

OCT 21 1994

SAA29CL01-030

B/L: 554.50, 554.75
SYS: TACAN

Critical Item: Monitor Antenna (2 Items Total, one per site)
Find Number: Unit 12
Criticality Category: 1

SAA No:	29CL01-030	System/Area:	TACAN/TALS
NASA		PMN/	U72-1317-01/
Part No:	None	Name:	Monitor Antenna
Mfg/	E-Systems/	Drawing/	T.O.31R4-2TRN26-2/
Part No:	006292-02	Sheet No:	3-36

Function: Sample RF radiated signal from the main antenna.

Critical Failure Mode/Failure Mode No: Fail to operate/29CL01-030.014.

Failure Cause: Discrete component failure.

Failure Effect: Inability to sample RF radiated signal from main antenna will impact the 15 and 135 HZ bearing modulated signal monitor capability, resulting in transfer or shut down. This failure could cause loss of life and/or vehicle. Detection method is system alarm. Time to effect is immediate from 250 nautical miles to 20 nautical miles.

ACCEPTANCE RATIONALE

Design:

- All controls are housed in an environmentally controlled enclosure to prevent premature component failure due to heat and corrosion.
- This system has design features that shield against unwanted RF and lightning strikes.
- The TACAN AN/TRN-26 is a portable tactical air navigation system designed for use at remote landing strips and forward operating areas by the US Air Force.

Test:

- TACAN activation is required T-3 hours before the start of Ground Launch Sequence. This activation will provide assurance that the system is functioning as required.
- OMRS File VI requires a system validation test prior to each use of TACAN for Orbiter landing.
- NSTS 07700, Vol. X, requires an annual validation test that verifies proper reception of signal by in flight aircraft to determine ground interference and system alignment quality.

*Attachment
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Inspection:

- Prior to TACAN activation a pre-operation checkout (inspection) is performed per OMI Z3109-A.

Failure History:

- Current data on test failures, unexplained anomalies and other failures experienced during ground processing activity can be found in PRACA database. The PRACA database was researched and no failure data was found on this component in the original failure mode.
- The GIDEP failure data interchange system has been researched and no data on this item was found.

Operational Use:

- **Correcting Action:**

There is no action which can be taken to mitigate the failure effect.

- **Timeframe:**

Since no correcting action is available, timeframe does not apply.

*Attachment
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