

## FUEL SYSTEM - TROUBLESHOOTING

### 1. General

- A. This section gives troubleshooting information to help the technician find and correct problems in the fuel system. For troubleshooting systems related to the Garmin G1000 System, refer to the Garmin G1000 Line Maintenance Manual (Cessna Caravan). Refer to the Supplier Publication List.
- B. For fuel system problems reference the applicable troubleshooting charts that follow:
  - (1) For engine fuel flow problems refer to Figure 101.
  - (2) For fuel quantity problem for airplanes with the Garmin G1000 system refer to Figure 102
  - (3) For fuel flow problem for airplanes with the Garmin G1000 system refer to Figure 103
  - (4) For fuel flow problem for airplanes that do not have the Garmin G1000 system refer to Figure 104
  - (5) For boost pump operation problems for airplanes with the PT6A-140 engine installed Figure 105.
- C. Engine Fuel Flow Troubleshooting
  - (1) To troubleshoot engine fuel flow problems refer to Figure 101.
- D. Fuel Quantity and Fuel Flow Troubleshooting (G1000)
  - (1) To troubleshoot fuel quantity problems for airplanes with the Garmin G1000 system refer to Figure 102.
  - (2) To troubleshoot fuel flow problems for airplanes with the Garmin G1000 system refer to Figure 103.
- E. Fuel Quantity and Fuel Flow Troubleshooting (Non-G1000)
  - (1) To troubleshoot fuel quantity and fuel flow problems for airplanes that do not have the Garmin G1000 system refer to Figure 104.
- F. Boost Pump Troubleshooting (PT6A-140)
  - (1) To troubleshoot boost pump problems for airplanes with the PT6A-140 engine installation refer to Figure 105.
- G. Fuel Temperature System (PT6A-140)
  - (1) To troubleshoot the system when the FUEL TEMP LOW CAS message is on, do as follows:
 

**NOTE: Engines must be running for the CAS message to be enabled.**

**NOTE: To determine the current recorded temperature of the fuel temp probe, Refer to Chapter 77, Live Data Sensor Test - Engine Off.**

    - (a) Disconnect the electrical connector (PI001) from the GEA 71/71B Engine/Airframe Unit (UI005) and the electrical connector (PN051) from the temperature probe (UN042).
    - (b) Use a multimeter to make sure there is continuity between pin 26 of the GEA 71/71B Engine/Airframe Unit connector and pin A of the temperature probe connector.
    - (c) Use a multimeter to make sure there is continuity between pin 27 of the GEA 71/71B Engine/Airframe Unit connector and pin B of the temperature probe connector.
      - 1 If there is no continuity between the pins, repair the wiring as necessary. Refer to the Model 208/208B Wiring Diagram Manual Chapter 77.
      - 2 If there is continuity between the pins, replace the temperature probe. Refer to Fuel Temperature Probe - Removal/Installation in this chapter.
    - (d) Complete an engine run to make sure the FUEL TEMP LOW CAS message is not shown on the Primary Flight Display (PFD) and the engine oil temperature is within normal operating limits for takeoff. (Refer to the approved Model 208B 867 SHP Garmin G1000 Aircraft Flight Manual).
    - (e) If FUEL TEMP LOW CAS message is shown on the PFD, and the engine oil temperature is within normal operating limits for takeoff (refer to the approved Model 208B 867 SHP Garmin G1000 Aircraft Flight Manual); refer to the troubleshooting section of the G1000 Garmin Engine Airframe Monitor system. Refer to the (Cessna Caravan). Refer to the Supplier Publication List.
  - (2) If FUEL TEMP LOW CAS message continues to show on the PFD, and the engine oil temperature is within normal operating limits for takeoff (refer to the approved Model 208B 867 SHP Garmin G1000 Aircraft Flight Manual); replace the fuel oil heat exchanger. Refer to the Pratt and Whitney PT6A-140 Engine Maintenance Manual, refer to Supplier Publication List.

Figure 101 : Sheet 1 : Engine Fuel System Troubleshooting Chart

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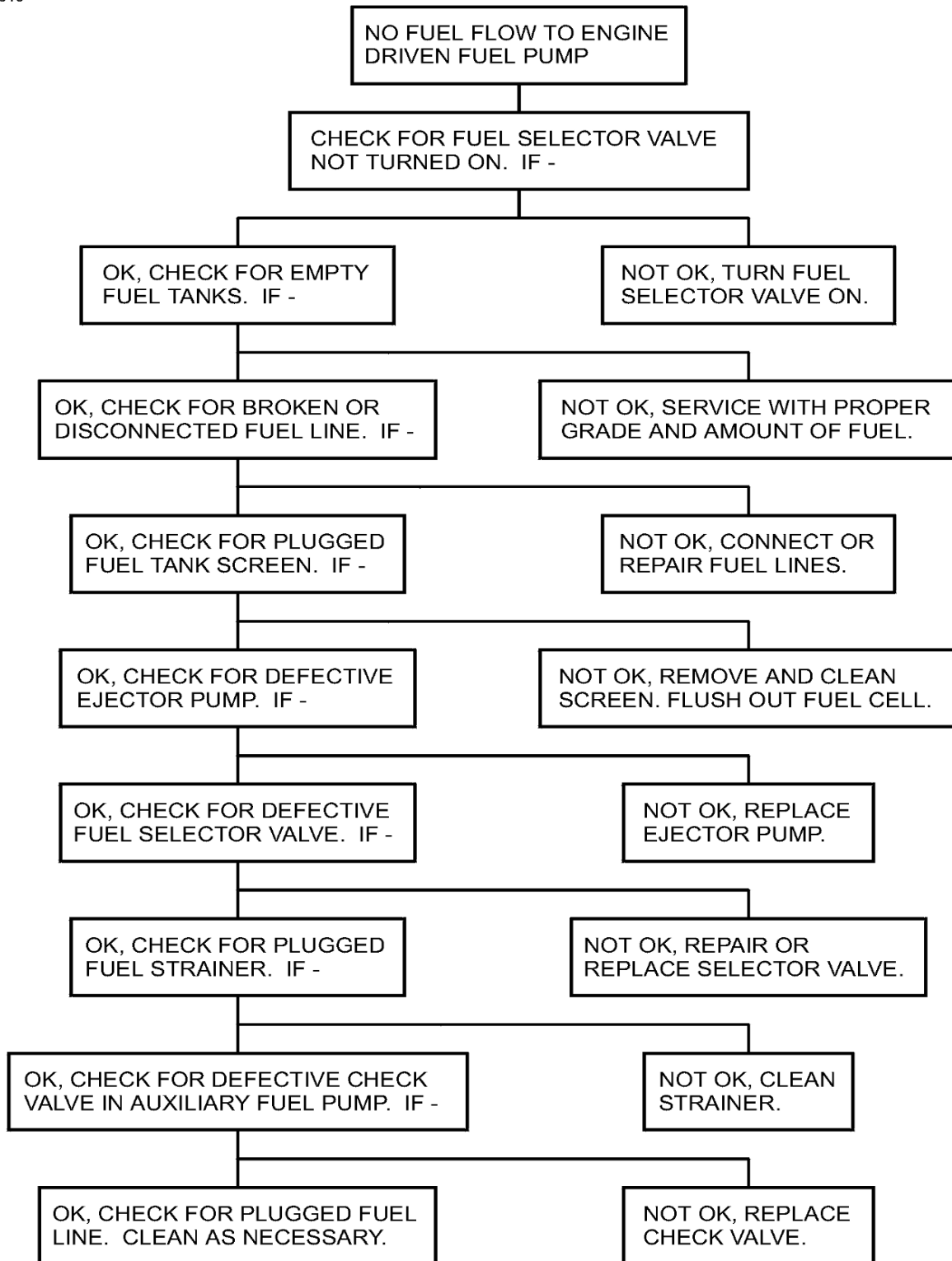


Figure 101 : Sheet 2 : Engine Fuel System Troubleshooting Chart

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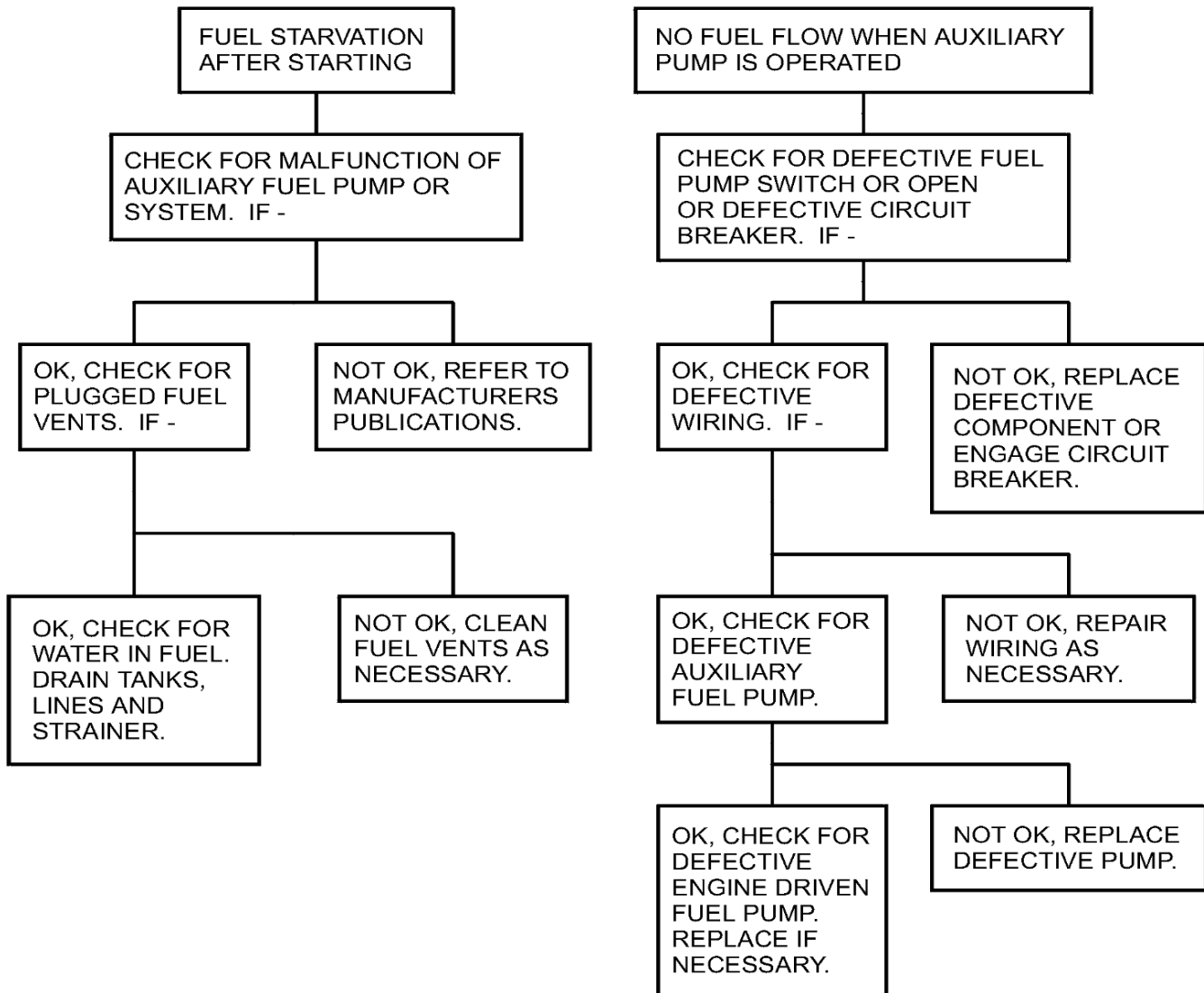


Figure 102 : Sheet 1 : Fuel Quantity Troubleshooting (G1000)

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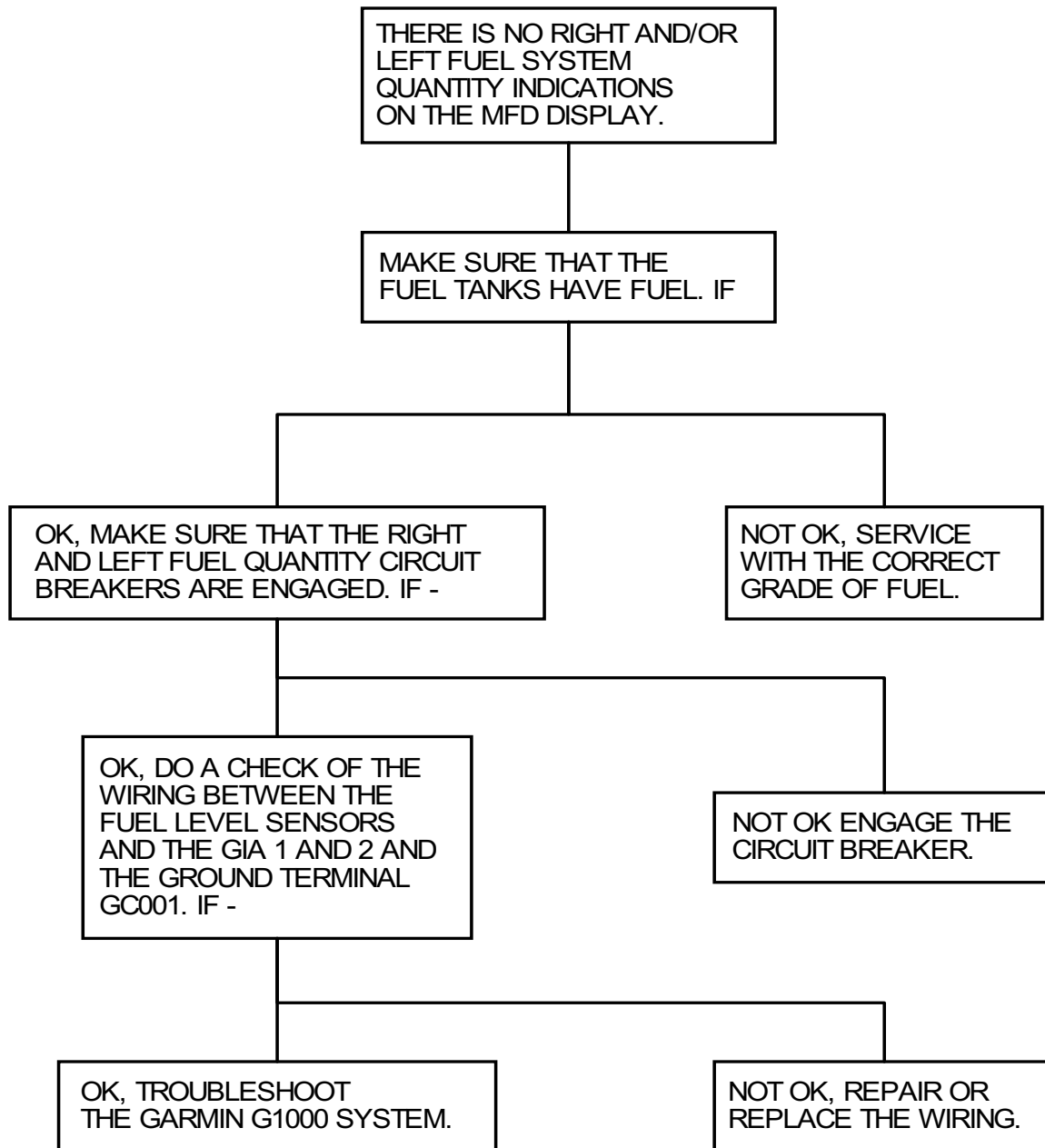


Figure 102 : Sheet 2 : Fuel Quantity Troubleshooting (G1000)

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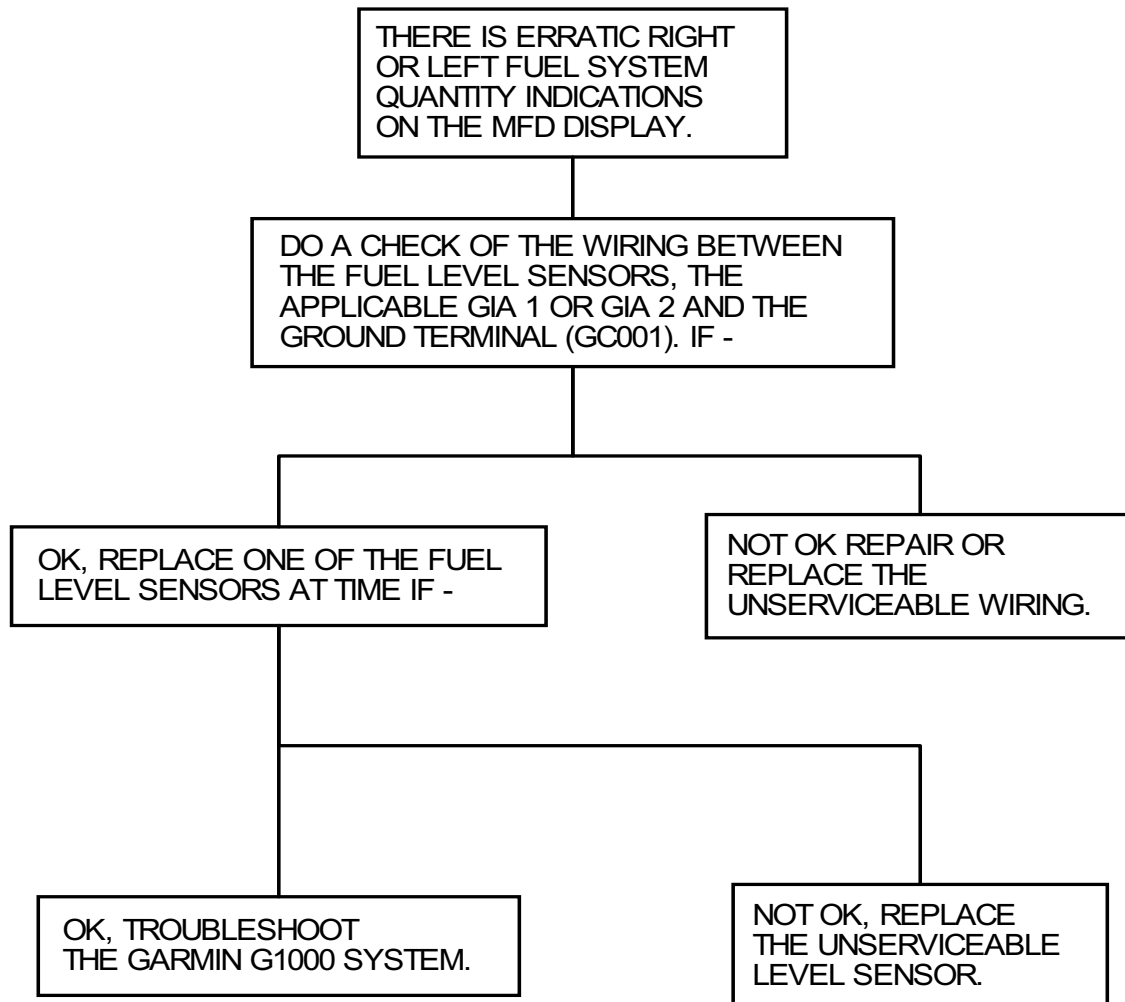


Figure 103 : Sheet 1 : Fuel Flow Troubleshooting (G1000)

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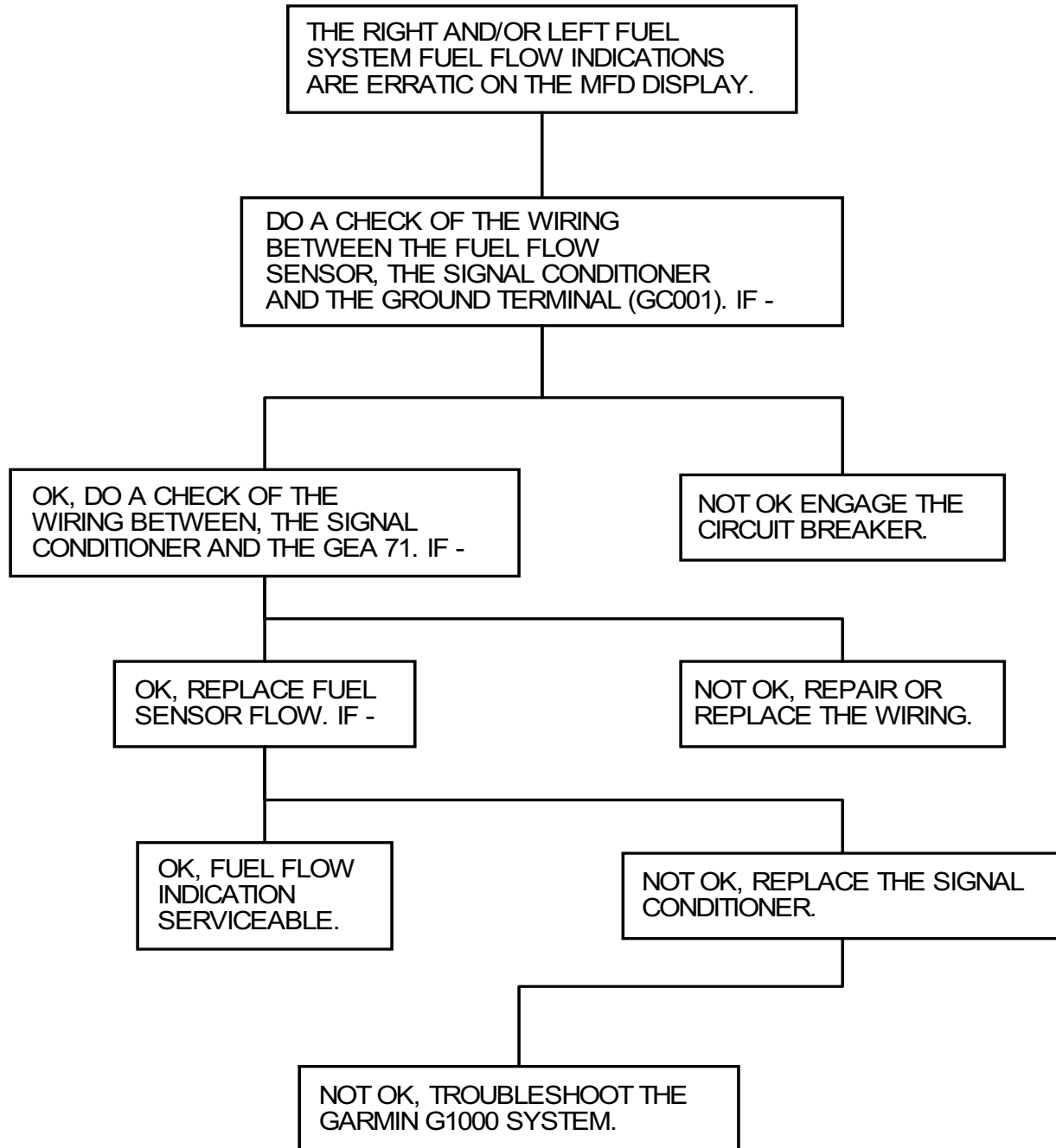


Figure 103 : Sheet 2 : Fuel Flow Troubleshooting (G1000)

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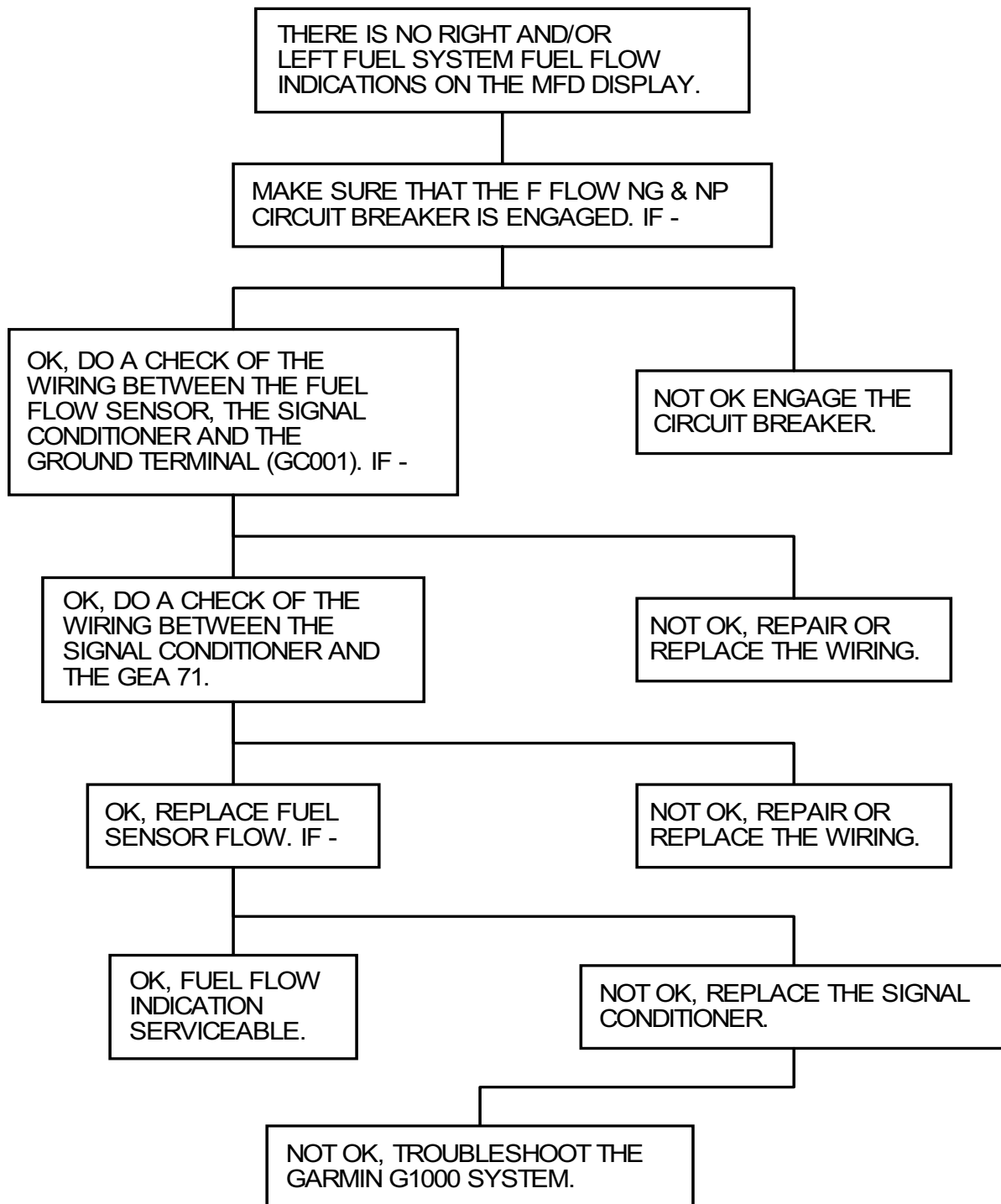


Figure 104 : Sheet 1 :

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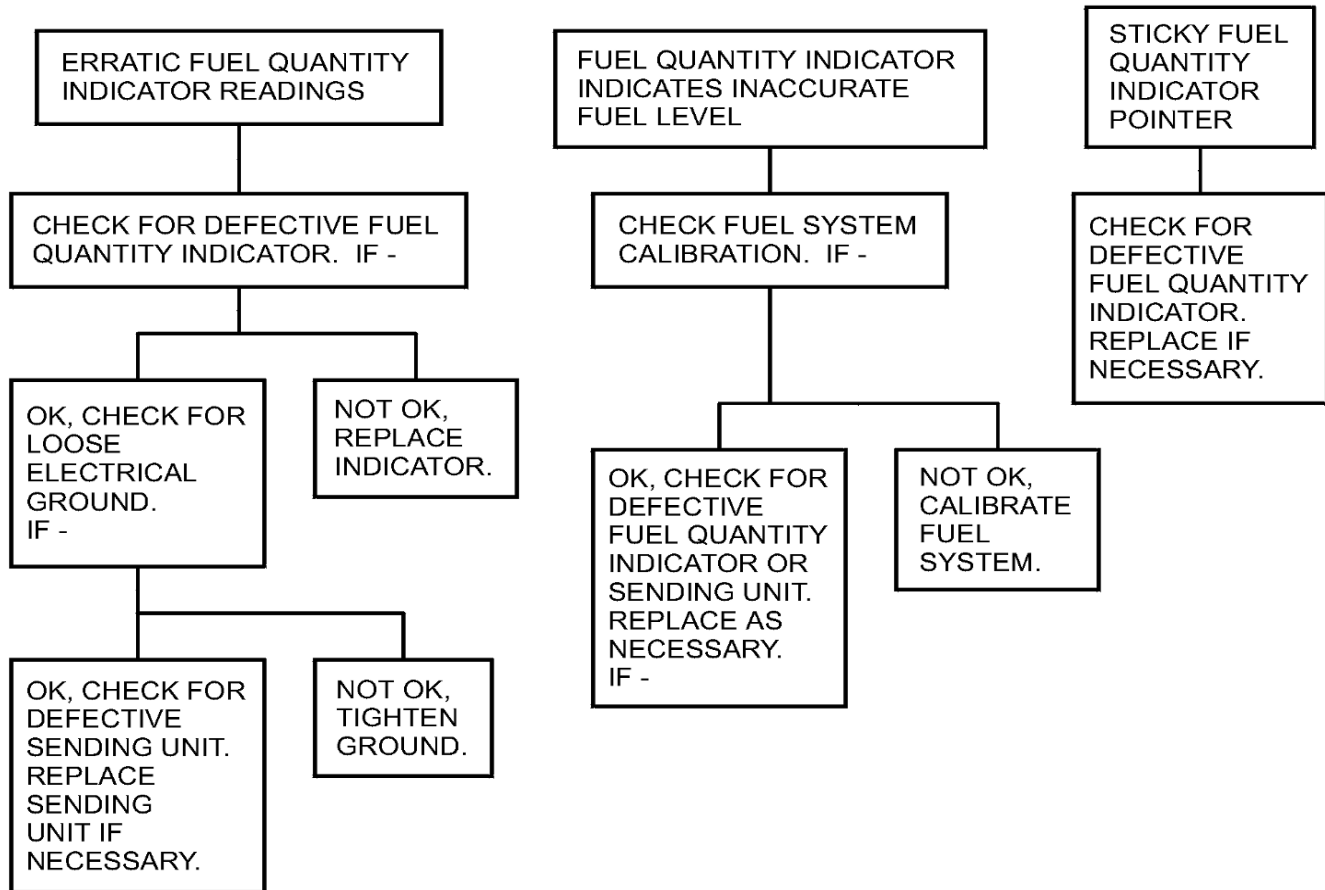




Figure 104 : Sheet 2 :

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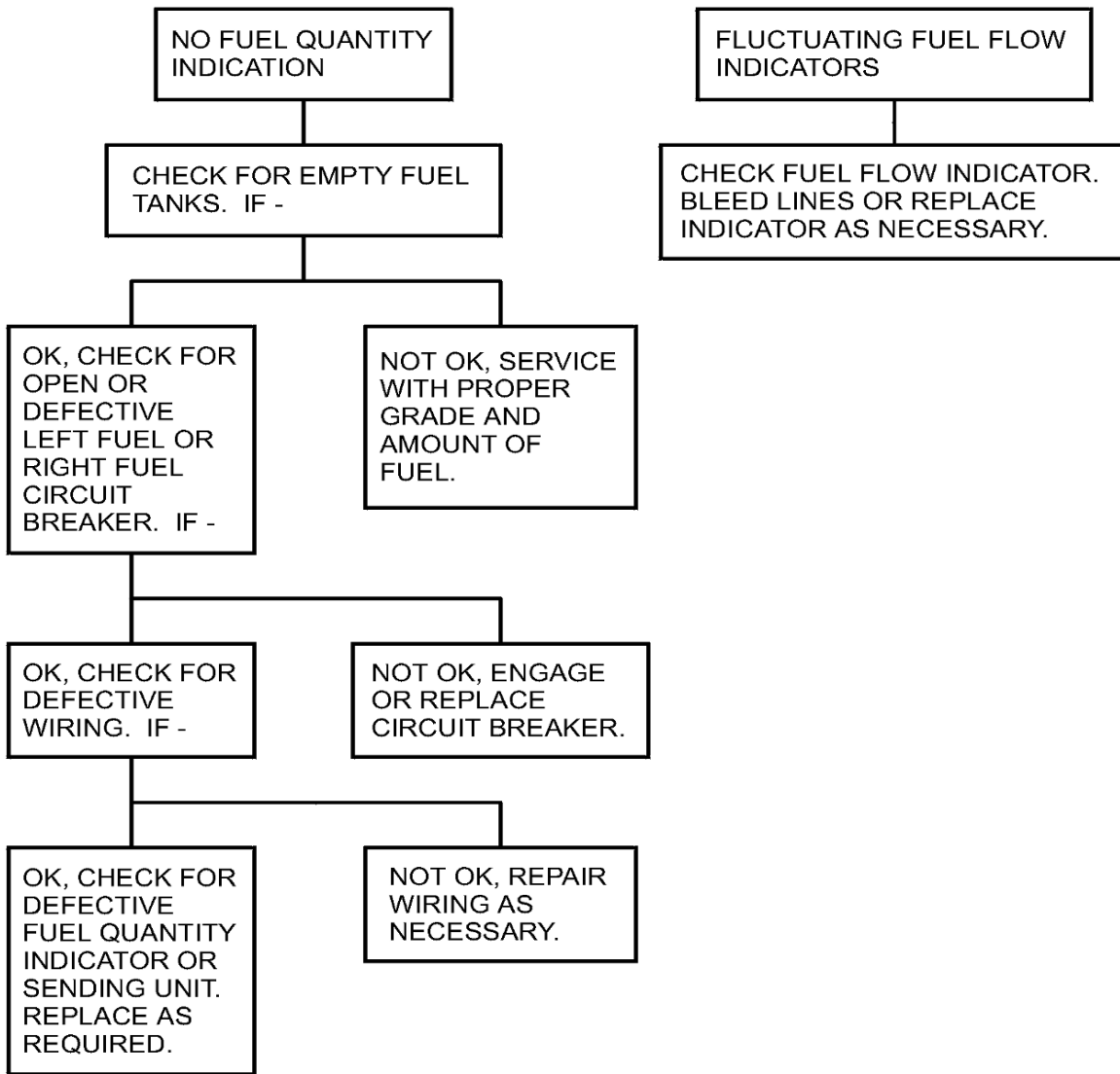


Figure 105 : Sheet 1 : Boost Pump Troubleshooting (PT6A-140)

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