BY ORDER OF THE COMMANDER
442D FIGHTER WING

442d FIGHTER WING INSTRUCTION 21-110

6 April 1999

Maintenance

OIL ANALYSIS PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 21-1, *Managing Aerospace Equipment Maintenance*. It provides guidance and assigns responsibility for managing the Air Force Oil Analysis Program (AF OAP) and for participating in the Joint Oil Analysis Program (JOAP). Technical Orders (TO) 33-1-37-1/-2/-3, *Joint Oil Analysis Program*, outline the technical aspects of oil analysis. This 442 Fighter Wing Instruction 21-110 establishes procedures and assigns responsibility within the 442d Fighter Wing for the Oil Analysis Program. These procedures apply to all personnel assigned to the 442d Fighter Wing. Supervisors, superintendents and flight chiefs are responsible for ensuring compliance with this instruction.

SUMMARY OF REVISIONS

This revision changes the publication number and designates applicable policy directive. A (|) indicates revisions from the previous edition.

1. Procedures:

1.1. A-10 aircraft will be sampled daily after the first flight.

1.2. Analysis results must be reported to the MOC prior to the next day's flying. If the aircraft is flying multiple turns, interval between samples shall not exceed ten engine operating hours. Take sample before adding oil.

1.3. If a situation arises that prevents the results of an oil analysis from being known when required, an entry will be made in the AFTO Form 781A, **Maintenance Discrepancy and Work Document**, that states, "ENGINE OIL ANALYSIS RESULTS DUE." This entry will be entered with a red dash symbol in accordance with T.O. 00-20-5. The 442 OG Commander or their designated representative's approval is required prior to flight or further engine operation.

2. Responsibilities:

2.1. 442 LG Commander:

2.1.1. Coordinate with 509 MXS (JOAP Lab), Whiteman AFB, Missouri, 65305, for support in the event the spectrometer is down for maintenance.

2.1.2. Make arrangements to expedite delivery of the oil samples, if support is required of alternate oil analysis facility.

2.1.3. Appoint Oil Analysis Program Monitors in the Propulsion Flight for aircraft or engines requiring oil analysis to ensure the program is administered in accordance with T.O. 33-1-37-1/2/3.

2.2. MOC:

2.2.1. Upon notification by JOAP Lab of aircraft grounding or special sample requirements, annotate aircraft status board and assure prompt notification of the FSM OIC, Superintendent, Production Super or flight line expediter.

2.2.2. Notify the flight line expediter when special samples are to be taken.

2.2.3. Establish procedures to ensure that MOC marks the flying schedule board to show the oil sample results before the next day's flight.

2.2.4. Ensure aircraft identified as requiring special sampling are not released for flight until results of the latest sample have been received.

2.2.5. Notify JOAP Lab of aircraft by tail number identified for deployment or cross-country as soon as schedule has been finalized.

2.2.6. Call JOAP Lab during aircraft documentation review to make sure correct engine serial numbers and aircraft flight hours are shown on the DD Form 2027, **Oil Analysis Record**.

2.2.7. Sampling frequency will remain the same regardless of the availability of oil analysis equipment or personnel.

2.3. Fighter Squadron Maintenance:

2.3.1. Train personnel in documenting oil samples and ensure a complete understanding of special oil sample requirements.

2.3.2. Ensure only fully trained personnel accomplish oil sampling in accordance with applicable directives.

2.3.3. Ensure oil samples are taken in a most timely manner (15 minutes) after engine shutdown. DD Form 2026, **Oil Analysis Request**, is initiated ensuring accuracy of entries and promptly submitted to JOAP Lab for processing.

2.3.4. Ensure adequate supply of oil sample kits are available.

2.3.5. Ensure adequate amount of oil is taken for proper analysis (one half bottle or more).

2.3.6. Enter the following statement in AFTO Form 781A of all aircraft scheduled for cross-country:

2.3.6.1. "A-10 SOAP sample will be taken after first flight of the day. Where no SOAP support exists, samples shall be taken, and then processed at the next location. Sample results shall not exceed 10 engine operating hours."

2.4. JOAP Lab:

2.4.1. Ensure personnel designated as lab technicians are fully qualified in performing spectrometric oil analysis operation and evaluation.

2.4.2. Establish and maintain an oil analysis log.

2.4.3. Process all samples in a timely manner giving priority to Red Cap and special samples.

2.4.4. Notify MOC and Propulsion Flight of results of all Red Cap and special samples.

2.4.5. Participate in the correlation program as prescribed in T.O. 33-1-37-1/2.

2.4.6. Prior to analyzing samples, the daily standardization checks on the spectrometer will be done in accordance with applicable tech data.

2.4.7. Lab control numbers will be assigned to each sample that comes into the lab. The lab control number will start with 0l each day and continue consecutively for that day. Place this number on the DD Form 2026 and the sample bottle.

2.4.8. Prior to cross-country flight, ensure a DD Form 2026 is filled out to include at least the last ten hours of engine operation and/or at least the last three analysis. The prepared DD Form 2026 will be annotated on a cross-country flight log maintained by JOAP Lab. FSM representative will acknowledge receipt of the DD Form 2026 by signing the log. FSM personnel will put the forms into the aircraft records prior to flight.

2.4.9. Duplicate copies of the DD Form 2027 will be sent with the aircraft on all deployments of five days or more.

2.5. Propulsion Flight:

2.5.1. Ensure assigned personnel are fully qualified to accomplish oil sampling in accordance with applicable directives.

2.5.2. Report all information on engine changes to the JOAP Lab as soon as possible.

2.5.3. Ensure oil samples are taken in a most timely manner (15 minutes) after engine

shutdown for test cell engines and aircraft installed engines; DD Form 2026, **Oil Analysis Request**, is initiated ensuring accuracy of entries and promptly submitted to JOAP Lab for processing.

2.5.4. Ensure adequate amount of oil is taken for proper analysis (one half bottle or more).

2.5.5. Notify the JOAP Lab promptly of all inspection results, maintenance and repair actions resulting from lab recommendations.

2.5.6. Document all engine removals that are a result of an oil analysis recommendation to reflect “U” when discovered and HOW MAL Code 916.

2.5.7. JOAP Lab will be notified prior to all oil changes on aircraft engines.

2.6. Oil Sample Delivery:

2.6.1. The section taking the oil samples is responsible for delivery of the samples to the JOAP Lab not to exceed the sample response time of 1 ½ hours.

2.6.2. All oil samples will be signed in by JOAP Lab personnel.

MICHAEL K. LYNCH, Col, USAFR
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 21-1--*Managing Aerospace Equipment Maintenance*

T.O. 00-20-5--*Aerospace Vehicle Inspection and Documentation*

T.O. 33-1-37-1/2/3--*Joint Oil Analysis Program*

T.O. 1A-10A-6--*Scheduled Inspection and Maintenance Requirements*

AFRCI 21-101--*Aircraft Maintenance Guidance and Procedures*

AFI 21-124--*Air Force Oil Analysis Program*