

Environmental Standard Operating Procedure			
Originating Office: MCAS Miramar Environmental Management Department	Revision: Original	Prepared By: Environmental Management Department.	Approved By: William Moog
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Title: Patch Testing

1.0 PURPOSE

The purpose of this Environmental Standard Operating Procedure (ESOP) is to provide environmental guidelines for conducting aircraft hydraulic fluid contamination analysis (patch testing) operations.

2.0 APPLICATION

This guidance applies to those individuals who perform patch testing of aircraft hydraulic fluid at Marine Corps Air Station (MCAS) Miramar.

3.0 REFERENCES

- 29 Code of Federal Regulations (CFR)
- 40 CFR
- 22 California Code of Regulations(CCR)
- MCO P5090.2A (USMC Environmental Compliance and Protection Manual)
- NAVAIR 01-1A-17
- NAVAIR 01-1A-20
- NAVAIR 17-15BF-97
- COMNAV 4790.2
- Squadron Link Control Protocol

4.0 PROCEDURE

3.1 Discussion:

During normal operation, hydraulic systems become contaminated with metallic and non-metallic particles. Particle contamination is caused by wear or failure of system components, or maintenance and servicing operations that were not performed to standard. This ESOP provides guidance for conducting patch testing operations to determine the particulate level and presence of free water, or other foreign substances in hydraulic systems.

Periodic testing of aircraft hydraulic fluid is required to ensure that performance standards are maintained for normal and safe aircraft operation, however, hydraulic fluid is a known hazardous waste (HW), and sampling,

analysis, and disposal activities associated with patch testing have the potential to impact human health and the environment if not handled properly.

Units have been equipped with approved transfer containers; aboveground storage tanks (ASTs) and storage facilities. Contact the Environmental Management Department (EMD) for replacement or additional containers.

3.2 Operational Controls:

The following procedures apply:

1. Ensure that Material Safety Data Sheets (MSDSs) for hydraulic fluid MIL-PRF-8328, solvent P-D-680 TYPE II, and any other materials associated with this practice are available and current.
2. Ensure that training certification records for all personnel are current and available.
3. Ensure that proper Personal Protective Equipment (PPE) is used. This includes: apron, gloves, cranial protection, hearing protection (ear plugs or ear muffs), and eye protection (goggles or safety glasses and face-shield), chemically-resistant clothing, and steel-toed boots.
4. Maintain a fully stocked spill kit nearby in a known location.
5. Maintain fire extinguishers nearby in known locations.
6. Ensure that Naval Aviation Logistics Command Operating Maintenance Information System (NALCOMIS) maintenance records are current and available for inspection.
7. Ensure the specialized solvent wash bottle is used for fluid analysis.
8. Ensure that only approved HW containers, such as drip pans and transfer containers, are used for sampling and transporting sampled hydraulic fluid.
9. Ensure that proper secondary containment is used for collecting, transporting and disposing of samples.
10. Properly label all HW containers completely and legibly with the words "Hazardous Waste", accumulation start date, and Environmental Protection Agency (EPA) HW number (e.g. D003).
11. If there are any specific situations or other concerns not addressed by this procedure, contact the EMD.

3.3 Documentation and Record Keeping:

The following records must be maintained for hazardous materials/wastes and equipment:

1. MSDSs for hydraulic fluid, solvent and all other materials associated with this practice.
2. Training records and certifications for all Unit personnel.
3. Hazardous material inventory log book.
4. HW log book.
5. Spill log book.
6. Site inspection records.
7. NALCOMIS maintenance documentation (tracked hourly)
 - Electronic (tape).
 - Aircraft Logbooks.

3.4 Training:

All applicable personnel must be trained in this Standard Operating Procedure and the following:

1. Hazard Communication (HAZCOM) Training.
2. General Environmental Awareness Training.
3. 40-hour Hazardous Waste Operations Emergency Response (HAZWOPER) Training (initial).
4. 8-hour HAZWOPER Refresher Training (annually).
5. First Responder Operations (FRO) Training.
6. Safety and Hazardous Materials Coordinator.
7. General shop safety.
8. Initial On-the-Job Training (OJT).
9. Aircrew Refresher Training.
10. F-18 Hornet Legacy Training.
11. Hydraulic fluid sampling certification.
12. Command Naval Air Force (COMNAV) Course.
13. Air Frames (hydraulic/structure training).

- 14. Electrical shop safety training.
- 15. Fuel Systems/Engineering.
- 16. Naval Air Systems Command (NAVAIR) 01-1A-17.
- 17. NAVAIR 17-15BF-97.

3.5 Emergency Preparedness and Response Procedures:

Refer to Marine Corps Order (MCO) P5090.2A, Subject: Oil/Hazardous Substance Spill/Spill Prevention Control & Countermeasures (OHSS/SPCC) for MCAS Miramar.

3.6 Inspection and Corrective Action:

The Environmental Compliance Coordinator (ECC) shall designate personnel to perform inspections. The ECC shall ensure deficiencies noted during the inspections are corrected immediately. Actions taken to correct each deficiency shall be recorded on the inspection sheet.

Patch Testing – Inspection Checklist	
Date:	Time:
Installation:	Work Center:
Inspector's Name:	Signature:

Inspection Items	Yes	No	Comments
1. Are MSDSs for hydraulic fluid (MIL-PRF-8328), solvent P-D-680 TYPE II, and any other materials associated with this practice available and current? <i>(29CFR 1910, 40 CFR, 22 CCR, MCO P5090.2A)</i>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Are training and certification records for all unit personnel maintained and available for inspection? <i>(MCO P5090.2A)</i>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Is proper PPE used for all procedures? <i>(29 FR 1910, MCO P5090.2A)</i>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Is a spill kit maintained nearby in a known location? <i>(29 CFR 1910, 40 CFR, 22CCR, MCO P5090.2A)</i>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Are fire extinguishers maintained nearby in known locations? <i>(29 FR 1910, MCO P5090.2A)</i>	<input type="checkbox"/>	<input type="checkbox"/>	
6. Are NALCOMIS maintenance records current and available for inspection?	<input type="checkbox"/>	<input type="checkbox"/>	

<i>(MCO P5090.2A)</i>			
7. Is the specialized solvent wash bottle used for fluid analysis? <i>(22 CCR, MCO P5090.2A)</i>			
8. Are only approved HW containers used for sampling and transporting sampled hydraulic fluid? <i>(29 CFR 1910, 40 CFR, 22 CCR, MCO P5090.2A)</i>			
Is proper secondary containment used for collecting, transporting and disposing of samples? <i>(29 CFR, 22CCR, MCO P5090.2A)</i>			
10. Are all HW containers properly labeled completely and legibly with the words "Hazardous Waste", accumulation start date, and Environmental Protection Agency (EPA) HW number (e.g. D003)? <i>(40 CFR 262)</i>			

ADDITIONAL COMMENTS:

CORRECTIVE ACTION TAKEN:

Environmental Compliance Coordinator

Name: _____

Signature: _____

Date: _____