

SHADIN MINI-FLOW FUEL TOTALIZER - DESCRIPTION AND OPERATION

1. General

- A. The Shadin Mini-Flow Fuel Totalizer system is a highly accurate digital fuel management system.
- B. System components include a microprocessor based, panel mounted indicator and a signal interface connected to the existing fuel flow transducer and indicator.

2. Description and Operation

- A. The Shadin Mini-Flow Fuel Totalizer provides complete fuel management information under real flight conditions. Manual data entry is not required except for initial input of fuel on board information. It is connected to a GPS or Loran-C receiver for navigation data such as ground speed and estimated time enroute.
- B. Fuel management functions, fuel flow, fuel used, fuel remaining and time remaining are independent of the navigation function and will continue to function without navigation information.
- C. This system provides the following functions.
 - (1) Specific Range - Fuel consumption is calculated in Nautical Miles per Pound (NM/Lb.) or in Nautical Miles per 10 pound (NM/10 Lb.) of fuel burned. This provides an indication of cruise speed efficiency.
 - (2) Fuel to Destination - Fuel needed to reach destination is calculated under real wind conditions by using destination information provided by Loran-C or GPS waypoints.
 - (3) Fuel Reserve - Indicates the amount of fuel remaining after reaching destination as selected on Loran-C or GPS receiver.
 - (4) Endurance - The system calculates the time in hours and minutes based on the fuel onboard and fuel consumption.
 - (5) Fuel Remaining - Indicates the amount of fuel remaining onboard.
 - (6) Fuel Used - Displays amount of fuel used since last fuel entry.
 - (7) Not Enough Fuel - Display digits will flash when the rotary switch is in Fuel to Destination position and the Fuel to Destinations is more than the Fuel Remaining. The Fuel Remaining digits will show a negative sign followed by the amount of fuel short to reach the destination.
 - (8) Fuel Reserve Will Be Used - Display digits will flash when the rotary switch is in either Fuel to Destination or Reserve Fuel. This warning alerts the pilot to prevailing conditions requiring the use of the 45 minute Fuel Reserve or part of it.
 - (9) Fuel Flow - The system provides a digital readout of the fuel flow per hour to the nearest pound.
- D. Fuel flow is always displayed in a dedicated window. All other functions are displayed in a separate window.
- E. A non volatile memory keeps basic setting, fuel remaining and fuel used information stored during power shut down.