

I am going to basically go through my interactions with this aircraft from start to finish. I am going to do my best to remember the events as closely as possible so that we can help whoever is looking into this. That said this is going to be pretty long.

Whenever I started second shift on Saturday Bellanca 6629V was on the ramp with nobody around it. When I inquired the first shift supervisor as to what they were doing he told me that the pilot was having battery issues and had removed the battery to charge it. We had a large aircraft coming in and needed to use the spot the accident aircraft was in and had to move it to the far side of our ramp. I was the tug operator and noted no discrepancies before, during, or after the move. I had no interaction with the pilot (Charlie) until around 1800C. He and his family showed up to the FBO. Charlie had a battery in his hand to carry out to the aircraft. Seeing the aircraft on the side of the ramp he asked me if it was possible for me to pull his aircraft closer which I did. By this time activity on the ramp had calmed down so I was able to pay more attention to him. He had a wrench with him and went into the back to replace the battery. I stood back and waited in case he needed any other tools to get the job done. After around 10 minutes he handed me the wrench back and said that he was going to crank the engine to see how strong the battery was and to check the alternator. The start was strong, and the prop turned through maybe once before it caught. He seemed to be having trouble with something as I saw him pumping something back and forth. I assumed it was either the throttle or mixture, as the engine would cut out and then flip back on. After he ran the engine for about 5 to 7 minutes he cut it off. He came to me and requested a small flathead screwdriver and a flashlight. I went into the line room, got the items, and as I came back out he was using the screwdriver end of his fuel tester to remove the top of the cowling. After he and the man I presume to be his son got the top cowling off he came to me to get the screwdriver and flashlight. He picked out the smallest one of the assortment I brought him and began to work on a screw in a box that was against the firewall of the engine on the left hand side of the aircraft. He later informed me that this was the Alternator Control Unit or ACU as he referred to it. He then got into the aircraft and started the engine for a second time with the cowling off. The engine started without any troubles and no sputtering like during the first start. He ran the engine for what seemed like 10 minutes. After he cut it off he came out of the aircraft and stated that the alternator was not charging the battery. He said that he had turned the screw to the limit and was still not getting a positive indication on the alternator needle. I suggested that maybe a brush in the alternator had gone bad. He said that there was more likely a short in a wire of some kind in the alternator and suggested that the whole unit would probably need to be replaced. He also indicated to me that the indication on the alternator was not a full deflection toward the negative side as one would expect if the alternator was completely inoperative. Instead he said he was getting about a needle width of discharge or so on his battery. At this time it was dark and he was weighing the options with his wife about going or staying the night. At this point he also asked me about what the minimum fuel purchase was to waive a ramp fee. I told him it was ten gallons or fifteen dollars but I wasn't sure of it so I had to go inside to check. At this point I was nowhere near the conversation so I am not sure what he discussed with his wife. However when I came back I heard some of the conversation heard him express his concern that if he took off without his alternator operating that all of the lights he was required to have on would drain the battery and he would not be able to land safely. He reasoned that if he left during the daytime he would have enough battery power to make it back, since the only thing he would need to have on would be a radio for two way communications, the transponder under the mode c veil, and his beacon. Whenever he noticed me I confirmed that it was ten gallons or fifteen dollars. He seemed like he wanted to just purchase the ten gallons of fuel, but then I told him what the retail price of our gas was and that was when he asked about the self-serve tank and how far away it was from the main ramp. Our self-serve tank is not on the main ramp, it is on a ramp that is down taxiway alpha about half a mile. When I told him this he expressed his concern about having to eat up the battery by starting the

engine and taxiing down to that ramp and then doing the same to come back. At this point they decided that they were going to stay the night for sure and wanted to know if we had special rates at some of the local hotels. I said I wasn't sure and would have to look them up. They began to put the top cowling back on top of the engine. As they did this I went inside to standby the Unicom to listen for an airplane we were expecting to come in and also look up some hotel rates. Charlie came in with his wife and asked about just spending the night in the pilot lounge instead of getting a hotel since they were planning to leave right at daybreak. He had asked myself and another line tech what time the sun rose as well. It seemed like he wanted to take off as soon as he could. I said that I had no problem with them staying in the pilot lounge being as we were not expecting anybody to be using it. With that decision made he asked me if I would be able to tow them to the self-serve tank so that he could save a turn on the battery. I said that I could do it. He said that there was no hurry, but I figured we could get it done while we had some free time. Charlie and I went out to the aircraft and I had him sit in the cockpit while I hooked up to the aircraft to tow it down. The tow was normal. I had no indications of any abnormalities. When we arrived at the self-serve ramp I said that I would ground him and run out the hose for him if he would take care of the card. He said okay. I grounded the aircraft and then ran the hose the full length of the aircraft and brought it back to him. When the card was verified I flipped the pump on. When I did this I looked up and saw that he had already opened up the inboard tank on the right hand wing. He asked if the pump was on I said yes and also noticed that he was trying to fuel and hold a flashlight on the tank. I took the flashlight from him and pointed it at the tank so that it freed him up to fuel. Whenever the tank was nearly at the top, about an inch from the opening he said "I better save some for the other tank." Up to then I assumed that he was just topping off both tanks but he said that he had just purchased twenty gallons. I looked up at the meter as he finished and noticed that he put thirteen gallons in the tank. I then followed him over to the left hand tank to hold the flashlight for him there. As he opened the fuel cap and I shined the flashlight inside he said "There is less than I thought in here." He then began to fuel this side and as the meter got to twenty gallons I noticed that his tank was about two inches down. He then indicated that his auxiliary tanks were nearly full and that they should be enough. I did not notice these tanks nor how much they held. I then helped to wrap up the hose and reel up the ground while he got the receipt. I then towed him back to the main ramp and put him in the same spot we left from. We got out and he thanked me for helping him before we both went inside. After that we had a conversation about the problem with the alternator. I asked him about putting down the landing gear without electricity and he told me there was a way to "blow down" the gear should he lose his battery. He stated again that he could probably make it back with his battery as long as he had only one radio and his transponder on. After we went inside he talked to another couple of our line technicians who were pursuing aviation maintenance careers. I had no further contact with Charlie at this point and the rest of the night was routine. The next morning I had a flight lesson back at Spirit at 0700C. After I had pre-flighted and my instructor and I had started the airplane we were just about to listen to the weather when I heard 6629V get a takeoff clearance. I noticed this because I thought it was odd since he indicated that he had wanted to leave so early in the morning.

This is what I can remember at this point. I am sorry it is so long, but I just don't want to miss anything. If anybody needs clarification on any of this my number is [REDACTED].

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