

First, in my opinion, the Waco YMF-5C aircraft has the best tail wheel landing gear I've ever experienced. It is so stable, smooth & well tuned that it is difficult to determine when the aircraft actually makes ground contact while performing either wheel or 3 point landings.

Saturday 5/7/2016, Intend to stay in pattern @ J22-Ranch (16FL) airport for practice take offs & landings. Obtained weather from USN Whiting Field ASOS [REDACTED] @ 16:45 & 17:15 cent. time. The 1st was 3kts from 360, the 2nd was light & variable.

Taxied to Rwy 18/36 while setting elevator trim to T/O position, then did medium speed (tail down) taxi North & South in center of runway to set my peripheral vision, did a normal run-up with all systems checking good, rechecked the wind sock at the SW location (it was limp), then took center of rwy 36, turned on boost pump, locked the tail wheel & ensured it was locked by wagging the rudder. Smoothly applied power while maintaining center line with the tail down, as I approached 40mph with full throttle I eased forward on the stick to raise the tail at the same time applying the required amount of right rudder. As the tail came up the aircraft started a strong swerve to the left (West) which increased in intensity? I applied full right rudder and it continued the left swerve while still accelerating, I then also applied a significant amount of right aileron at which time the aircraft started surging (for want of a more descriptive term) in both directional & elevator control effect. Almost as if the aircraft were skipping along while grabbing to the left & slightly lowering the nose & then accelerating a little bit to the right while raising the nose. I was headed towards my Neighbors hanger on the west side mid field & felt it skip/accelerate again and start to become airborne at far too low of a speed. I made the decision to pull the throttle back at which time the aircraft dropped the left wing which dug into the turf and slammed the aircraft around to the left into what I would call a ground loop.

The aircraft slammed hard while pivoting to the left and came to a stop pointing back down the runway at approximately a 200 to 220 degree heading with its left side bottom wing on the ground. The ELT had fired, the engine was still running (with a shattered prop) and fuel was pouring from the upper left wing. I secured the engine, turned off the boost pump, ELT and electrical system prior to releasing my harness and exiting over the left cockpit side.

The very first thing I did after exiting was to go back & check the position of the elevator trim jackscrew (because of the pitch oscillations I had experienced), the jackscrew was in the normal take off position.

Both of the left wings were damaged, the left landing gear was torn loose and under the fuselage, the lower cowling was crushed, & prop shattered. In the back of my mind I noticed the intermittent gouge in the turf from the left wheel in a left arc but didn't pursue it as I was busy calling friends & neighbors for help. My friends arrived to help secure the aircraft & get it back to the hanger, about 1/3 mile away. My neighbor/friend carried the cowling (removed to hoist) and the left gear assembly along with other loose parts back to my hanger with his Kubota & trailer.

I called & reported to NTSB the following day, Sunday 5/8/16.

I took iPhone pictures of the damage and accident site while there was still some available light, the following Monday 5/9/16 I returned to the accident site and took more pictures of the left arcing gouges the left main wheel made in the turf. I have since provided these photos to NTSB, Birmingham FSDO FAA Aviation Safety Inspector Nina McBride, & ILM Insurance Adjuster Harry Brooks.

FAA Av. Safety Insp. Nina McBride called me Tuesday 5/10/16 as I was en route back to the airport. She arranged to meet me Thursday 5/12/16 @ 9am. She had many questions, one of which was "what kind (mfg) of brakes did it have?, I didn't know the name brand. However, her question triggered my memory of the hard swerve to the left. When I got to the hanger one of my helpers had already opened up. I immediately went to the left main landing gear my neighbor had off loaded next to the engine cowling on the floor. The wheel pant was torn up pretty good but the tire was still inflated. I reached down and tried to rotate the tire, it was locked solid. I could see no apparent damage to the wheel/brake assembly itself, I took pictures as my neighbor arrived. He also tried to move the wheel with no luck. I cautioned him to not try to force it as I wanted it to stay the way it is, it answered a lot of questions in my mind!

Mr. Brooks arrived the next day for the Insurance investigation, I advised him that the FAA Rep had requested that nothing be removed or altered. I showed him the locked up wheel assy.

On Thursday 5/12/16, Av. Safety Insp. Nina McBride arrived at the hanger. I showed her the wheel assembly and she called her contacts IRT how to proceed with it. In the interim she did a very thorough investigation regarding everything associated with the aircraft, myself & the accident chain of events. As she was preparing to leave she returned to the gear and asked if we could take off the inner portion of the wheel pant so as to better see the details of the gear and take better pictures. I got a screwdriver and we took the inner portion of the pant off to see if we could determine what was locked up. You could see the pads appeared to be tight against the rotor but there was nothing obviously/visually wrong. She elected to have a maintenance type look at it. Ms. McBride left advising she would do further research and advise me as to what to expect next.

On Monday 5/16/16 I called Ms. McBride & she advised me a representative from the Birmingham FSDO would be contacting me this week in order to further investigate the wheel/brake assembly.

I feel the locked wheel/brake assembly is the key to the entire accident scenario. It explains everything that happened & why. I'm looking forward to a resolution.

Conclusions:

As a commercial helicopter pilot I spent a lot of money to train with the very best, Simon at Advanced Flight in California. Part of that training included stuck pedal recovery.

As a Part 135 ATP jet pilot I did simulator training to simulate unplanned thrust reverser deployment recovery techniques.

During my continued SFAR 108 training for the Mitsubishi MU2-B-60 certificate we demonstrated many different ways to recover from different types of uneven thrust situations.

I would practice wheel & stall landing in the Waco in cross winds to gain the experience. I would also do high speed taxi practice with the tail up rocking from one main wheel to the other in order to practice directional control.

None of these training scenarios could prepare someone for the intense directional & pitch changes experienced with a suddenly locked brake/wheel assembly during takeoff in a high powered 3,000 pound tail dragger at high speed with the tail already up.

With full thrust over right rudder deflection the aircraft was still arcing left. I feel that had I chopped the power at the wrong moment I would have lost the prop blast over the rudder and the aircraft would have arced hard left, possibly flipping over as it continued into my neighbor's hanger/apartment. I feel that by chopping the power when I did, as the aircraft skipped and started to get straight & airborne (at far too low an airspeed) altered its course and allowed me to impact the ground at such an angle as to avoid a collision with anything else.

My beautiful aircraft is badly damaged, I'm unhurt, and my neighbor's hanger, with his beautiful Mercedes & Maul inside were undamaged. I feel I made the correct decision considering the circumstances & short reaction time available to me.