



NATIONAL TRANSPORTATION SAFETY BOARD

**Office of Aviation Safety
Western Pacific Region**

PCSD AIRWORTHINESS INFORMATION

**NTSB Accident: WPR11GA115
Accident Date: January 31, 2011**

Interview Date: February 2, 2011

A. ACCIDENT

Location: Marana, AZ

Date: January 31, 2011

Aircraft: McDonnell Douglas 369FF, N530RL, Serial # 0602FF

NTSB IIC: Michael Huhn

B. INTERVIEW PARTICIPANTS

Michael Huhn (NTSB)

Ken Fenning (FAA)

John Hobby (MDHI)

Ted Hartenstein (PCSD)

Sgt Rick Pearson, Bill Kinkade, Sean Semonski, Al Hudgin, Chad Davis, Robert Kimmins
(PCSD Tactical Air Support Unit)

C. DEPARTMENT ORGANIZATION

- Tactical Air Support Unit (TASU)
- Pearson: Air Unit Supervisor, 11 years at PCSD /position, fixed and rotary wing pilot (mission qualified only in fixed wing)
- TASU under Tactical Support Unit, headed by Kimmins
- 3 mx technicians (report to Pearson)
 - Bill Kinkade, Lead Mx Tech, A&P, IA, 3 yrs at PCSD
 - Sean Semonski, A&P, 2 1/2 yrs at PCSD
 - Al Hudgin, A&P, 2 1/2 yrs at PCSD, primary Helicopter tech, Attended MD Mx Course, previous helicopter experience on AStars (~2 years)
 - All 3 had Rolls Royce training
- Pilots
 - 6 total including Pearson and Leonberger
 - 2 rotary mission qual'd: Davis, Leonberger
 - 4 fixed wing mission qual'd
 - Chad Davis was primary N530RL pilot
- Tactical Flight Deputies (TFDs)
 - 2 total
 - Non-pilot positions (eqpt operators)
- Chief Safety Officer - Davis
- TASU had SOPs
 - Last edition ~2009
 - Copy to be provided to investigation
- Mission/function:
 - TASU: provide tactical air support to PCSD

- Mx Dept: provide mx support
- Annuals, 100 hrs, squawks
- Heavy & specialized mx contracted out (eg track & balance)

D. FLEET

- 4 Fixed wing aircraft
 - C-210
 - C-310
 - HT -295 (Courier)
 - HT -808 (Courier)
 - 2 Couriers are public service; no longer have FAA A/W certs
- 1 Rotary wing aircraft
 - N530RL (accident helicopter)
 - Acquired ~ April 2008 under Urban Area Security Initiative (UASI), a Federal Homeland Security program
 - Had valid FAA A/W cert
 - Equipped w RR 250-C30 engine
 - Mx dept had completed 2 100 hr inspections on helicopter
 - Helicopter converted from model 369E (SN 0128E) to a model 369FF (SN 0602FF) on 9/21/1998 by McDonnell Douglas Helicopter Systems
 - Had 1 prior accident
 - July 15 2004 NTSB #LAX04CA268- tree contact during firefighting operation
 - Original helicopter pilot was ex-military; let go before full functionality at PCSD
 - Leonberger came on subsequent to/as replacement for that pilot
 - TT in PCSD ~300 hrs

E. MX PROCESSES (SCHEDULED AND UNSCHEDULED)

- General
 - Hangar could house all aircraft simultaneously
 - Offices (pilots & Mx techs) directly adjoined hangar
 - Computers, ref materials etc in offices
- Mx Tech schedules
 - M-F 0600 - 1730
 - S 0600 - 1430
 - Mx supervisor/lead Tech: M-F 0900 - 1730
 - Always at least 1 mx tech 'on call'
- Pilots enter preflight certification and flt time/hrs into computer log
- Scheduled Mx
 - MS Excel spreadsheet program on computer which track AF & Eng component life, TT, cycles, calendar times, etc
 - 1 program/file per aircraft
 - Color-cueing used to indicate status/actions required

- All mechs can access program
- Status updated every week (on Tuesdays)
- **Unscheduled Mx**
 - Squawk lists (1/aircraft) resident on central server accessible at multiple computers in offices
 - Whoever notes squawk is responsible to enter it into electronic list
 - Dedicated mechanic assigned on rotating basis to xfer electronic squawks to paper copies
 - Active paper copy stored in dedicated book (1/aircraft), but book resident in office, not on aircraft
 - Paper squawk sheets not serialized
 - Paper squawk sheets retained in AC files indefinitely (not disposed of)
 - Dispositioning mx technician enters closing action for squawk (on computer)
 - Squawk file had column to indicate whether squawk was a grounding item
 - Sometimes discussions b/t Pearson & Kinkade if uncertainty re whether a particular squawk was an airworthiness issue
 - Any TASU pilot or mx technician could ground an aircraft
 - Normal procedure was for mx technician to 'unground' aircraft
 - No prohibition against Pearson or Kinkade ungrounding A/C without mx corrective action
- **Aircraft 'grounded' status indication**
 - Notation on computer squawk sheet
 - 'note' on aircraft by grounding agent, usually left on pilot's seat
 - Occasionally red tape or other more visible indication affixed to aircraft
 - Notification phone calls, emails, texts to pilots
- **No AC had MELs**
- **Pilots responsible for pre- & post-flight inspections**
- **Mx documentation for helicopter**
 - Airframe- electronic/online
 - Engine - hardcopy, 3rd party vendor (Aviall)
 - ADs - 3rd party vendor (Zook, 'AD toolbox')
- **AC hardcopy mx records retained at TASU facility**
- **Hardcopy copies provided to investigation 2/2/11**
- **PCSD will follow with electronic copies**

F. WT & BALANCE

- **Most recent shop W &B was calculated (not measured)**
- **Helicopter had 2 basic configurations**
 - **With equipt package (FLIR, Night sun etc)**
 - Package installed in rear seat location & outside (R side)
 - Precluded rear seat pax
 - **Without equipt package**
- **Copies (of both config W&Bs) kept in POH onboard helicopter**

- Equipped w 2 fuel tanks
 - Main- 62.1 g usable/ 1.9g unusable. 64 g total)
 - Aux - 21 g usable (Fargo STC; all usable/no unusable)
 - Aux gravity-fed into main via cockpit valve
 - Push handle down to activate
 - If main does not have 21g capacity, excess will flow overboard via venti
- Pilots responsible for each flt W&B determination
 - No requirement for formal copy
- Mx dept estimates for ax flight
 - Pilot - 180
 - Ft Pax 200
 - Rear pax 400
 - Backpack - 30
 - Fuel - unknown

G. AIR FILTER

- Intec Inlet Barrier Filter System (STC SR0087SE)
- Typically cleaned about every 25 hours (due to cockpit "filter clogged" annunciation)
- Last cleaned about 15 hrs previous, at last 100 hour (unverified in mx records)
- Life limit 1000 hrs,
- PCSD did not have set procedures, intervals or documentation of full power checks

H. FLIGHT/FUEL HISTORY

- PCSD Handwritten Fuel records
 - Friday 1/28 31g at 1530MST (accident pilot)
- Comments/remarks
 - At 1558 MST 1/28 , ax pilot called Chad Davis; Pilot told Chad that if he flew/fueled helicopter, to leave aux tank empty b/c pilot had a flight on Monday and didn't know W&B requirements/values
 - Saturday 1/29, Chad was preparing to fly helicopter and observed aux tank empty. He did not recall fuel level in main tank; he did not fly that night due to inop light
 - Fuel is obtained at FBOs - currently using Tucson Jet Center 520 746 1411
 - Tim Finney (of TJC) obtained fuel sample after accident and sent to TBD in phoenix for evaluation (no one asked him to)