

## GARMIN G1000 VHF NAVIGATION SYSTEM - DESCRIPTION AND OPERATION

### 1. General

- A. This section gives a general description and the operation of the Garmin G1000 VHF Navigation (NAV) system. The line replaceable units (LRU)'s in the Garmin VHF NAV system are the VHF NAV1/NAV2 antennas, the VHF NAV antenna coupler and the Garmin GIA 63W/64W Integrated Avionics Unit No. 1 and No. 2.
- B. One VHF NAV receiver is located in each of the two Garmin GIA 63W/64W integrated avionics units. For the maintenance procedures for the GIA 63W/64W integrated avionics units, Refer to Chapter 34, Garmin G1000 GIA 63W/64W Integrated Avionics Unit - Removal/Installation.
- C. For a general view of the Garmin VHF Navigation System (Refer to Figure 1).

### 2. Description

- A. VHF NAV Antenna
  - (1) A VHF NAV antenna kit consisting of a left blade and a right blade is installed on each side of the vertical stabilizer at WL 191.00.  
**NOTE: The VHF NAV antennas are always replaced as a matched pair.**
  - (2) The antennas operate as part of the VHF Navigation system and the Glideslope system.
    - (a) One Glideslope receiver is located in each of the two Garmin GIA 63W/64W integrated avionics units. For the maintenance procedures for the GIA 63W/64W integrated avionics units, Refer to Chapter 34, Garmin G1000 GIA 63W/64W Integrated Avionics Unit - Removal/Installation.
- B. VHF NAV Antenna Coupler
  - (1) The VHF NAV antenna coupler is installed under the center-right of the instrument panel on a beam that is part of the instrument panel mount structure. The VHF NAV antenna coupler sends the radio signals received by the VHF NAV antennas to the navigation radios in each of the two Garmin GIA 63W/64W integrated avionics unit.
  - (2) Electrical power is supplied to the VHF NAV system No. 1 through the NAV 1 and COM 1 circuit breakers found on the avionics circuit breaker panel.
  - (3) Electrical power is supplied to the VHF NAV system No. 2 through the NAV 2 and COM 2 circuit breakers found on the avionics circuit breaker panel.

### 3. Operation

- A. Garmin VHF Navigation.
  - (1) The system functionality for the Garmin VHF NAV system and Glideslope system is found in each of the two GIA 63W/64W Integrated Avionics Units. The GIA 63W/64W is the primary interface between its related VHF NAV antenna and the Garmin G1000 Integrated Avionics System. For a general overview of the GIA 63W/64W refer to Chapter 34, Garmin G1000 Integrated Avionics System - Description and Operation . The Garmin GDU Primary Flight Displays (PFD 1) and (PFD 2) are used to control of the VHF NAV system. For a general overview of the PFD, refer to Chapter 34, Garmin G1000 Integrated Avionics System - Description and Operation.
  - (2) The VHF NAV antenna operates between 108 and 118 MHz. The VHF NAV antenna receives VHF radio signals that are sent through the VHF NAV coupler to be used by the GIA unit, which gives navigation data to the Garmin Display Units (GDU's). The navigation system is available during all airplane operations, which include taxi, takeoff, climb, cruise, descent, and landing. A navigation receiver module in each GIA unit receives its electrical power from the VHF communications radios that are also in the GIA unit.
  - (3) The Glideslope system signal is transmitted from an antenna array located near the end of the runway. The main pilot interface to the Glideslope system is the primary flight display (PFD) CDI softkey. The localizer and glideslope needles and flags are each located within the same indicator area of the PFD.

Figure 1 : Sheet 1 : VHF Navigation System

