



**NATIONAL TRANSPORTATION SAFETY BOARD**

Office of Aviation Safety

Washington, D.C. 20594

**Maintenance Factual – Trans-Pacific Air Charter LLC**

November 7, 2017

**A. ACCIDENT CEN17MA183**

Location: Teterboro Airport, Teterboro, New Jersey  
Date: May 15, 2017  
Time: 1529 Local Time  
Aircraft: Gates Learjet 35A, Registration N452DA

**B. MAINTENANCE RECORDS**

Gregory Borsari  
National Transportation Safety Board  
Washington, D.C.

**C. SUMMARY**

On May 15, 2017, at 1529 eastern daylight time, a Gates Learjet 35A, N452DA, operated by Trans-Pacific Jets, departed controlled flight while on a circling approach to runway 1 at the Teterboro Airport (TEB), Teterboro, New Jersey, and impacted a commercial building and parking lot. The captain and first officer died; no one on the ground was injured. The airplane was destroyed by impact forces and postcrash fire. The airplane was registered to A&C Big Sky Aviation LLC and operated by Trans-Pacific Air Charter LLC under the provisions of *14 Code of Federal Regulations* Part 91 as a positioning flight. Visual meteorological conditions prevailed, and an instrument flight rules (IFR) flight plan was filed. The flight departed from the Philadelphia International Airport (PHL), Philadelphia, Pennsylvania, about 1504 and was destined for TEB.

## **D. DETAILS OF INVESTIGATION**

### **1.0 Air Carrier Certificates**

Trans-Pacific Air Charter LLC, dba Trans-Pacific Jets, located at 95 Nakolo PI, Honolulu, Hawaii. A Part 135 Air Carrier certificate for on demand operation, nine passengers or less, number 1QUA578N, was issued to Trans-Pacific Air Charter LLC by the Federal Aviation Administration's (FAA), on June 26, 2013.

### **2.0 Operations Specifications (OpSpecs)<sup>1</sup>**

Trans-Pacific Air Charter LLC Certificate 1QUA578N, which includes the standards, terms, conditions, and limitations contained in the FAA approved Operations Specifications was reviewed. Some key facts noted and listed:

- (a) Section D085 of the OpSpecs Trans-Pacific Air Charter LLC has 2 Dassault Falcon AMD-50-50, 1 Learjet LR-31-A and 3 Learjet LR-35-A aircraft in the fleet. Total 6 aircraft.
- (b) Section D092 of the OpSpecs authorized Trans-Pacific Air Charter LLC operations in designated Reduced Vertical Separation Minimum airspace.
- (c) Section D095 of the OpSpecs authorized Trans-Pacific Air Charter LLC to use an FAA approved Minimum Equipment List (MEL) for the Learjet LR-31-A and LR-35-A aircraft listed in the OpSpec.
- (d) Per section E096 of the OpSpecs, Trans-Pacific Air Charter LLC is authorized for a Weight and Balance Program. Trans-Pacific Air Charter LLC is authorized to use individual aircraft weights outlined in the certificate holder's empty weight and balance program for each fleet type listed. Each Learjet LR-35-A aircraft weighed every 36 calendar months per the Trans-Pacific Air Charter LLC Company Operations Manual, Section 2.1.1.

### **3.0 Type Certificate Data Sheet**

The Type Certificate Data Sheet (A10CE) prescribes conditions and limitations under which the product for which the Type Certificate (TC) was issued meets the airworthiness requirements of the Federal Aviation Regulations. According to the document, Learjet Inc. is the holder of the TC.

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<sup>1</sup> Operations Specifications contains the authorizations, limitations, and certain procedures under which each kind of operation, if applicable, is to be conducted by the certificate holder.

#### 4.0 Aircraft Information

N452DA was manufactured by Learjet Inc. and was issued an Airworthiness Certificate on October 26, 1981. A&C Big Sky Aviation, LLC is the registered owner of the aircraft. According to the last available Flight Logs dated May 12, 2017 and information reviewed prior to the accident flight, the airplane had approximately 11,557.6 total hours and approximately 9,985 total cycles.

The airplane was equipped with two Honeywell International Inc TFE731-2-2B engines. The engines had accumulated the following operating times as of May 12, 2017, three days prior to the accident:

#### Engine and Information

|   | <b>No.1 Engine</b> | <b>No.2 Engine</b> |
|---|--------------------|--------------------|
| <b>Manufacturer</b>                                     | Honeywell          | Honeywell          |
| <b>Part Number</b>                                      | TFE731-2-2B        | TFE731-2-2B        |
| <b>Manufacture Date</b>                                 | August 24, 1981    | August 25, 1981    |
| <b>Date Installed</b>                                   | April 11, 2016     | April 10, 2014     |
| <b>Serial Number</b>                                    | P-89241            | P-89243            |
| <b>Time since 1400 Hour Major Periodic Inspection</b>   | 195.9              | 866.3              |
| <b>Cycles since 1400 Hour Major Periodic Inspection</b> | 109                | 526                |
| <b>Engine Total Time Hours</b>                          | 11,310.80          | 11,300.90          |
| <b>Engine Total Cycles</b>                              | 9,760              | 9,710              |
| <b>Location of Engine Installation</b>                  | Los Angeles, CA    | Lincoln, NE        |

#### 5.0 Trans-Pacific Air Charter LLC Maintenance Program (Learjet 35A)

Trans-Pacific Air Charter LLC is responsible for all maintenance, preventive maintenance, rebuilding, and alteration of any of its aircraft, airframe, aircraft engines, appliances, and component parts of such aircraft in accordance with 14 CFR Parts 43, 91 and 135. This includes

all life-limited parts that are removed from a type certificated product, segregated and controlled as defined in 14 CFR §43.10. Trans-Pacific Air Charter LLC may contract maintenance functions to other qualified persons, but retains responsibility for the airworthiness of its aircraft.

Trans-Pacific Air Charter LLC must comply with the aircraft Manufacturer's Maintenance Inspection Program, as revised, in accordance with the provisions of 14 CFR § 91.409(f)(3) and 135.411(a)(1). The Manufacturer's Maintenance Program is one which is contained in the current Maintenance Manual, Chapter 5 and Chapter 4, Airworthiness Limitations, if applicable. All maintenance, preventive maintenance, and alteration to the aircraft, engines, and appliances will be performed in accordance with current Federal Aviation Administration Regulations, manufacturer recommendations and specifications, Manufacturer Mandatory Service Bulletins, Mandatory Service Letters, Airworthiness Directives (AD's), Instructions for Continued Airworthiness (ICA's) and good maintenance practices, as appropriate.

The Learjet Inspection Program is based on 24 Phase Inspections, accomplished one at a time, in groups or collectively, as scheduled by the operator. Each Phase Inspection is contained within one of four hourly or calendar driven inspection intervals, the 300 Hour or 12 Month A-Phases, 600 Hour or 24 Month B-Phases, 1,200 Hour or 48 Month C-Phases, and 2,400 Hour or 96 Month D-Phases. Each of the primary inspection intervals (A, B, C, and D) contain six standalone Phase Inspections. The Learjet Inspection Program also contains other inspections and individual standalone inspection checks, which must be accomplished at the specified intervals.

The following is a list of scheduled inspections contained in the Learjet Inspection Program and the interval for each inspection.

- Phases A1, A2, A3, A4, A5, and A6 - Each A-Phase due every 300 hours or 12 months.
- Phases B1, B2, B3, B4, B5, and B6 - Each B-Phase due every 600 hours or 24 months.
- Phases C1, C2, C3, C4, C5, and C6 - Each C-Phase due every 1,200 hours or 48 months.
- Phases D1, D2, D3, D4, D5, and D6 - Each D-Phase due every 2,400 hours or 96 months.
- 3,000 Landing Inspections.
- Major Landing Gear Inspection - Due every 6,000 landings.
- 12 Year Airframe Inspection - Due every 12 years or 6,000 landings.
- 12,000 Hour Airframe Inspection - Initial due at first 12,000 hours. Repeat every 6,000 hours thereafter.

Table 1 is a listing of the Learjet 35A manufacturers maintenance inspection checks along with the most recent completion for each inspection completed on N452DA.

**Table 1 – Learjet Maintenance Inspection Checks**

| Inspection(s)  | Date of most recent Inspection | Location        | Total Time | Total Landings |
|--|--------------------------------|-----------------|------------|----------------|
| A1, A2, A3, A4, A5, A6                                     | February 13, 2017              | Los Angeles, CA | 11,441.30  | 9,921          |
| B1, B2, B3, B4, B5, B6                                     | February 13, 2017              | Los Angeles, CA | 11,441.30  | 9,921          |
| 3,000 Landing Inspection                                   | September 29, 2011             | Lincoln, NE     | 9,872.7    | 8,813          |
| C1, C2, C3, C4, C5, C6, D1, D2, D3, D4, D5, D6 Inspections | September 7, 2010              | Lincoln, NE     | 9,554.3    | 8,529          |
| Major Landing Gear Inspection                              | June 3, 2001                   | Englewood, CO   | 5,995.8    | 5,855          |
| 12,000 Hour Airframe Inspection                            | Not Due                        |                 |            |                |

During the most recent A1-A6 and B1-B6 inspections completed February 13, 2017 the Primary Rudder Control System Cables, left hand and right hand were replaced. The cables are tracked and replaced at 2,400 flight hour interval.

The A1 check completed February 13, 2017 includes the following task: Airworthiness Directive: AD82-01-05R2, Operational check of the Stall Warning Accelerometer. Aircraft total time 11,441.3. Next due (220 hours) 11,661.3.

On July 28, 2016, the 144 month/6,000 landings elevator down spring assembly attach bolt replacement was completed. Aircraft total time 11,409.9 total landings 9,902.

## **6.0 Minimum Equipment List (MEL)<sup>2</sup>**

Trans-Pacific Air Charter LLC was authorized to use an approved MEL on its airplanes per the OpSpecs. Aircraft discrepancy items were reviewed from July 2016 to May 5, 2017. There were no open MEL items found in the review. There were no discrepancy forms available for review from May 6, 2017 to May 15, 2017 the date of the accident.

## **7.0 Supplemental Type Certificates (STC)<sup>3</sup> and Major Alterations**

Supplemental Type Certificates (STCs) and Major alterations, supplied by Trans-Pacific Air Charter LLC and on file with the FAA were reviewed. Approximately 43 STCs and Major Alterations were documented and installed on the aircraft.

The following major alterations are noted:

- Installed a Rockwell Collins Attitude Heading and Reference System (AHS-1000S).
- Upgraded the KGP-560 Enhanced Ground Proximity Warning System (EGPWS) configuration module to part number 700-1710-0021.
- Installed a single Universal Avionics (UNS-1K) Flight Management System.
- Installed Rosemount Pitot / Static Probes.
- Incorporated Innovative Solutions & Support Inc. Air Data Display Unit Instruments.
- Added terrain display to EGPWS Class B Terrain Awareness and Warning System.
- Installed a Traffic Collision Avoidance System (TCAS 1).
- Installed Multi-Function Radar Display to support weather radar and TCAS 1.

## **8.0 Airworthiness Directives (AD)<sup>4</sup> and Service Bulletins (SB)**

Trans-Pacific Air Charter LLC was requested to provide an AD and SB summary from the Flightdocs™ electronic tracking system for review<sup>5</sup>. An airframe and engine logbook review for AD compliance was conducted. In addition to reviewing the airframe and engine logbooks, Flightdocs™ provided tracking reports for airworthiness directives and service bulletin tracking which includes the dates, flight hours and landings complied with, along with next due for recurring requirements. In addition, the reports included all AD's and SB's that were being tracked, but not yet due. No discrepancies were noted during the logbook review and the corresponding review of electronic tracking reports provided by Flightdocs™.

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<sup>2</sup> The FAA approved Minimum Equipment List contains a list of equipment and instruments that may be inoperative on a specific aircraft for continuing flight beyond a terminal point.

<sup>3</sup> The FAA issues Supplement Type Certificates, which authorize a major change or alteration to an aircraft, engine or component that has been built under an approved Type Certificate.

<sup>4</sup> Airworthiness Directive (AD) is a regulatory notice sent out by the FAA informing the operator of an action that must be taken for the aircraft to maintain its airworthiness status.

<sup>5</sup> Trans-Pacific Air Charter was unable to provide the electronic tracking reports requested as their subscription service for N452DA with Flightdocs™ expired. Flightdocs™ provided the tracking reports to the NTSB via subpoena.

## 9.0 Aircraft Flight Discrepancy Forms and Logbook Items

Aircraft Flight Discrepancy Forms were reviewed from May 2016 thru May 5, 2017 along with the associated Logbook entries (most recent entry). The review focused on aircraft avionics, flight controls, engines and any special inspections and/or discrepancies on the incident airplane. The following are noted.

- May 4, 2017 – Right engine thrust reverser unlock light flashes intermittently when right engine thrust reverser is stowed. Maintenance adjusted the upper switch.
- April 28, 2017 – Distance Measuring Equipment (DME) Inoperative. Maintenance checked DME in accordance with MM 34-52-00, no defects noted.
- April 17, 2017 – 28 Day Flight Management System Navigation Database updated.

## 10.0 Weight and Balance Summary

Trans-Pacific Air Charter LLC uses a weight and balance program to ensure compliance with applicable airworthiness requirements and aircraft operation limitations.

Per the OpSpecs (E0-96) the Learjet 35A aircraft must be weighed every 36 calendar months. The most recent weight and balance for N452DA was performed on May 4, 2017 and was accomplished at Republic Airport, Farmingdale, New York.

|                         |            |           |
|-------------------------|------------|-----------|
| Basic Operating Weight: | 10,173     | pounds    |
| Arm:                    | 383.03     | inches    |
| Moment:                 | 3,896,545* | lb-inches |

\* Calculations are from the Weight and Balance computation form included in the maintenance records provided by Trans-Pacific Air Charter LLC. Weight and Balance calculations includes engine oil.

See Attachment one for more information – Weight and Balance

## 11.0 Service Difficulty Reports (SDR)<sup>6</sup> and Mechanical Interruption Summary Report (MISR)<sup>7</sup>

Two reports were found on file when conducting a search of the FAA Service Difficulty Report database for the accident aircraft.

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<sup>6</sup> A Service Difficulty Report (SDR) is a report of the occurrence or detection of each failure, malfunctions, or defects as required by 14 CFR 135.415.

<sup>7</sup> Each scheduled operator is required under 14 CFR Part 135.417 to submit a summary of any (a) interruption to flight, (b) unscheduled change of aircraft en route, or unscheduled stop or diversion from a route caused by known or suspected mechanical difficulties or malfunctions that are not required to be reported as service difficulty reports.

- November 29, 2006 – During taxi after landing experienced a failure of the normal braking system. The right main landing gear safety switch (air/ground sensing) was replaced.
- November 11, 2016 – Generator failed during taxi. Vibration felt and loss of electrical power. Engine shut-down. Inspection showed significant heat damage to No.1 generator, generator wiring, generator case cracked and generator mount damage. No.1 generator replaced along with the voltage regulator, engine starter and wiring repaired.

Note – The associated aircraft discrepancy write-up states that upon takeoff from LAX No.1 engine fire light illuminated just below 80 knots. Takeoff aborted, engine secured. Taxing back smoke observed from cowling, evidence of generator disintegration and high heat.

No mechanical interruption summary reports were found during the records review for the accident aircraft.

## **12.0 Major Repairs**

A records review of the FAA Airworthiness file for N452DA showed there were two major repairs on file for the accident airplane.

- March 3, 2004 - Right hand outboard flap nose roller bracket was replaced along with a doubler repair to the right outboard flap.
- April 11, 2014 – Repaired lower main entry door frame. Replaced forward step frame. Replaced the torsion arm attachment fitting and installed a doubler repair.

## **13.0 Time Limit Components**

Time Limit component status for the airplane and the two installed powerplants were reviewed. The review included time limited rotatable components installed on N452DA. Components are tracked by the manufacturer part number, serial number, date installed (date, flight hours, flight cycles) and next due. No discrepancies noted.

## **14.0 Vendors**

Trans-Pacific Air Charter LLC may make arrangements with an individual or organization outside of the company to perform maintenance. The Director of Maintenance (DOM) will ensure any vendor is qualified, properly rated, certified and trained for the scope of the work. If a certified repair station is used, it may only perform maintenance for which it is qualified. All work will be performed in accordance with manufacturers specifications and manuals.

The DOM completes the vendor audit checklist which is retained for a twelve-month authorization period. The DOM monitors each vendor by reviewing work order packages, pilot debriefing and any repeat discrepancies.



A vendor can be reauthorized for an additional 12-month period if the vendor has no significant changes in its procedures or authorizations and completes a self-audit. The results of the self-audit are reviewed by the DOM prior to the 12-month reauthorization being granted.

A review of the vendor audits provided by Trans-Pacific Air Charter LLC showed a defined process is in place and being tracked for vendors currently being used by Trans-Pacific Air Charter LLC.

### **15.0 Method of Record Keeping**

Per FAR Parts 43, 91 and 135, Trans-Pacific Air Charter LLC maintains records for it aircraft, engines and components with the use of aircraft flight logs, aircraft discrepancy form, deferred maintenance log and aircraft status sheet.

In addition, Trans-Pacific Air Charter LLC utilizes a computerized maintenance tracking program (Flightdocs™) to assist in tracking:

- Life Limited Parts.
- Service Bulletins.
- Airworthiness Directives.
- 36-month Weight and Balance.
- Emergency Equipment Inspections.
- Next due inspection based on aircraft total time.
- Next due inspection based on aircraft total landings.
- Next due inspection based on calendar date.

A 90-day maintenance due list was generated from the computerized tracking system from the date of the accident projected out to August 15, 2017. One discrepancy was noted during the review. There is a 100-flight hour repetitive requirement labeled EGPWS / TAWS MODES / LEV last completed with 11,409.9 hours aircraft total time. Next due is shown as 11, 609.9 hours and not 11, 509.9 hours as expected. No allowable tolerance was indicated on the maintenance due list for this item. A review of the log book for the most recent completion also shows 11,409.9 hours. On May 12, 2017, the aircraft had 11,557.9 flight hours.

### **16.0 Manuals**

- (a) General Operations Manual (GOM) – covers the operating policies and procedures Trans-Pacific Air Charter LLC personnel under its Air Carrier Certificate. The purpose of this manual is to provide guidance in order that company personnel can execute their assigned duties and responsibilities in accordance with all company policies and Federal Aviation Administration (FAA) regulations.
- (b) Minimum Equipment List (MEL) – List of equipment and instruments that may be inoperative on a specific aircraft.

- (c) Manufacture Supplied Manuals - Aircraft/Engine Maintenance Manuals, Structural Repair Manuals, Overhaul Manuals, Wiring Manuals, Fault Isolation Manuals, Illustrated Parts Catalog, Corrosion Program Manual, NDT Manual, Significant Structure Items Manual, Service Bulletins and Engine Manuals.

## **17.0 Interview Summaries**

Mr. James Belknap, Principle Maintenance Inspector (FAA) was interviewed on September 26, 2017 via telephone.

Mr. Joseph Large, Principle Avionics Inspector (FAA) was interviewed on September 26, 2017 via telephone.

See attachment 2 for interview summaries

Submitted by: Gregory Borsari  
Aviation Accident Investigator  
Maintenance

# Attachment 1

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## Weight and Balance – N452DA



# VENTURA

8100 Republic Airport, Farmingdale, NY 11735

Repair Station No. IDDR252K

Acraft Model Learjet 35A

Reg. No. N452DA Date 5/4/17

Basic Empty Wgt. 10173 \* C.G. 383.03  
% MAC 25.2%

Mom. 3896545

Weigh Kit No. JW-75 Calibr. Date Oct-16

\* Includes Full engine oil. All Stores Removed.

This aircraft weighed in accordance with accepted procedures and is approved for return to service.

Authorized Signature

President

Title


**VENTURA MOBILE AIRCRAFT SERVICES**  
**8100 Republic Airport**  
**Farmingdale, NY 11735**  
**(631) 756-5500**

## **Aircraft Weighing Report**

MANUFACTURER:       Learjet  
MODEL:                35A  
REGISTRATION:        N452DA  
SERIAL NO.:           35A-452

Approved for Return to Service:

Michael Tarascio  
**Weight Specialist**

  
**Approved Authorized Signature**

May 4, 2017  
**Date Completed**

Aircraft Weight and Balance Report Number 17-4250

Repair Station no. IDDR252K

**Ventura Mobile Aircraft Services Also Performs:**  
**- 24 Month IFR/VFR Certifications 91.411 & 91.413**  
**- Annual RVSM Certifications**

## AIRCRAFT WEIGHT AND BALANCE

Report Number 17-4250

| DATE WEIGHED<br>4-May-17                |                  | MODEL<br>Learjet<br>35A | SERIAL NUMBER<br>35A-452               |        |         |
|---|------------------|-------------------------|--|--------|---------|
| PLACE WEIGHED<br>Republic Airport (FRG) |                  |                         | WEIGHING PERSONNEL<br>Michael Tarascio |        |         |
| REACTION                                | SCALE<br>READING | TARE                    | NET<br>WEIGHT                          | ARM    | MOMENT  |
| LEFT MAIN                               | 4372             | 2                       | 4370                                   |        |         |
| RIGHT MAIN                              | 4480             | 2                       | 4478                                   |        |         |
| SUB-TOTAL<br>(BOTH MAIN)                |                  |                         | 8848                                   | 414.85 | 3670593 |
| NOSE<br>TAIL                            | 1326             | 1                       | 1325                                   | 170.53 | 225952  |
| TOTAL AS<br>WEIGHED                     |                  |                         | 10173                                  | 383.03 | 3896545 |

### CONFIGURATION AND MEASUREMENTS

MAC 82.75  
LEMAC 362.17

Main Jack Point: 414.85

Nose/Tail Jack Point: 170.53

OWNER: A&C BIG SKY AVIATION LLC 1812 66TH ST W, BILLINGS, MT 59106

| COMPUTATIONS   |            |                          |         |
|--|------------|--------------------------|---------|
| DESCRIPTION  | NET WEIGHT | ARM                      | MOMENT  |
| TOTAL (AS WEIGHED)   | 10173      | 383.03                   | 3896545 |
| OIL IN AIRPLANE: 20.8 Qts.   | 23         | 437.80                   | 10069.4 |
| FUEL IN AIRPLANE<br>(SEE CALCULATION BELOW)                                    | 0          | 0.00                     | 0       |
| TOTAL OF ITEMS WEIGHED BUT NOT PART OF BASIC WEIGHT<br>(SEE CALCULATION BELOW) | 0          |                          | 0       |
| TOTAL OF BASIC ITEMS NOT IN AIRCRAFT WHEN WEIGHED<br>(SEE CALCULATION BELOW)   | 0          |                          | 0       |
| BASIC EMPTY AIRPLANE   | 10150      | 382.90<br>25.1% % M.A.C. | 3886476 |
| BASIC EMPTY AIRPLANE WITH FULL OIL   | 10173      | 383.03<br>25.2% % M.A.C. | 3896545 |

| FUEL COMPUTATIONS              |        |     |        |
|--------------------------------|--------|-----|--------|
| FUEL                           | WEIGHT | ARM | MOMENT |
| SPECIFIC GRAVITY OF FUEL: 5.85 |        |     |        |
| USABLE                         |        |     | 0      |
| UNUSABLE                       |        |     | 0      |
| UNUSABLE                       |        |     | 0      |
| UNUSABLE                       |        |     | 0      |
| TOTAL                          |        |     | 0      |

| ITEMS WEIGHED BUT NOT PART OF BASIC WEIGHT |        |     |        |
|--|--------|-----|--------|
| DESCRIPTION                                | WEIGHT | ARM | MOMENT |
| TOTAL                                      | 0      |     | 0      |
| BASIC ITEMS NOT IN AIRPLANE WHEN WEIGHED   |        |     |        |
| BLADES                                     | 0      | 0   | 0      |
| TOTAL                                      | 0      |     | 0      |

|   |   |
|---|---|
| <b>REACTIONS USED</b><br>Wing Jack Pads<br>Nose Jack Pad  | <b>ELECTRONIC WEIGHING KIT</b><br>TYPE: JW-75<br>CALIBRATED: Oct-16 |
| <b>REGISTRATION:</b> N452DA<br><b>TYPE CERT. NO.</b> A10CE<br><b>MAXIMUM GROSS WEIGHT:</b> 18300 LBS.<br><b>USEFUL LOAD:</b> 8127 WITH OIL at 14 Qts.<br><b>REMARKS:</b> All Stores Removed. With life vests and emergency equipment. | <b>CG LIMITS</b><br>See POH or Loading Graph.                       |

# Attachment 2

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## Interview Summaries



## **Interview Summary - PMI**

**Name: James S Belknap**

**Date/Time: September 26, 2017 at 11:10 EDT**

**Location: Via Phone**

**Representation: Matthew T Smith**

**Present: Greg Borsari, NTSB; Pocholo Cruz, NTSB; Robert Hendrickson, FAA**

After the introductions were completed Mr. Belknap explained that he is a principle maintenance inspector (PMI) at the Van Nuys, California Flight Standards District Office. He has been a PMI for approximately 20 years and with the FAA for almost 22 years.

When asked how many certificates he was responsible for the PMI said about 20 repair station certificates and three part 135 air operators.

He responded that his work load would be medium to high or about a seven on a scale of one to ten.

The PMI was asked if any risk factors were considered when determining the amount of oversight required for each certificate and he responded that absolutely if a certificate holder is a higher risk than additional surveillance would be assigned. He further stated that they have a system in place called SAS (Safety Assurance System) that factors in risk.

When asked how long he was the PMI for Trans-Pacific Jets certificate he said that they had not been around all that long, maybe about two to three years and he had been assigned to them from the beginning.

Prior to Trans-Pacific Jets the previous operator was Sunquest and he had that certificate as well for about three years. He further clarified that Sunquest was an LLC with different owners and that Ryan Frost purchased the operation and created Trans-Pacific Jets.

When asked if he had any concerns with the operator the PMI responded yes that they were a very needy operator that was growing rapidly and from that standpoint was a higher concern.

He was asked if he could clarify and he responded that they required a lot of attention and he would get inquiries on almost a daily basis. Calls with inquires such as they were adding aircraft to the certificate, day to day items sometimes looking for guidance. Examples provided included they wanted to put another aircraft on the certificate, can we put another aircraft on, things of that nature.

When asked specifically from the maintenance side who was the primary contact the PMI stated that the Director of Maintenance (DOM) was Albert Delgadillo. Initially there was another DOM for about six months and then Albert took over as the DOM and was there up until recently.

When asked the PMI responded that he met at least bi-weekly with Trans-Pacific Jets and that they would typically meet at the Van Nuys airport. They would either meet at the DOM or Director of Operations (DOO) office. They did not have a maintenance facility of their own.

He responded that the current DOM is Daniel Moura and has been in the position since April 2017 and that as the PMI he was part of the DOM approval process. When asked if he had any concerns with the new DOM the PMI responded, no. He had to do a phone interview as the DOM was relocating to Honolulu. He had his resume, he met the 119 requirements, sounded intelligent and knew what he was talking about, so no, no concerns.

When asked about the previous DOM he said that Albert was a very young DOM. He met 119 requirements and we get a lot of young DOM that need to learn and Albert needed to learn. He met 119, it was first time being a DOM and he needed to learn. He further stated that was why he was there all the time.

The PMI was asked if he knew why the DOM left and said that he felt he was under a great deal of pressure by both the FAA and by the DOO. He added that he also felt that the DOM did not want to move to Hawaii.

Asked when was the last time he did either an aircraft inspection or a facility inspection the PMI responded that while they were adding aircraft about every two months that they were seeing those aircraft in detail. Currently SAS has no requirements to inspect an aircraft which is unbelievable to the PMI. He stated that the last ramp inspection would have been about eight months ago.

When asked if he was familiar with the Flightdocs™ electronic tracking system he responded yes, a lot of folks use the system. Like you said, it is an electronic maintenance tracking system. If you put good information in, it will shoot out what maintenance is due or coming due. So, I do not have a problem with that. While the system itself works fine, I have a concern with how people put information in.

The PMI was asked if he ever found any discrepancies in the data that was entered in the system and he responded, yes he had. He added that while we do not perform conformity we ensure that they performed conformity properly. Each time an aircraft was being added he estimated that they would come up with a list of about 20 – 25 discrepancies that had to be corrected before the

aircraft could be placed on the certificate, and that was unacceptable. Every time they wanted to add an aircraft it was tremendous work for us.

The PMI was asked if the system was used for tracking airworthiness directives and service bulletins and he responded yes, it is.

The PMI was sent a copy of a log item dated May 12, 2016 and he said he had it in front him. The item was reviewed with the PMI and while the airplane was in maintenance for a five-year requirement for the engine nacelle fuel hose and hydraulic line replacements on both engines. When the work was completed the log item contained the work accomplished and the standard language that the aircraft was determined to be in an airworthy condition and is approved for return to service. The log item further stated that AD82-01-05R2 Operational Check of the Stall Warning Accelerometer. PCW December 8, 2015. ACTT 11,315.4. Next due (220 Hours) ACTT 11,535.4. The PMI was asked what does PCW stand for? The PMI stated "previously complied with". The PMI was asked if he was to look at the electronic tracking system for this requirement would he expect to see the next due time as the 11,535.4 hours and he stated yes. He was further asked if he would expect to see the next due as being from the time the lines were replaced which was 11, 363.0 hours? The PMI said no, the time would be from the previously accomplished time, not the 11,363.

Trans-Pacific Jets uses third party maintenance and the PMI was asked if he had any concerns with their use of third party maintenance. He said that no, he was actually happy that they contracted out the lion share of the maintenance and not try doing it themselves. They were allowed to do it and I was glad they did.

As Trans-Pacific Jets was required to perform vendor audits the PMI was asked if he reviewed any of the audits and if there were any findings. He said about two years he did have a finding with an individual who was performing maintenance and he was not on a drug program. He turned it over to their drug people and was told they would take care of it.

When asked how his relationship was with the DOM and the owner/operator he responded, intimate. He further said, I don't know how else to say it, I spent a lot of time with them. Simply because the DOM was afraid of what he was doing, he was not a strong DOM and that the owner knew that and that the owner was shopping money and that was the overriding factor for him. He further stated he was happy the DOM was managing the maintenance and not performing the maintenance.

When asked if they had any mechanics employed other than the DOM he responded, no. Everything is outsourced. He added that is the way it was when Trans-Pacific Jets was here and that he does not know currently.

The PMI was asked how long ago the certificate transferred from Van Nuys to Honolulu he responded not very long ago, May 2017.

When asked how the transition went he said there were no real problems, it went okay.

The PMI was asked that prior to the accident if they were considered a higher risk and he stated to me they were. They were a higher risk simply because they were growing faster than I wanted them to grow.

The PMI was asked if he would be getting either new certificates or certificates rotated amongst the inspectors at the office and he explained that with SAS it was fluid. It was tied to an annual work assignment and that it would be more monthly. He further added that while he did not know he expects that some assignments would change.

When asked how it compared to before SAS the PMI felt he had more control under the old system and that with SAS it generates the assignments on a quarterly basis and it schedules his work load for him, although he added he does have some control, just not as much. Prior to SAS the PMI was responsible for his workplan and now SAS generates the surveillance plan.

He was asked if he saw something that was a higher risk if he could schedule that himself and the response was yes, he could.

The PMI was asked a follow up on no longer being assigned a ramp inspection and he stated he has not seen one since SAS started. He was further asked if he knew why that was taken out of the PMI duties and he said, do not know why. I cannot answer that.

Asked if he saw a need to do a ramp inspection could he do it? He said absolutely and in fact I did one about eight months ago that needed to be done and I did the inspection.

Asked what replaced the ramp inspections in SAS he said we now have records inspections.

Did you not have record inspections before SAS? Along with ramp inspections? That is correct.

Asked to explain the previous DOM duties to manage the maintenance and not actually perform the maintenance? The PMI responded that he was responsible for all the maintenance on all of Trans-Pacific's aircraft. That entails everything, except he is not turning a wrench.

Further asked if the work was signed off by an A&P mechanic and not the DOM the PMI said yes or signed off by a repair station.

As the certificate transferred in May and the new DOM came onboard in April other than talking to him on the phone have you ever met him? No, I had not.

Asked if he could give us the new DOM work history to us the PMI said he was with Skytrack Aviation in Modesto from 2005 to 2017. He is an A&P, been to several manufacturer's training, he was director, has RVSM training and while he had no experience on Lear's he has same type experience such as Citations, Challengers, King Air's and others which is all that is required. He has both 135 and 145 experience for about 10 years. He meets the requirements.

During the transition of the certificate did you discuss anything with the Honolulu PMI? He said very little. We e-mailed backed and forth and talked on a couple of occasions, but not very much. Any recollection of what he was asking or discussing with you? The PMI could not recall.

A couple of follow up questions were asked such as if the PMI has been in Van Nuys his entire FAA career and he responded yes.

As ramp inspections are not being assigned to PMI's by SAS anymore are they being assigned to someone else? He responded he could not answer that, he did know.

Asked if he knew where the previous DOM went? He said yes, he ran into him at lunch one day and that he is working for a company call Jet Tech which is a repair station. Not as a management position, but as a mechanic.

You said the previous DOM was not the strongest and do you feel he was being pushed by the owner? Yes, I feel he was. I would have to say it is a perception I had.

Asked if there was anything else he would like to tell us, any concerns about the operation, how it was run, anything at all? The PMI said that while the DOM was not the strongest he tried to bring him up, drag him along, teach him as it is an educational process. Everybody's got to get their feet wet and this was his first shot at it and he was trying to be a good DOM. He would ask a lot of questions, which a seasoned DOM doesn't have to ask. And that is one of the responsibilities of the FAA, to answer the questions. I don't know what to say about the previous DOM but I felt he was being pressured by Mr. Frost.

**Interview concluded at 11:40 EDT**

## Interview Summary PAI

**Name: Joseph James Large**

**Date/Time: September 26, 2017 at 12:00 EDT**

**Location: Phone**

**Representation: Matthew T. Smith**

**Present: Greg Borsari, NTSB; Pocholo Cruz, NTSB; Robert Hendrickson, FAA**

After the introductions were completed Mr. Large explained that he is an Aviation Safety Inspector (ASI) and his specialty is avionics at the Van Nuys, California Flight Standards District Office. He added that he was the Principle Avionics Inspector for Trans-Pacific Jets (TPJ).

The PAI stated he does not have any FAA licenses but he does have an FCC license. He has been with the FAA for 16 years and always at the Van Nuys office.

When asked how long he had the TPJ certificate he responded that it had been quite a while and couldn't really say exactly how many years. Later he did follow up and he had the certificate for about four years.

The PAI was asked how many certificates he had responsibility for he responded about 18 which includes 135, 145, 147 of which about three are 135 operators.

He considered his work load to be about medium. Some had more certificates but he a few larger repair stations so about medium as compared to others.

When asked what was taken into consideration when planning his workload or assignments he responded that he uses the safety assurance system (SAS). That SAS is relatively new since they rolled the system out. It uses a risk based system and depending how you answer the questions it develops the plan. Prior to SAS they used the PTRS system. As an example, we would be given how many surveillances were needed and we would plan that accordingly. Now based on the responses to the question answered within SAS, it does a risk assessment and provides the work plan for you.

Ask to further summarize SAS with regard to each certificate and how work was assigned he said that each question for the certificates would rate items such as risk as either high, medium or low and then the program would calculate the risk and provide the work plan. At least that is what we were taught. It was about three years ago when we took the training.

The PAI was asked who was his primary contact at TPJ and he responded that it was Ryan Frost. It would either be Ryan or the DOM Albert Delgadillo.

When asked how often he would meet with TPJ he said anytime there was an inspection to be done, or a need, or if they had any questions we would go over there. Some items were dealt with over the phone or by e-mail, but if we had surveillance or an inspection we would go over there.

Asked if he met the current DOM and he said, no.

When asked if he had concerns with the previous DOM the PAI said he was new to being a DOM for an air carrier and it is not uncommon for new DOM's to need a little education. Albert was never a DOM before, he met the rule, but was new and needed some education. Sometimes you just have to help them out with being a DOM.

Asked how the DOM was on the avionics side he responded he was definitely weak on the avionics side, as most of them are. They are mechanics that become the DOM and they are very weak on avionics.

Is this an area of concern? No, you usually have to teach them. They are mechanics with little knowledge of the avionics systems. I spent 23 years at an avionics shop so I have a better understanding and so we teach them about the avionics systems and requirements. When I got to the agency I knew little about the maintenance side and the other inspectors here have taught me about the maintenance side of the house while I help teach the avionics.

The PAI could not recall the last time they had done a ramp inspection on TPJ plane.

When asked if he knew who performed the avionic work for TPJ he said if the aircraft was at Van Nuys there are about three avionics shop. One called Duncan Aviation, DCL and if the aircraft was on the road they use the local avionics shop.

Asked if he had oversight responsibilities for any of the local avionics shops he responded that yes, he has a couple that are located on the Van Nuys field. Asked if he had concerns with the local shops he said no, not with the ones on the field.

The PAI was asked if he was familiar with the Flightdocs™ electronic tracking system that TPJ utilized and he said he was not. Asked if was familiar with any of the reports that can be generated from Flightdocs™ and he responded no, not familiar with it.

Asked if he knew if it was used for tracking service bulletins or airworthiness directives he responded, no I would not know.

The PAI was sent a copy of a log item dated May 12, 2016 and he said he had it in front him. Before reviewing the item with the PAI he was asked if he was familiar with the airworthiness

directive for the stall warning system on the Learjet and if so, had he ever witnessed the test. He was not familiar with the AD, nor did he witness this particular test.

The item was reviewed with the PAI and while the airplane was in maintenance for a five-year requirement for the engine nacelle fuel hose and hydraulic line replacements on both engines. When the work was completed the log item contained the work accomplished and the standard language that the aircraft was determined to be in an airworthy condition and is approved for return to service. The log item further stated that AD82-01-05R2 Operational Check of the Stall Warning Accelerometer. PCW December 8, 2015. ACTT 11,315.4. Next due (220 Hours) ACTT 11,535.4.

The PAI was asked what does PCW stand for? The PAI said when he first saw that he initially thought it meant partially complied with. But if that were the case he added I would expect to see what was partially complied with and what work still needed to be completed. So after looking at it I realized it had to mean previously complied with. Previously complied with makes more sense.

When asked if he was to look at the tracking system for this item if he would expect to see the 11,535.4 hours as the next due requirement and the PAI responded that yes, that is what he wrote in the item.

The PAI was asked if to the best of his knowledge has TPJ ever missed an AD? Have they ever submitted a self-disclosure? The PAI responded no.

Asked if he had any experience with any of the TPJ third party providers? He said that he was familiar with the local maintenance shops and when he would do a record checks he would see some of the shops listed and know who they were. He further said while he could not give a specific example he knows he seen them in the logbooks and recognized the shops as ones he is familiar with.

The PAI was asked if TPJ as a 135 nine or less operator followed the manufacturers recommended maintenance program and he responded yes. That is what they are supposed to do and I don't remember seeing anything that would indicate otherwise.

When asked about the use of third party maintenance and the requirement for TPJ to perform audits if he ever reviewed any of the audits he responded yes he had seen them during the records review.

Asked if he any concerns with any of the audits and the PAI said he could only recall that if he saw a vendor that had not been audited within the last year he would ask them about it. TPJ



response would be that they have not used that vendor in years and would audit them if they needed to use them again. He also recalls that they might have said they missed that one, but could not recall the particulars. The PAI could not recall the exact wording in the TPJ GOM but believes it was either every year or on an as needed basis for vendors not utilized on a regular frequency.

Asked if TPJ had any mechanics or avionics technicians (R&E) on staff other than the DOM he said no, they do not.

When asked who the DOM reports to the PAI said I am assuming Ryan Frost.

Prior to the accident the PAI was asked if had any areas of concerns with TPJ and he said yes there was that one item where the generator “granated” term they used. I don’t want to say exploded but it came apart on takeoff down at LAX. I am sure you can see it in the logs. There was a complaint filed about that to the office about TPJ. Complaints about TPJ telling pilots you need to go get that aircraft, you need to fly it. It was an incident that unfortunately happened during the takeoff.

Other than the one incident there were no other areas of concern that came to the PAI’s mind.

The PAI was asked on average how TPJ compared to other certificates he manages with regards to complaints. He said as far as any of his 135 certificates he only recalls this one complaint. He has had complaints on some of the 145 certificates he has and other areas but to the best of his recollection this was the only complaint on a 135. He added that he does not know how that compares to other inspectors, just his findings.

The PAI was asked how the certificate transfer to Honolulu went he said it went smoothly for him. Did the Honolulu have any concerns or need help in any area? He said it usually the operations inspector handles the transfer so I don’t recall if they had any issues. There might have been something about having the man power to taking on another certificate, not a concern with the operator itself.

Asked if he went through the transition with Mr. Frost he responded yes and that Mr. Frost was the point of contact and not the DOM. He further said the one number we had was Ryan Frost’s cell phone. When we would call the number we would get Ryan Frost. I had the number for the DOM. We would call the DOM if we were going to do surveillance, otherwise we called Ryan Frost.

Asked if Mr. Frost had a position or title other than being the owner the PAI said he believed he was the director of operations. I know he didn't do maintenance. Just seemed like I would talk to Mr. Frost more often than the DOM.

Asked if SAS is a better system than what the PTRS was, he responded he thought PTRS, although not data driven it was based on the quantity and type of inspections you had to do each year where SAS is now data driven. He added that he liked the PTRS, that was what he was used to. He liked having the control over the PTRS and while I guess we have some control with SAS it is not the same.

Asked if SAS is data driven what specifically is put into SAS with regard to TPJ operation or maintenance program? With that respect it is almost the same, if we have findings from a records check we would input the findings and the follow up actions required.

When asked if he could recall a particular case where he had do follow up he said he could not recall and that he would have to look it up. He added he would not want to speak to something unless he was perfectly clear on the item. He would need to look one up.

Did SAS or the FAA who is doing surveillance consider TPJ to be a high risk operation? The PAI said SAS gives it a number rating system that translates to a risk level and does not know what that level was prior to the certificate going to Honolulu.

When asked for our understanding at the NTSB what the FAA in SAS would consider to be a low, medium or high risk operation the PAI said he does not know and would have to follow up with us.

With SAS how often do you get assigned to do a records check at an operator or certificate holder? The PAI responded about once a year, per operator. Remember it is a nine or less which is a lower priority then a ten or more operator which has a higher priority. I know that because I had a ten or more operator and more surveillance is needed as there are more rules for a ten or more to comply with.

Asked for clarification if he had a 135 ten or more operator would there be more surveillance and even more with a 121 operator over the 135 nine or less and he responded, yes. While I do not deal with a 121 operator I am assuming they would get more surveillance.

As you answer the questions for SAS in order to input the data are the questions pretty easy to answer for you? At first it was a struggle as the base questions are vague but as you delve down into the related questions now you understand what is being asked and that makes it easier.

When asked if there is anything else the PAI would like to tell us about Trans-Pacific Jets that we did not cover he responded, no, I believe you asked all the questions in the right areas. To me they were a middle of the road nine or less operation. Other than the one incident they were pretty much middle of the road.

**Interview concluded at 12:50 EDT**