



# TCAS ANTENNAS

## ROCKWELL-COLLINS TRE-920 TCAS II Antenna



**FAA/DER APPROVED REPAIR ELIMINATES BER RATES WHILE ACHIEVING CONSISTENT PERFORMANCE AND RELIABILITY FOR ROCKWELL-COLLINS ANTENNAS.**

### Technical Synopsis

The Repair Specification comprises four primary features; testing, radome repair, PCB and connector replacement, and ground plane replacement. The primary failure of a TCAS antenna can be attributed to internal contamination and corrosion as a result of water intrusion at the PCB, radiating elements and ground plane. Inadequate sealing between the antenna and fuselage and / or radome damage are the primary contributors to water intrusion.

### Part Numbers Serviced

- 622-8973-001
- 622-8973-101
- 622-8973-002
- 622-8973-102
- 622-8973-003
- 622-8973-103
- 622-8973-004
- 622-8973-104



18 Month Warranty on Test/Refinish/Certify

24 Month Warranty on Overhaul/Refinish/Certify

Part number variations dependent on aircraft type and mounting requirements for installation.

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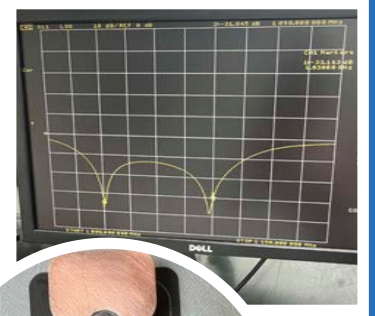
## Testing

Using state-of-the-art equipment and technology, the antenna receives full Voltage Standing Wave Ratio (VSWR) testing to determine faults. Technicians conduct circuitry and resistance tests to verify proper functionality. All four radiating elements are tested individually to determine beam power & adequacy. Tests are conducted on-site in Velocity certified anechoic chamber and with a VSWR analyzer.



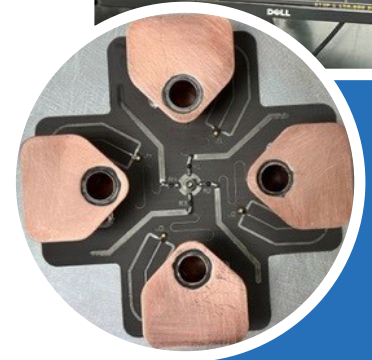
## PCB & Connector

Cable connection jacks may become damaged due to corrosion, wear and tear, or vibration. All connector jacks are replaced with new custom-manufactured units employing premium gold-plated contacts. Each antenna (OH) receives a new printed circuit board.



## Radome

The radome is an aerodynamic composite shell which protects the antenna internal radiating features. As a result of normal service life, the radome can exhibit surface damage and / or cracking between the radome and ground plane. Any cracks or damage create the opportunity for moisture intrusion which negatively affects the life and performance of the antenna. Velocity replaces all worn and damaged OEM radomes on each unit with new high-strength injection molded radomes. The Velocity replacement radomes offer an advanced sealing design when bonded to the replacement ground plane. The repair and its advanced sealing design extends the service life of the antenna and minimizes the potential for moisture intrusion.



## Ground Plane

The Velocity RS offers a redesigned ground plane that provides superior sealing qualities in a new CNC-machined unit. This design provides a robust and durable seal through the application of our adhesive creating superior bond between the surfaces of the radome and ground plane. An in-service antenna will often exhibit external corrosion and internal damage attributed to moisture and environmental operating conditions. The Velocity design is effective in minimizing water intrusion as well as sealing-out all environmental conditions.



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