Type of Airspace:	

Airport Information

Airport:	STAPLETON INTERNATIONAL (DEN)	Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	NORMAN F WIEMEYER,	Adopted Date:	12/07/1995
Additional Participating Persons:	JOE WILLIAMS; DENVER, CO		
Publish Date:			
Investigation Docket:	NTSB accident and incident docket serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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