

NUMBER	SIL1604
TO	ALL F-Series (HR6400) Maintenance and Installation Personnel
SUBJECT	Improper TX Waveguide Filter Installation
REVISION	Rev C
DATE	08/22/18

AFFECTED ASTRONICS AEROSAT PRODUCT

DESCRIPTION	TX Waveguide Filter Assembly
PART NUMBER(S)	006-15138-02, 006-15138-03, 006-1000-0001, 10211, 19498, 20488, 20663, 300-21800, 300-23887, 300-68132
PART NUMBER REVISION	ALL

ISSUE DESCRIPTION

Some TX Waveguide Filter Assemblies have not been installed in accordance with manufacturer instructions, installation design drawings, and best practices on multiple airframes. This has resulted in damage to the TX Waveguide Filter Assemblies and/or overall degraded system performance.

BACKGROUND

It has been recently discovered by Astronics AeroSat that some of the TX Waveguide Filter Assemblies are not being installed in accordance with manufacturer instructions, installation drawings, and best practices on multiple airframes, causing degraded system performance and damage to the TX Waveguide Filter Assembly itself.

RECOMMENDED ACTION

Adherence to the following is required to prevent damage to the TX Waveguide Filter Assembly and/or degraded system performance due to installation discrepancies:

1. TX Waveguide Filter Assemblies are **required** to be installed in accordance with the installation design, manufacturer instructions, and best installation practices to prevent damage and ensure proper operation of the Ku SATCOM system.
2. Additional pieces of TX Waveguide Filter Assembly not defined by the installation design or manufacturer instructions **shall not** be installed. Installation of additional pieces can cause damage to the TX Waveguide Filter Assembly and/or degraded overall system performance.
3. Multiple piece TX Waveguide Filter Assemblies are tuned as a matched set and **shall not** be used with components from another set. Use of mismatched sections of TX Waveguide Filter Assemblies will cause degraded system performance and/or system outages. The sets are serially controlled and can be

identified as such. The serial number is marked on the component or on an attached tag. See Figure 1 for an example of a component with a serial number tag.



Figure 1 Serial Number Tag Example

4. The flex section of the TX Waveguide Filter Assembly is not designed to be used to compensate for installation error. The flex section **shall not** be deflected more than 0.25 inches in any direction in the installed state (see Figure 2). This section is intended only for deflection needed for the removal and installation of the Line Replaceable Units (LRUs) it connects to.

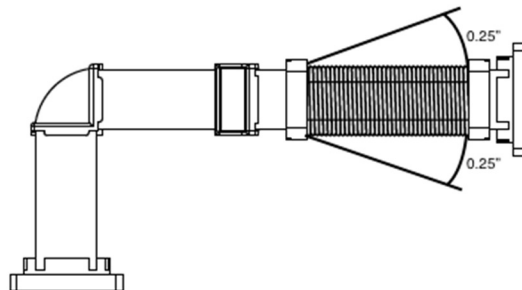


Figure 2 Flex Section Deflection

5. Installation of all O-Rings (Packing) **shall** be accomplished in accordance with the installation design and manufacturer instructions. Not installing the appropriate O-Ring will cause degraded system performance. See Figure 3 for an example of an O-Ring installation.

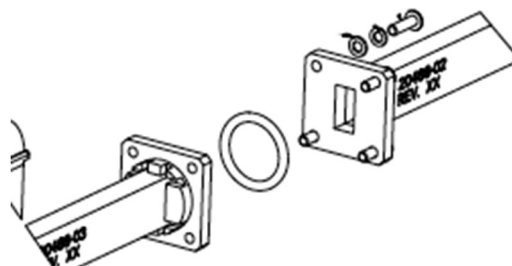


Figure 3 O-Ring Installation

- Bending or modifying the TX Waveguide Filter Assembly **shall not** be performed to accommodate installations. Modification of the TX Waveguide Filter Assembly can cause damage and/or impact system performance. See Figure 4 for an example of a properly installed Waveguide.

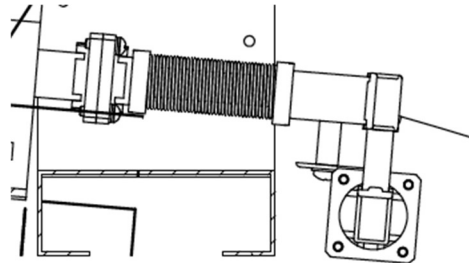


Figure 4 Properly Installed Waveguide

- Only the minimal required deflection of the flex section of the TX Waveguide Filter Assembly **shall** be used in removal and installation of LRUs. Excessive bending of the flex section can cause damage to the Waveguide. Any deflection for LRU removal and installation **shall not** introduce sharp turns to the flex section as damage will occur. See Figure 5 for an example of excessive bending on the flex section.



Figure 5 Excessive Bending of the Flex Section

- All hardware used **shall** be in accordance with the installation design and manufacturer instructions. This hardware **shall** be torqued to the appropriate specified values. See Figure 6 for an example of torque callout.

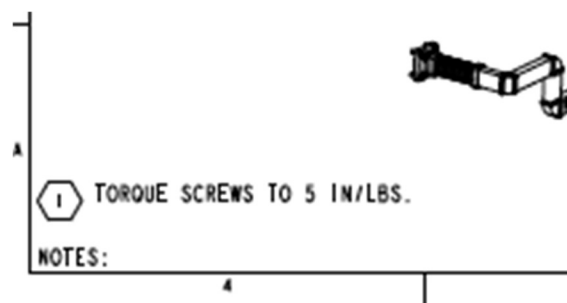


Figure 6 Torque Callout Example

- Evidence of tuning dents on the flat sections of the TX Waveguide Filter Assembly may be present. These dents will have soft edges (see Figure 7). The small soft edged dents are for the tuning of the TX Waveguide Filter Assembly to optimize performance of the component.

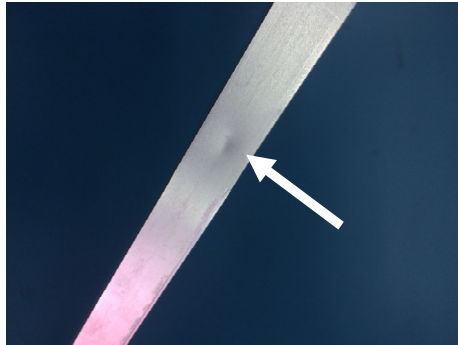


Figure 7 Tuning Dent Displayed

- Twisting of the flex sections of the TX Waveguide Filter assembly is not permitted as damage will occur.

Note that failure to comply with the instructions for installation of the waveguide or any other components will result in the denial of warranty coverage for installed system components.

CONTACT INFORMATION

For questions regarding this Service Information Letter, please contact Astronics AeroSat Product Support.

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