

523-0821603-101000

**TPR-720 ATC/MODE S TRANSPONDER
(CPN 622-7878-001/020/120/200/201/301/440/460/480/901)
TPR-900 ATC/MODE S TRANSPONDER (CPN 822-0336-001/020/220/440/460/480/902)**

**Service Information Letter 13-1
REVISION NO. 1**

**MAINTENANCE REQUIREMENT FOR PROPER OPERATION OF
TPR-720 AND TPR-900 TRANSPONDERS**

TRANSMITTAL INFORMATION SUMMARY

Summary

This is revision 1 of SIL 13-1 for TPR-720 ATC/MODE S Transponder.

This revision adds detail to section 2.0 Recommended Action.

Black bars in the margins indicate the changes.

Replace the original release with this revision.

Service Information Letter Revision History

REVISION	DATE OF RELEASE
Initial Release	March 26, 2013
Revision 1	October 24, 2013

Notice

INFORMATION SUBJECT TO EXPORT LAWS

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Export Control Classification Notice (ECCN) for this document is 6E991.

1.0 Background

- (1) Rockwell Collins in conjunction with the Federal Aviation Administration and Lincoln Laboratories conducted an investigation into lack of Mode S and TCAS II interrogation response on some flights in the North East, including Boston and John F Kennedy Airports. This problem was noted after the removal of the "Terra Fix" affecting ground station filtering. The affected aircraft in large part were equipped with TPR-720 and TPR-900 Transponders. Several units from varying operators were selected for further investigation and sent to the service center and to Rockwell Collins Melbourne Engineering facilities in Florida.
- (2) Rockwell Collins found that due to the age of the Transponders and no depot level maintenance over a period of four (4) years or greater the units may exhibit a shift in the alignment of the receiver sensitivity circuitry causing intermittent or no replies to Mode S sensor and TCAS II interrogations. Also, due to the age of the units some components may require replacement. The shift in the alignment of the receiver sensitivity circuitry could lead to a degradation of airspace separation due to intermittences of interrogation detection.

2.0 Recommended Action

Rockwell Collins recommends regular depot level maintenance for the TPR-720 and TPR-900 due to their age and the older analog circuitry in the unit. Standard ramp testers are insufficient to detect all necessary receiver sensitivity levels to ensure proper operation of these transponders. To insure proper operation condition in the airspace, all operators need to have their TPR-720 and TPR-900 transponders bench tested. The TPR-720 should be tested using the Component Maintenance Manual (CMM) part number 523-0775038 and use the Fault Isolation Procedure detailed in Figure 127 through Figure 130 and for the TPR-900 CMM 523-0776924 use the Fault Isolation Procedure detailed in Figure 127 through Figure 130. Upon completion of the receiver alignment complete the return to service test. Rockwell Collins recommends that the TPR-720 and TPR-900 be sent to a Rockwell Collins authorized repair facility a minimum of every four (4) year for alignment and return to service testing.