

No. 2827A

## Functional Equivalency and Interchangeability of GPS/XM Antenna P/N 10710 for P/N 1070X GPS Antennas

Revision A to this Service Letter is released to update replacement and TSO information and correct the Icing characteristic in the Antenna Specification.

Universal Avionics' GPS/XM Weather and Radio Antenna P/N 10710 is designed for use with Universal Avionics Wide Area Augmentation System (WAAS) GPS and LP/LPV Monitor installations.

P/N 10710 antenna is electrically interchangeable with other P/N 1070X GPS and GPS WAAS antennas except for the P/N 10705 when used for GLONASS or the P/N 10709 antenna used for GPS/Sirius radio reception. When P/N 10710 antenna is used as a P/N 1070X replacement, the aircraft must be modified to accept the additional connector which is used for reception of XM Weather and Radio signals.

FAA Advisory Circular No. 20-41A, "Substitute Technical Standard Order (TSO) Aircraft Equipment", may be referred to when using P/N 10710 antenna as a replacement for other P/N 1070X antennas. Antenna P/Ns 10705 and 10706 are certified to TSO-C144, antenna P/N 10708 is certified to TSO-C190 and all other earlier GPS antennas are certified to TSO-C129.

### Antenna Specifications

Characteristics	Specifications
Finish	Weatherable Polymer
Weight	0.5 lbs.
Altitude	55,000 ft.
Operating Temperature	-55°C to +71°C
Storage Temperature	-55°C to +85°C
Icing	With 0.50" thick hard ice on radome, a gain decrease of no greater than 2 dB from no ice condition when signal viewed at 30 degrees or greater elevation with respect to horizon.
GPS Connector	TNCF
XM Connector	TNCF
TSO	C190

**SERVICE LETTER**

## GPS Specifications

Characteristics	Specifications	
Frequency	1575.42 ±10.23 MHz	
VSWR	≤ 1.5:1	
Polarization	Right Hand Circular	
Radiation Pattern	Elevation Angle	Gain (dBic)
	0°	-5
	5°	-3.5
	10°	0
	20°	2
	30°	2
	30° < Elev. ≤ 75°	2.5
	>75°	3.0
Impedance	50 Ohms	
Gain	30 ±3 dB	
Rejection at SatCom Freq 1625 MHz	50 db	
Axial Ratio	3 dB Max at Bore Site	
Power Handling	1 Watt	
Power Requirements	4.5-15 VDC	
Power Consumption	60.0 mA (max)	

## XM Specifications

Characteristics	Specifications	
Frequency	2332.5 – 2345 MHz	
VSWR	≤ 1.5:1	
Polarization	Left Hand Circular	
Radiation Pattern	Elevation Angle	Gain (dBic)
	20°	0.0
	25°	0.5
	5° Increments 30° < Elev. ≤ 60°	2.0
	Bore Site	-2.35
Impedance	50 Ohms	
Gain	24 ±2 dB	
Axial Ratio	3 dB Max at Bore Site	
Power Requirements	3.6-5.5 VDC	
Power Consumption	55.0 mA (max)	