

FEB 3 2014

AS A STAFF PILOT I WAS UNDERGOING ANNUAL PROFICIENCY TRAINING IN ONE OF OUR MD500B HELICOPTERS. I WAS PIC (LEFT SEAT) WITH MR. JAM WILKINSON OF MD HELICOPTERS IN THE RIGHT SEAT, WHO WAS CONDUCTING THE TRAINING FLIGHT. WE WERE CLOSE TO COMPLETING THE SYLLABUS (INCLUDES SUCH ITEMS AS SIMULATED STUCK PEDALS, RUN-ON LANDINGS, HOVERING AUTOROTATIONS) WHICH INVOLVES A NUMBER OF TOUCH DOWN AUTOROTATIONS. THESE AUTOS WERE TO A GRASSY AIRPORT DESIGNATED HELICOPTER PRACTICE AREA WITH THE AIRCRAFT IN TO WIND.

INITIALLY STRAIGHT IN TOUCH DOWN AUTOROTATIONS ARE PRACTICED, WITH THE FIRST BEING A POWER RECOVERY. THEREAFTER FOUR STRAIGHT IN TOUCH DOWN AUTOS WERE SATISFACTORILY PERFORMED. THESE WERE FOLLOWED BY 180 TOUCHDOWNS. TUDD HAD SUCCESSFULLY BEEN MADE.

ON THE THIRD 180, THE TAIL OF THE AIRCRAFT CONTACTED THE GROUND, DAMAGING AND STOPPING THE TAIL ROTORS. ENTRY INTO THE MANUEVER WAS NORMAL AND THE TURN NEGOTIATED TO ACHIEVE A ROLL OUT PRIOR TO TOUCHDOWN, WINDS LEVEL, ESPECIALLY INTO WINDS (AT MOST 10 TO 15 DEGREES LEFT OF NOSE AND LANDING DIRECTIONS) 60 KNOTS IS THE TARGET SPEED DURING THESE EVOLUTIONS WITH ROTOR RPM IN THE MID-GREEN ARC, AS WAS THE CASE HERE. FLARE WAS INITIATED AT APPROXIMATELY 50' AGL TO ARREST FORWARD MOTION, AS ON PRIOR EVOLUTIONS. AT SOME POINT DURING THE FLARE, A BUMP WAS FELT. THE PROCEEDURE CONTINUED AS PER PROFILE; FORWARD MOTION HAVING BEEN ARRESTED, THE AIRCRAFT WAS LEVELLED AND PITCH ROLL INITIATED TERMINATING IN A 'NORMAL' TOUCHDOWN WITH LITTLE GROUND ROLL, WITH THE EXCEPTON OF THE AIRCRAFT COMING TO REST TURNED TO THE RIGHT BY PERHAPS 60 DEGREES.

EXAMINATION OF THE AIRCRAFT REVEALED TAIL ROTOR STOPPAGE. NORMAL SHUT-DOWN WAS PERFORMED AND A CALL MADE TO RECOVER THE AIRCRAFT TO OUR HANDS.

CLOSE EXAMINATION OF THE AIRFRAME POST INCIDENT REVEALED THAT THE TAIL ROTORS HAD CONTACTED THE GROUND. THE TAIL SKID/STINGER WAS UNDAMAGED BUT SHOWED PRESENCE OF SOIL/DIRT. THERE WAS A WITNESS MARK IN THE GRASS BACK FROM THE POINT OF LANDING ALONG THE FLIGHT PATH.

ON DISCUSSION / DEBRIEF OF THE EVENT, NEITHER I NOR THE TRAINING INSTRUCTOR FELT THAT ANYTHING WAS AWRY IN CONDUCTING THIS EVOLUTION. ENTRY INTO THE 180 WAS STANDARD, INCLUDING AND UP TO THE POINT OF FLARE INITIATION, ALTHOUGH THIS WAS CLEARLY NOT THE CASE AS A TAIL STRIKE HAD OCCURRED. THE AIRCRAFT DID NOT FEEL TO 'SINK' THROUGH THE FLARE. AFTER THE 'BUMP' / TAILSTRIKE, A LANDING WAS MADE WITH LITTLE GROUND ROLL, ALTHOUGH THE AIRCRAFT CAME TO REST COCKED TO THE RIGHT.

WEATHER CONDITIONS, AND AIRPORT ENVIRONMENT CONDITIONS FOR THE FLIGHT WERE GOOD. THE TOTAL FLIGHT TIME WAS 1.2 HOURS.

THE INCIDENT HAS BEEN EXTENSIVELY ANALYZED AND DISCUSSED BETWEEN MYSELF AND MR. WIGGINTON, IN ORDER TO LEARN FROM THE EVENT AND PRECLUDE FUTURE OCCURRENCES. THIS ANALYSIS AND DISCUSSION HAS BEEN SHARED WITH THE OTHER PILOTS OF COLLIER MOSQUITO CONTROL DISTRICT.

AIRCRAFT REGISTRATION N8618F
MD 500D

2/3/2014

TIME OF INCIDENT APPROXIMATELY 1350 HRS LOCAL (EASTERN STANDARD TIME)



CHRIS G. LAIDMAN BELL
CHIEF PILOT
COLLIER MOSQUITO CONTROL DISTRICT.

02-03-2014

Collier Mosquito Control

500D Training

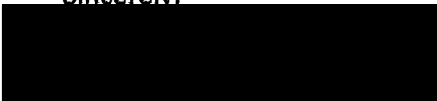
At approximately 1345 N8618F had a tail rotor strike during a practice full down autorotation. Chris Laidlaw Bell and I had done eight successful auto rotations previously. The aircraft was responding the same as before during the flare, when it suddenly lost altitude and contacted the ground. I quickly grabbed the controls and landed the aircraft which had yawed 90 degrees two the right. Chris asked what had happened and I said the tail rotor had contacted the ground. He then opened the pilot door and confirmed that the tail rotor was not spinning. We shut down the aircraft and inspected for further damage.

Chris contacted the tower and asked them to notify Collier maintenance staff of our location. The Naples airport personnel responded and Chris signed a witness report. They arranged for the aircraft to be picked up and taken to the Collier mosquito hanger. The airport personnel then gave Chris and me a ride to the hanger.

Chris contacted the Miami FSDO and reported the incident to an inspector and he asked him to send an email with the synopsis.

Prior to conducting full downs, we had performed the following maneuvers, two running landings, two stuck left pedal, three stuck right pedals and seven hover auto rotations.

Sincerely,




Jay Wigginton



RECORD OF CONVERSATION

Todd Gunther
Air Safety Investigator
Eastern Region

Date: February 13, 2014
Person Contacted: Jay Wigginton (Chief Pilot MD Helicopters)
NTSB Accident Number: ERA14TA113

According to Mr. Wigginton, Collier Mosquito Control had contracted to MD Helicopters for training.

On the day of the accident, Mr. Bell had done 5 “very nice” autorotations, and Mr. Wigginton stated that if they are doing good, as Mr. Bell was, he would “give them an inch, and would not be as restrictive” otherwise he would be on the controls.

The accident occurred on their 9th full touchdown autorotation. Mr. Bell rolled out at 150 feet, He flared around 50 feet and the rpm began to build, and Mr. Wigginton thought to himself that “this is going to be the best one of the day.” The helicopter though, suddenly lost altitude. Mr. Wigginton “grabbed the controls,” and “double pumped” the collective. He then felt a “bump” and then a “buzz.”

Afterwards, he could see where the stinger had touched the grass. He advised that at the factory they would always do autorotations to a hard surface and not onto grass. He believed that on a hard surface, they would have felt the stinger contact the pavement, instead of it digging into the dirt.

He also advised that when they are doing training that they require that the students must be able to perform at a level that met the FAA’s Practical Test Standards (PTS) otherwise they would advise them to get more training. He advised though, that this was not what happened in this case.

He also advised that in addition to doing recurrent training, they also would do transition training, and they had a syllabus for both types of training they performed, as well as PowerPoint presentations and reference materials and for use in the classroom.

Including him, at the time of the accident they had four flight instructors. All were production flight test pilots and were also rated to do PTS Annual Checkouts on all of the MD Helicopter models.



RECORD OF CONVERSATION

Todd Gunther
Air Safety Investigator
Eastern Region

Date: March 3, 2014
Person Contacted: Chris Laidlaw-Bell (Chief Pilot, Collier Mosquito Control District)
NTSB Accident Number: ERA14TA113

According to Mr. Laidlaw-Bell, he woke up at 0600 on the day of the accident and started ground school at 0730 and Mr. Wigginton talked about what they would be doing in the training. The ground school also covered a systems review and also covered normal and emergency procedures.

After the ground school they went flying. Mr. Wigginton explained what his expectations were and that the standards would be similar to the FAA's PTS standards. Mr. Wigginton also prebriefed that during the flight if he did not like the way things were going that he would take control. They did not do any performance calculations prior to the flight and Mr. Wigginton did not advise of any wind limitations. The flight began with a demonstration by Mr. Wigginton. During the autorotations, the wind was quartering off the forward left side of the helicopter.

Mr. Laidlaw-Bell stated that they had done 8 successful autorotations under the wind conditions but then on the 9th autorotation when he was about 50 feet above the ground, he initiated the flare to arrest the forward motion as he had done on the previous autorotations but, during the flare he felt a "bump," which he later realized was the stinger coming into contact with the ground.

The helicopter was equipped with skid shoes but, during the accident flight they were performing the autorotations to the turf runway as it is very busy at Naples so the airport did not like them to use the paved taxiway for autorotations. The Marco Island airport did have a hard surface taxiway that they could have utilized.

Mr. Laidlaw-Bell also stated that when they did practice autorotations and landings it was not unusual for them to do them to soft surfaces as most of the area they operated over was unimproved but since this happened he thought that they might want to mitigate practice autorotations to touchdown on soft surfaces.

He did believe that training was necessary as two weeks prior to the accident one of their pilots did have an engine failure light come on, and he entered a full autorotation to touchdown.

Mr. Laidlaw-Bell also advised that doing 180-degree autorotations do not really bother him but he was more comfortable with power on recoveries as full autorotations to touchdown are “nail biting.”