NARCO AVIONICS

AT155 TSO
Transponder

Operation Manual
03608-0621

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NOTICE

While every effort has been made by Narco Avionics Inc. to ensure accuracy in the preparation of this Operation Manual, Narco assumes no responsibility for errors or omissions

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PRODUCT DESCRIPTION

The AT155 TSO consists of a receiver tuned to the frequency of a ground interrogation station (1030 MHz), logic circuitry to check the validity of the received interrogation and encode a reply containing pertinent identification information, and a transmitter which sends the coded reply to the ground station. When an optional altitude digitizer, Narco Model AR-850, is incorporated, coded altitude information will be transmitted to the ground station.

The AT155 has been designed for 14V or 28V operation. If the AT155 is replacing an existing AT50A or AT150 that uses an MP10 or a passive voltage converter these do not have to be removed.

OPERATION

FIGURE 1-1 AT 155 FRONT PANEL

Function Selector Switch

The function selector is a five position rotary switch. The five positions are:

OFF- Turns OFF all power to the transponder.

SBY- Turns the transponder power supply ON. When in SBY, the transponder will not reply to any interrogation.

SBY is used at the request of the air traffic controller to selectivity clear his scope of traffic.

ON- Places the transponder in Mode A, the aircraft identification mode. In addition to the aircraft's identification code, the transponder will also reply to altitude interrogations (Mode C) with discreet signals that do not contain altitude information.

ALT- The ALT position activates all the necessary circuitry (transponder to optional altitude digitizer and return) to respond to ATC (Air Traffic Control) altitude interrogations and aircraft identification interrogations with standard pressure altitude (29.92 inches Hg).

The ALT position may be used in aircraft that are not equipped with the optional altitude digitizer, however, the only response will be discreet signals that do not contain altitude information.

TST- Turning the switch to the TST position injects a test signal into the transponder. This test signal tests all transponder circuitry involved in a Mode A reply and causes the IDENT/DIM button to come on at full brilliance. This full brilliance indicated that transponder has the capability of receiving and responding to interrogations. The TST function may be activated at anytime, as it does not interfere with normal operation.

The TST position is spring loaded and must be held in position during the test process. Upon release, it will automatically return to the ALT position.

Ident/Dim

When the aircraft comes within range of a ground station, the IDENT/DIM button will blink ON and OFF. Momentarily depressing the IDENT/DIM button will activate the SPIP (Special Position Identification Pulse) signal for approximately 20 seconds. This signal will "paint" an instantly identifiable image on the controllers scope. This signal must only be used upon request of a "Squawk IDENT" from the controller. Use at any other time could interfere with another aircraft sending a SPIP. During "'IDENT" periods, the IDENT/DIM button will glow constantly.

Rotating the IDENT/DIM button will control the intensity at which the button glows.

Code Selector

The CODE SELECTOR consists of four eight position switches that provide 4096 active identification codes. The identification code is selected by the controller.