

Squawk this, Squawk that: That's all I ever hear from you...

By Richard Bertoli, CSIP

The modern English dictionary defines squawk (skwôk) as either a loud screech or noisy complaint. I suppose the erudite aviator could “squawk a squawk,” if such a situation presented itself. I’m sure many readers have been emailed the humorous squawk list that has circulated over the internet since the late 90’s. You know; the one that included such gems as:

Problem - DME volume unbelievably loud.
Solution - Volume set to more believable level.

And:

Problem - Something loose in cockpit.
Solution - Something tightened in cockpit.



The squawk, as defined within our inner-circle of aviation esoterica, is a maintenance-related aircraft problem requiring the attention of maintenance personnel for solution. Some squawks are simple, such as: “*Landing light in-op*” or “*Right side passenger sun visor broken.*”* The text is easy to interpret and the problem is usually easy to fix. Others may require a bit more trouble shooting: “*Throttle difficult to move*” or “*Fuel flow at max power only 25.5 GPH,*” but the text is, again, easy to interpret and gives the mechanic something to work with. Then there’s the write-ups that give only a vague account of what happened with little detail or description. For example: “*Eng. monitoring all messed up*” or “*Engine sensor unit not providing proper display*” or “*AP inop*” or “*Autopilot chasing signal.*” So much time could be saved with a little effort on the pilot’s part to accurately describe the issue with as much detail as practical. An extra sheet of paper may be used, if necessary, for the report, or the pilot may contact AirShares personnel directly via telephone or email. Of course, common sense and courtesy should dictate the necessity of a phone call as I, for one, would not want to be awoken at 2am to be told that a CHT probe is malfunctioning.

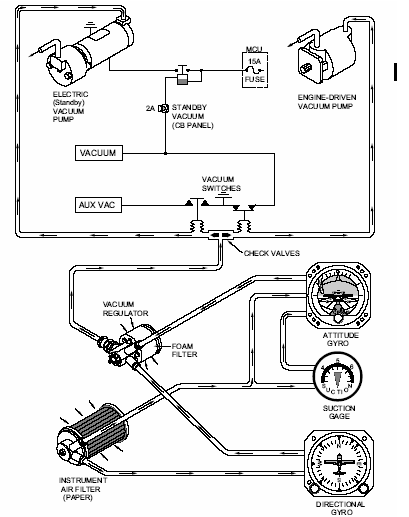
So what makes for a good squawk?

A good squawk report should contain answers, when applicable, to at least these three questions: **What? Where? and When?** The “what” is usually all that’s reported, and sometimes is sufficient: “*Pilot seat not secured properly to seat track,*” or “*Right side PTT switch failed.*” “Where” and “when” refers to the physical location of airplane, conditions of flight (if pertinent), and phase of flight, when the discrepancy is noticed, such as “*On climb-out, passing 1500 ft*” or “*Cruise, 1 hour after departure, 9000 ft*” or “*On ground, after run up, 98° with no wind*” or “*Outside FAF, above GS, in heavy rain.*”

The best write-ups often come from pilots who have a good understanding of the aircraft’s systems, which should mean that any CFI reported squawk should be irrefutable. That’s not always true, but the point is that *everyone* should have enough of a background in the aircraft systems to describe the “what” in a concise, but informative manner. The “where” and “when” are tremendously helpful bits of information for troubleshooting the “what”, but are typically missing from the squawk reports. It’s a good idea to make a quick note on a knee-board when a squawk-able item appears during flight, rather than waiting until the day’s end and when the memory may be lacking.

*(All complete squawk examples used here are real.)

For the SR20 drivers, an example of a good squawk write up is: *“Vacuum and AUX vac light activated final into CDW. All instruments still read correctly.”* Without having to do much investigation, it appears that the engine driven vacuum pump has failed and the auxiliary pump kicked in to maintain adequate suction. *“Hard to lean - EGT's keep changing after 3+ hours, after starting descent, fuel flow bounced quickly from 0 to 25!”* is another good one, where a phase of flight and time reference is reported, although the cause of the discrepancy is not so obvious.



If I had dime for every time...

There is definitely a short list of squawks that Cirrus seem to generate on a fairly regular basis. *“CHT #3 & 5 redlined on ground. In-flight, they returned to normal.”* CHT probes top the list by a long shot. Due to internal chafing of the wires (a design flaw, with a fix in the works), it seems impossible to keep the fleet free of CHT probe issues. While a large red bar on the display gets your attention (as it was designed to), always verify the alarm by checking EGT and oil temperatures. If two of the three parameters appear normal, then you can be highly confident that it’s a probe issue. There is certainly a “cry wolf” problem here, but engine health can still be read by monitoring all the engine parameters.

Push to talk (PTT) switch failures tend to crop up fairly regularly. These switches are not as robust as we would like them to be, but they are a cheap and quick repair. Should you experience this in-flight, remove your mic plug and put it in one of the rear intercom mic jacks to maintain communication with your passengers, and then replace your mic jack with the hand-held mic. As you know, you can verify transmission by looking for the little “TX” next to the COM frequency on the Garmin’s when the PTT is depressed. There is also a communication failure check list under the “System Malfunctions” section of the Emergency Checklist page in the Avidyne MFD. If you’re not familiar with the system malfunction lists, check them out next time you fly – one of the more useful features of the MFD.



Transponder issues with accompanying ATC complaints are common, but often have more to do with ATC equipment than our own. Sometimes the transponder antenna can be shielded by the exhaust pipes so a heading change often solves the problem. Resetting the code is a throwback to the old style boxes with the click knobs and a useless fix, but don’t argue with ATC. Also, excess oil blown out from the engine can coat the antenna, reducing its sensitivity. Give the antenna a wipe during pre-flight to be sure. This also applies to the COM 2 antenna as well.

The autopilot is often cited as suspect, but many of the problems can be avoided with a thorough pre-take off test. When performing the ground test, use a three step approach: 1) When a button is depressed, check the autopilot display for the correct indication with no “Fail” text. 2) Verify that the appropriate bugs fill in on the PFD. 3) Check the stick for correct movement. If something doesn’t check-out, try resetting the autopilot and the PFD with either circuit breaker pulls or electrical system power down. The power reset is also a quick fix for most MFD issues. In all phases of flight, the auto-pilot should be carefully monitored, but especially on descent.

The bottom line

Maintenance costs money and takes time. Accurate, detailed and helpful squawks often reduce the hourly labor required for troubleshooting. By minimizing down time, the availability of fleet aircraft is maximized. Like weather, the safety of your fellow pilots is often dependent on the pilot reports returned from the front lines.