



Customer Information Letter

October 24th, 2024

Subject: Possibility of unintentional starter motor activation.

CJ Aviation, LLC. has learned that some Cessna aircraft, equipped with an electric fuel boost pump, may unintentionally activate the engine starter under certain conditions. Although seldom encountered, this letter is to advise users of these aircraft, of the hazard, and the conditions under which it occurs. Aircraft not manufactured by Cessna are not affected.

Some Cessna aircraft models may be capable of unintentionally activating the engine starter when the "LOW" fuel pump pressure switch is on and the fuel pump, "High" position, is turned from "ON" to "OFF". This activation of the starter may cause the propeller to spin briefly. It is also possible the engine could unintentionally start. Personnel near the aircraft propeller may be injured if unintentional starter activation occurs.

Discussion

Unintentional activation of the starter may be caused by a reverse current flow created from fuel pump motor inertia and a collapsing magnetic field, that occurs when the fuel pump motor is turned OFF.

Susceptible aircraft have a split fuel pump switch with a HIGH and a LOW side. If both HIGH and LOW are on, and only the HIGH is turned OFF, the reverse current can flow to the starter solenoid and may result in activation of the starter. Note that with the LOW side OFF, the current cannot flow to the starter solenoid.

Aircraft that are susceptible to this unintentional starter activation are identified as aircraft that share the Key-switch to simultaneously energize the engine starter and the fuel pump. Note that aircraft with this starting mode, require the LOW side of the fuel pump switch to be "ON", for key activation of the pump to occur.

There have been 2 reports to CJ Aviation, of starter activation as described above. Both occurred with the aircraft on the ground having maintenance performed. The two events reported occurred with CJ Aviation fuel pumps in the aircraft, but it is also possible to have reverse current with other brands of fuel pumps. *Note that if there is an electrical ground failure of the magnetos, the aircraft engine could start as a result of unintentional starter activation.*



Affected Models

Review of available wiring diagrams indicate the aircraft listed below were originally wired with circuits that permit the unintentional starter activation as described above. The following list of affected aircraft may not be complete. It is recommended that aircraft owners and operators have their mechanics check for the described condition.

Cessna Models:

185B s/n 185-0559, 185C, D, E, thru A185E to s/n: 18502090
205 thru s/n 0577
206 thru s/n 206-0275
U206, U206A, B, C, D, E (12 volt: to s/n U20601603), (24 volt to s/n U20602199)
TU206A, B, C, D, E
P206 thru s/n P20600644
TP206 thru s/n P20600644
207 thru s/n: 20700192
T207 thru s/n: 20700192
210 s/n 21057841 thru s/n 21059502
T210 thru s/n 21059502
T210 thru s/n T210-0454

Mitigation

Some later model Cessna aircraft, not listed above, were manufactured with a diode installed in the circuit which prevents reverse current from the fuel pump, reaching the starter solenoid. Other later model aircraft have entirely different circuits that do not provide an electrical path for reverse current to activate the engine starter.

Cessna Service Letter SE70-25 was issued October 9th, 1970, to improve the auxiliary fuel pump output flow and prevent vapor lock. This letter calls for installation of Service Kit SK206-11 or SK206-12, dependent on the aircraft model. These kits also installed a diode between the key-start switch and the fuel pump switch. Although not stated for this purpose, the diode should block any reverse current and prevent unintentional starter motor activation. It is strongly recommended to install the applicable Cessna Service Kit, if not already installed. (*Note: The Service Kits have been revised to; SK206-11A and SK206-12A.*)