Peregrine
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E-GS-20-0009 Rev IR

FAA APPROVED

Airplane Flight Manual Supplement
to the
Gulfstream G150
Airplane Flight Manual

for the installation of the Flap/Slat Actuator Heater System (FSAHS)

Aircraft Serial Number._____ Aircraft Reg. Number._____

This supplement must be attached to the FAA approved Airplane Flight Manual when the aircraft is modified for the installation of the Flap/Slat Actuator Heater System in accordance with Supplemental Type Certificate No. ST01075DE .

The information contained herein supplements or supersedes the basic flight manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this supplement, consult the basic Airplane Flight Manual.

FAA Approved _____
Kreg Voorhies
ODA Lead Administrator
ODA(AIR)-833887-NM
Cert Works LLC ODA

Date: 11/2/2020

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Taxi/Before Take-Off

Insert:

Flat/Slat Heater System……ON/OFF (AS REQUIRED)

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SECTION 5 – PERFORMANCE

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SECTION 6 – WEIGHT AND BALANCE

Refer to the aircraft's current weight and balance data.

MANUFACTURER'S DATA
(Non-FAA Approved Data)

SECTION 7 – SYSTEM DESCRIPTION

Heater Cuff System

The Cox and Company's Flap/Slat Actuator Heating System (FSAHS), when powered on by the cockpit ON/OFF switch, shown in Figure 1, is designed to automatically heat the actuator when temperatures are below 40º F. Thermistors installed on each heater are used to both activate the heaters at the proper temperature and ensure the actuator never reaches the upper operating temperature limit of 130º F.

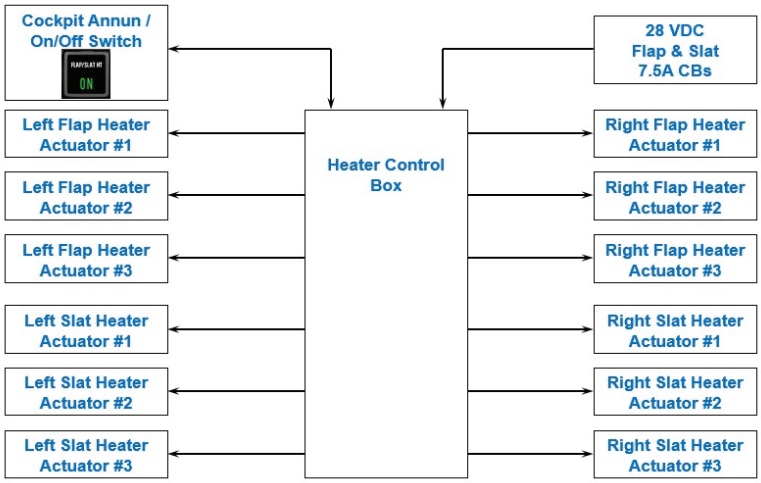

Figure 1: Heater Cuff System Overview

MANUFACTURER'S DATA
(Non-FAA Approved Data)

Figure 2 depicts the actuator heater locations. Figure 3 and Figure 4 depict the locations of the system control components, which include the control box and the cockpit on/off switch.

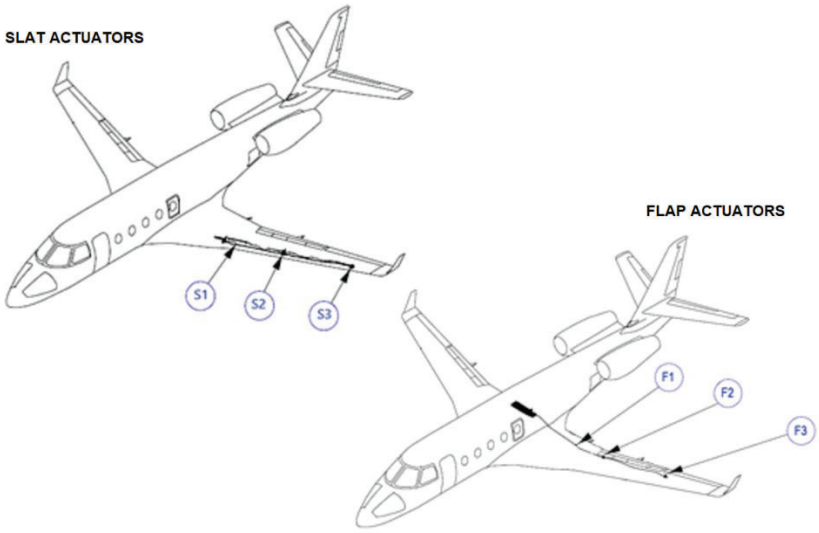

Figure 2: G150 Equipment Installation Locations, Left Wing Shown

MANUFACTURER'S DATA
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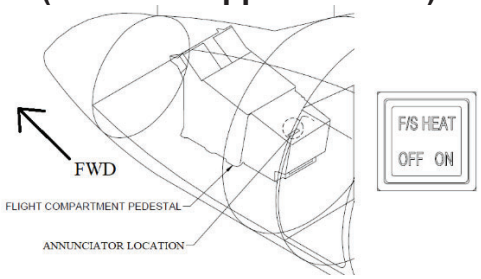

Figure 3: Cockpit Annunciator Switch

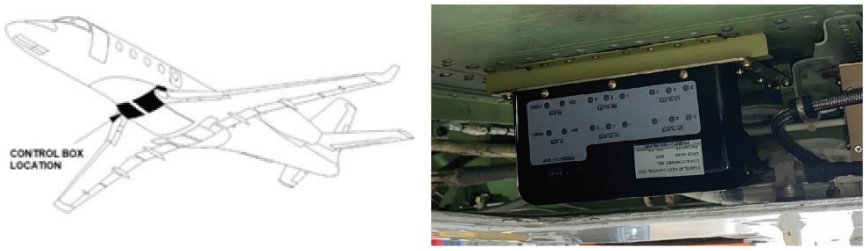

Figure 4: Control Box Location

MANUFACTURER'S DATA
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ON/OFF Switch-Annunciator

Power to the heater system is controlled by the crew through "F/S Heat" annunciator switch. This switch is mounted on the lower left-hand side of the center pedestal.

With the switch annunciator set to ON, the system will be powered when both generators are online.

Note that this switch does not provide fault monitoring. The switch will continue to state "On" if the control box is powered. In the event of a flap/slat heater failure, no pilot action is required.

Disabling the System

If necessary, the Flap/Slat Actuator Heater System can be de-activated by pressing the ON-OFF Switch-Annunciator.

System Control Logic

The FSHCU has two separate sections (channels); one controls the six flap actuator heater circuits while the other controls the six slat actuator heater circuits. The controller will activate all of the heaters on a channel when any of the sensors on that channel read a temperature below 40ºF. To prevent overheating actuators, if any of the channel temperature sensor readings exceed 130ºF the system will shut off the affected channel, even if another sensor is reading below 40ºF. The system will remain shut off until a power cycle or self-test is initiated at the heater box.

Additionally, if the system detects a heater fault on either channel, the affected channel will be automatically and entirely shutoff until repairs are made.

MANUFACTURER'S DATA
(Non-FAA Approved Data)

Built in Test Function

No preflight check is required. However, system validation may be accomplished with the system built in test function.

A Press-To-Test (PTT) switch initiates a Built-In-Test (BIT) that checks the integrity of the controller and the corresponding heaters when pressed and held for approximately 2 seconds. The controller also performs a Power-on-BIT (PBIT) and a Continuous-BIT (CBIT) to ensure system integrity.

The LED indicators on the face of the control box allow a test of the system by manually pressing the Press-To-Test Switch and visually verifying the indicators for each heater are illuminated. The system is powered by the main direct current (DC) Power when the engines are running. To test the system prior to flight, power is provided by an auxiliary power unit (APU) or external power by means of an additional circuit.