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Maintenance

**RADAR THREAT WARNING SYSTEM MODE 4
AND ALQ-131 CHECKS**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction establishes procedures for conducting Radar Threat Warning Receiver (RWR), Mode IV and ALQ-131 Systems reliability checks. It implements AFD 21-1, *Managing Aerospace Equipment Maintenance*. It also references AFI 10-201, *Status of Resources and Training System*, and AFRESI 21-101, *Objective Wing Aircraft Maintenance*. Additional equipment to be checked will include Have Quick radios, Victor and UHF Secure radios as per the fighter squadron flying standards. This instruction will be a fundamental part of the 419 FW Electronic Combat Program. This instruction will be reviewed annually to determine applicability and incorporate improvements as they apply to the Electronic Combat Program. This instruction applies to the 419 FW Operations Group and 419 FW Logistics Group personnel who conduct radar threat warning system mode 4 and ALQ-131 checks.

1. Responsibilities:

- 1.1. 466 FS/DO. Ensures full pilot participation when RWR and Mode IV checks are performed.
- 1.2. 466 FS/CC. Ensures the RWR and Mode IV checks are performed quarterly in a safe and efficient manner.
- 1.3. 419 FW/OSWE. Ensures the ALQ-131 ECM pods are properly programmed, up-loaded and flown as requested.
- 1.4. 419 FW/OSWE, 466 FS/DOK, and the 466 FSM/MAOS. Ensures system performance by tracking the results of the systems checks.
- 1.5. 466FS/DOK:
 - 1.5.1. Ensures the minimum equipment is available to maintain squadron combat capability, by using the results of the systems checks.

1.5.2. Ensures ECM pods are loaded on all air to air configured jets for daily training, all aircraft during real world contingency operations, and whenever the 466 FS participates in large exercises configured for air to ground operations.

1.6. Squadron Pilots. Will be responsible for ALQ-131 checks as per the pilot aid whenever they are flown.

1.7. Maintenance ECM Pod Shop:

1.7.1. Reports ECM pod status as prescribed by AFI-10-201 to determine serviceable pod percentage as it applies to 419FW "C" status.

1.7.2. Participates in EWAP whenever the opportunity arises, with a goal of once a year, to evaluate the effectiveness of both the RWR and ECM pods.

2. Procedures:

2.1. Mode IV (not less than 70% of possessed aircraft are checked quarterly):

2.1.1. 466 FSM:

2.1.1.1. Stations the 424 equipment at the flow through taxiway.

2.1.1.2. Squirts the Mode IV and check for positive reply.

2.1.1.3. Records results on a locally produced aircraft taxiway status log and adds any additional comments/write-ups offered by the aircrew during debrief.

2.1.1.4. Enters discrepancies into the aircraft forms and CAMS.

2.1.1.5. Attempts to accomplish on-the-spot corrections.

2.1.1.6. Enters Mode IV results on an EC quarterly performance summary sheet which is maintained by the wing ECM pod shop. Forwarded to the 419 FW/OSWE, 466FS/DOK, and the 466FS/MAOS.

2.1.2. Pilots:

2.1.2.1. Taxi between the check platform with IFF in NORM, Mode IV on with audio selected. Problems noted during ground checks are passed directly to personnel performing the test over VHF frequency 49.875.

2.1.2.2. Request airborne Mode IV checks with GCI or AWACS whenever possible.

2.1.2.3. Record any discrepancies on the AFTO Form 781A, **Maintenance Discrepancy and Work Document**, at debrief.

2.1.2.4. 466FS/DOK reviews the quarterly results and report significant findings to the wing OG/CC.

2.2. Radar Treat Warning (RWR) (not less than 70 percent of possessed aircraft are checked quarterly):

2.2.1. 466 FSM:

2.2.1.1. Stations 427 equipment at the flow through on the 466th Ramp for RWR checks per checklist LCL-419FW-60-7.

- 2.2.1.2. Checks all 4 quadrants with the 427 equipment in all bands.
- 2.2.1.3. Verbally confirms results with the pilot at the time of the check by VHF headset.
- 2.2.1.4. Records results on locally produced aircraft taxiway status log and add any additional comments/write-ups offered by the aircrew during debrief.
- 2.2.1.5. Enters discrepancies into the aircraft forms and CAMS.
- 2.2.1.6. Summarizes outstanding discrepancies at the end of each quarter and records on the EC monthly performance sheet. (Pod Shop maintains) This form will be forwarded to the 419FW/EWO, 466FS/DOK, and the 466FS/MAOS.
- 2.2.1.7. Inspects and performs scheduled maintenance of the ALR-69 system every 90 days. All discrepancies will be documented on aircraft forms and CAMS

2.2.2. Pilots:

- 2.2.2.1. Ensure ALR-69 is on and a self test has been accomplished prior to entering the RWR check platform.
- 2.2.2.2. Verbally pass any discrepancies to the FSM specialist performing the check on VHF frequency 49.875.
- 2.2.2.3. As during daily operations, debrief any additional discrepancies found while airborne.

2.3. ECM Pods:

2.3.1. ECM Pod Shop:

- 2.3.1.1. Tracks failures on each pod.
- 2.3.1.2. Enters summary of POD performance on the EC Monthly performance summary sheet and forwards a copy of the results to 419FW/OSWE, 466FS/DOK, and the 466/MAOS.
- 2.3.1.3. Annotates corrective action and estimated completion dates for any inoperative pods on the monthly performance sheet.

2.3.2. Pilots:

- 2.3.2.1. After a 200 second warm-up, performs an ICITs on the ground prior to take off.
- 2.3.2.2. Notes any failures which occur airborne in a Transmit position.
- 2.3.2.3. Performs an airborne ICITs, as per the "Diamondback Warbook", on RTB.
- 2.3.2.4. Annotates any discrepancies during debrief along with POD number and launcher serial number.

2.4. ALE-40:

2.4.1. 466 FSM:

- 2.4.1.1. Compiles ALE-40 discrepancies monthly on the EC performance summary sheet. The summary sheet is forwarded to the 419FW/OSWE, 466FS/DOK, and the 466FS/MAOS.
- 2.4.1.2. Runs a functional check/test of each ALE-40 every 90 days.
- 2.4.1.3. Discrepancies will be documented in the aircraft forms and CAMS.

2.4.2. Pilots. Write, in specific detail, any known discrepancies in the aircraft forms.

3. Follow-up. The 419FW/OSWE, 466FS/DO, and 466/DOK will take a look at the EC performance summary sheets and highlight any problems or trends in low equipment operability. This information will be passed to 419OG/CC and 466 FS/CC and 466 FS/DO. A course of action to remedy highlighted problems will be developed by the 466 FSM/MAOS in conjunction with 419FW/OSWE and 466FS/DOK on a case by case basis. Estimated times of completion to fix the inoperable equipment will be agreed upon and suspended as necessary at that time.

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