

Fairchild (Swearingen) SA226 and SA227 Series Aeroplanes

AD/SWSA226/81 **Generator System Rework** **10/97**

Applicability: SA226-T Serial Nos: T201 through T275 and T277 through T291 inclusive.

SA226-T(B) Serial Nos: T(B)276 and T(B)292 through T(B)417 inclusive.

SA226-AT Serial Nos: AT001 through AT074 inclusive.

SA226-TC Serial Nos: TC201 through TC419 inclusive.

SA227-TT Serial Nos: TT421 through TT541 inclusive.

SA227-AT Serial Nos: AT423 through AT631 inclusive.

SA227-AC Serial Nos: AC406, AC415, AC416, AC420 through AC705 inclusive and AC707 through AC733 inclusive.

Requirement: To prevent failure of both generators during critical phases of flight (such as night operation or while in icing conditions), which could result in loss of control of the aircraft, accomplish the following:

- (a) For the model and serial number aircraft presented below, replace the existing generator fault transformer wiring with new dual conductor shielded wire in accordance with Fairchild Service Bulletin (SB) 226-24-027, Issued: 19 May, 1988, Revised: 22 February, 1989, or Fairchild SB 227-24-008, Issued: 18 March 1988, Revised: 22 February 1989, as applicable.

- (1) Model SA226-T aircraft, serial numbers T201 through T275 inclusive and T277 through T291 inclusive;

Model SA226-T(B) aircraft, serial numbers T(B)276 and T(B)292 through T(B)417 inclusive;

Model SA226-AT aircraft, serial numbers AT001 through AT074 inclusive; and

Model SA226-TC aircraft, serial numbers TC201 through TC419 inclusive.

- (2) Model SA227-TT aircraft, serial numbers TT421 through TT541 inclusive;

Model SA227-AT aircraft, serial numbers AT423 through AT631 inclusive; and

Model SA227-AC aircraft, serial numbers AC406, AC415, AC416, and AC420 through AC683 inclusive.

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- (b) For the model and serial number aircraft presented below, rewire the electrical power generation system to reduce the possibility of 325-amp current limiter failure in accordance with Fairchild SB 226-24-023, Issued: 25 October, 1985, Revised: 23 January, 1989, or Fairchild SB 227-24-005, Issued: 25 October, 1985, Revised: 23 January, 1989, as applicable.

- (1) Model SA226-T aircraft, serial numbers T249 through T275 inclusive and T277 through T291 inclusive;

Model SA226-T(B) aircraft, serial numbers T(B)276 and T(B)292 through T(B)417 inclusive;

Model SA226-AT aircraft, serial numbers ATO25 through ATO74 inclusive; and

Model SA226-TC aircraft, serial numbers TC209 through TC419 inclusive.

- (2) Model SA227-TT aircraft, serial numbers TT421 through TT541 inclusive;

Model SA227-AT aircraft, serial numbers AT423 through AT591 inclusive; and

Model SA227-AC aircraft, serial numbers AC420 through AC594 inclusive.

- (c) For the model and serial number aircraft presented below modify the voltage regulator access panel and install a connector in the wire bundle in accordance with Fairchild SB 226-24-026, Issued: May 27, 1987:

Model SA226-T aircraft, serial numbers T249 through T275 inclusive and T277 through T291 inclusive;

Model SA226-T(B) aircraft, serial numbers T(B)276 and T(B)292 through T(B)417 inclusive;

Model SA226-AT aircraft, serial numbers ATO25 through ATO74 inclusive; and

Model SA226-TC aircraft, serial numbers TC209 through TC419 inclusive,

- (d) For the model and serial number aircraft presented below install new voltage regulators, reroute certain wires, and replace the entire voltage regulator panel assembly in accordance with Fairchild SB 24-018, Issued: October 22, 1980, Revised: January 7, 1981:

Model SA226-T aircraft, serial numbers T201 through T275 inclusive and T277 through T291 inclusive;

Model SA226-T(B) aircraft, serial numbers T(B)276 and T(B)292 through T(B)347 inclusive;

Model SA226-AT aircraft, serial numbers ATO01 through ATO74 inclusive;
and

Model SA226-TC aircraft, serial numbers TC201 through TC348.

- (e) For the model and serial number aircraft presented below, modify the direct current (DC) generator control system so that it will operate off its respective generator output in accordance with Fairchild SB 22624-031, dated July 27, 1989, or Fairchild SB 227-24-012, Issued: May 4, 1989; Revised: July 27, 1989, as applicable. This includes removing field current and reset resistors, removing the reset and generator relays and associated diodes, installing a 10-amp generator control circuit breaker to the left-hand and right-hand essential bus panels, and replacing the 10-amp generator control circuit breakers in the left-hand and right-hand wheelwells with 15-amp circuit breakers that are wired in series with the generator control circuit breakers.

- (1) Model SA226-T aircraft, serial numbers T249 through T275 inclusive and T277 through T291 inclusive;

Model SA226-T(B) aircraft, serial numbers T(B)276 and T(B)292 through T(B)417 inclusive;

Model SA226-AT aircraft, serial numbers ATO25 through ATO74 inclusive; and

Model SA226-TC aircraft, serial numbers TC209 through TC419 inclusive.

- (2) Model SA227-TT aircraft, serial numbers TT421 through TT541 inclusive;

Model SA227-AT aircraft, serial numbers AT423 through AT695 inclusive; and

Model SA227-AC aircraft, serial numbers AC406, AC415, AC416, AC420 through AC556 inclusive, AC558 through AC705 inclusive, and AC707 through AC733 inclusive.

Note: FAA AD 97-11-13 Amdt 39-10042 refers.

Compliance: Unless already accomplished to be incorporated within the next 2,000 hours time-in-service after the effective date of this AD.

This airworthiness directive becomes effective on 11 September 1997.

Background: FAA has received reports of both generators going off-line during flight on three of the affected aircraft. The actions specified by this AD are intended to prevent failure of both generators during critical phases of flight (such as night operations or in icing conditions), which may result in the loss of control of the aircraft.