

**3. Aircraft with an Inoperative/Malfunctioning ADS-B Transmitter:**

(a) ATC will inform the flight crew when the aircraft's ADS-B transmitter appears to be inoperative or malfunctioning:

**PHRASEOLOGY-**

*YOUR ADS-B TRANSMITTER APPEARS TO BE INOPERATIVE/MALFUNCTIONING. STOP ADS-B TRANSMISSIONS.*

(b) ATC will inform the flight crew if it becomes necessary to turn off the aircraft's ADS-B transmitter.

**PHRASEOLOGY-**

*STOP ADS-B TRANSMISSIONS.*

(c) Other malfunctions and considerations:

Loss of automatic altitude reporting capabilities (encoder failure) will result in loss of ATC altitude advisory services.

**e. ADS-B Limitations.**

1. The ADS-B cockpit display of traffic is NOT intended to be used as a collision avoidance system and does not relieve the pilot's responsibility to "see and avoid" other aircraft. (See paragraph 5-5-8, See and Avoid). ADS-B must not be used for avoidance maneuvers during IMC or other times when there is no visual contact with the intruder aircraft. ADS-B is intended only to assist in visual acquisition of other aircraft. No avoidance maneuvers are provided nor authorized, as a direct result of an ADS-B target being displayed in the cockpit.

2. Use of ADS-B radar services is limited to the service volume of the GBT.

**NOTE-**

*The coverage volume of GBTs are limited to line-of-sight.*

**f. Reports of ADS-B Malfunctions.**

Users of ADS-B can provide valuable assistance in the correction of malfunctions by reporting instances of undesirable system performance. Since ADS-B performance is monitored by maintenance personnel rather than ATC, report malfunctions to the nearest Flight Service Station (FSS) facility by radio or telephone. Reporters should identify:

1. Condition observed.
2. Date and time of observation.
3. Altitude and location of observation.

4. Type and call sign of the aircraft.

5. Type and software version of avionics system.

**4-5-8. Traffic Information Service-Broadcast (TIS-B)**

**a. Introduction**

TIS-B is the broadcast of ATC derived traffic information to ADS-B equipped (1090ES or UAT) aircraft from ground radio stations. The source of this traffic information is derived from ground-based air traffic surveillance sensors. TIS-B service will be available throughout the NAS where there are both adequate surveillance coverage from ground sensors and adequate broadcast coverage from ADS-B ground radio stations. The quality level of traffic information provided by TIS-B is dependent upon the number and type of ground sensors available as TIS-B sources and the timeliness of the reported data. (See FIG 4-5-8 and FIG 4-5-9.)

**b. TIS-B Requirements.**

In order to receive TIS-B service, the following conditions must exist:

1. Aircraft must be equipped with an ADS-B transmitter/receiver or transceiver, and a cockpit display of traffic information (CDTI).

2. Aircraft must fly within the coverage volume of a compatible ground radio station that is configured for TIS-B uplinks. (Not all ground radio stations provide TIS-B due to a lack of radar coverage or because a radar feed is not available).

3. Aircraft must be within the coverage of and detected by at least one ATC radar serving the ground radio station in use.

**c. TIS-B Capabilities.**

1. TIS-B is intended to provide ADS-B equipped aircraft with a more complete traffic picture in situations where not all nearby aircraft are equipped with ADS-B Out. This advisory-only application is intended to enhance a pilot's visual acquisition of other traffic.

2. Only transponder-equipped targets (i.e., Mode A/C or Mode S transponders) are transmitted through the ATC ground system architecture. Current radar siting may result in limited radar surveillance coverage at lower