

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: Equipment Disposal MWU:

1.0 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to provide environmental guidelines for conducting air conditioning (A/C) equipment repair or disposal operations at Ground Support Equipment (GSE)-90 onboard Marine Corps Air Station (MCAS) Miramar.

2.0 APPLICATION

This guidance applies to those individuals who perform draining and recycling of Freon and draining of used oil in the course of preparing A/C units for repair or disposal at the Avionics Work Center 990.

3.0 REFERENCES

- 29 CFR (Code of Federal Regulations)
- 40 CFR 262
- Clean Air Act of 1990 (EPA)
- 22 CCR (California Code of Regulations)
- MCO P5090.2A (USMC Environmental Compliance and Protection Manual)
- FRL-5199-4

4.0 PROCEDURE

3.1 Discussion:

In the course of preparing A/C units for repair or disposal, personnel at Avionics Work Center 990 handle hazardous materials/wastes that must be managed properly to avoid environmental releases which could impact the local community. The proper (approved) containers must be used for draining and collecting these materials. Evacuated/recovered Freon is a hazardous material and gets recycled accordingly. Evacuated mineral oil is contaminated and gets treated as a HW. The Avionics Work Center 990 shop personnel can also repair some refrigeration equipment. In the case of repairs, shop personnel would drain the Freon and refill the equipment with recycled Freon.

Used rags must be properly stored in red foreign object debris (FOD) buckets for disposal at a designated location. Contact Environmental Management Department (EMD) for change out or repair of equipment.

3.2 Operational Controls:

The following procedures apply:

1. Ensure that all Material Safety Data Sheets (MSDSs) associated with this practice are available and current.
2. Conduct new hire orientation and initial training.
3. Maintain required current training and certifications for all personnel
4. Ensure that Personal Protective Equipment (PPE) is used, including heavy-duty gloves, face shields, safety glasses and steel-toed boots, when handling Freon or mineral oil.
5. Maintain a fully stocked Spill Kit nearby in a designated location known to all unit personnel. Spill Kits must contain sulfur, as the A/C units have thermostats (internal switches have potential to break and release mercury).
6. Maintain fire extinguishers nearby in known locations.
7. Post signs reading "Non-Flammable Compressed Gas" in area and on Hazardous Materials (HAZMAT) storage locker.
8. Ensure that only approved containers are used to drain and store used Freon and mineral oil (separately).
9. Perform all Freon draining procedures outdoors as it displaces oxygen (O₂).
10. Deposit all used mineral oil into the used mineral oil drums in the hazmat area, and keep mineral oil separate from all other petroleum, oils, and lubricants (POL), as it is chlorinated.
11. Drain all Freon (R-12, R-134a or R-404a) into the Robinair for recycling (R-22 is not recycled).
12. Adhere to the following process sequence when draining refrigerant from a unit:
 - A. Recovery: to remove the refrigerant from the unit into an external container, without necessarily testing it.
 - B. Recycle: (through the Robinair) to clean the refrigerant for reuse by oil separation and single or multiple filter dryers.
 - C. Reclaim: to restore refrigerant to original chemical specification so it can be reused.
13. When draining the refrigerant from a piece of gear, ensure that the tank it is being drained into is not filled in excess of 80% of the tanks rated volume at any time.
14. If the tank is going to be transported in a vehicle of any kind, ensure that the level of refrigerant in the tank does not exceed 60% of the tanks rated volume, at 70 degrees Fahrenheit (F).

15. Mark A/C units (for disposal) that have been drained of all Freon and mineral oil with "Empty" and the date on all sides.
16. Fill out and attach a copy of a completed Refrigerant Removal Certification Form to each A/C unit (for disposal).
17. Ensure that containers are labeled and stored outside generator bay in HAZMAT storage lockers incase of leakage.
18. Keep all containers closed except when HW or materials added or removed.
19. Complete a Refrigerant Removal Certification Form whenever refrigerant is removed, and maintain at Avionics Work Center 990 for three (3) years.
20. .Maintain a HW Log, which includes container type, accumulation start and end dates, date container taken to "Air Frames", and HW Manifest number.
21. Properly clean up all spills immediately and report the spill to the shop supervisor.
22. Maintain a Spill Log Book detailing spill date, time, type of product spilled, quantity, location, cleanup actions, taken, and name of person reporting spill.
23. Properly dispose of all used rags in red FOD buckets, and transfer to "Air Frames" for disposal when buckets are full.
24. Ensure that all inspection records are current and available for review.
25. 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. MSDS for refrigerants (R-12, R-22, R-134a and R404a) and Mineral Oil.
2. Training records and certifications for all personnel.
3. Refrigerant Removal Certification Forms (kept by the MWU head office for 3 years).
4. HW Log Book
5. Spill Log book

3.4 Training:

All affected personnel must be trained in this SOP and the following:

1. EPA refrigerant recycling/remediation course (3 days; North Island [San Diego, CA]).
2. Hazard Communication (HazCom) Training, (initial and annual).
3. 40-hour Hazardous Waste Operations and Emergency Response (HazWOPER) Training
4. 8-hour HazWOPER Refresher Training
5. HAZMAT Supervisor Training (Supervisor/Hazmat Coordinator only).

3.5 Emergency Preparedness and Response Procedures:

Refer to Marine Corps Order (MCO) P5090.2A Subject: Oil/Hazardous Substance Spills and Spill Prevention Containment and Countermeasures (OHSS/SPCC) Plan for further guidance.

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.

Equipment Disposal; MWU – Inspection Checklist	
Date:	Time:
Installation:	Work Center:
Inspector's Name:	Signature:

Inspection Items	Yes	No	Comments
1. Are all MSDSs for refrigerants (R-12, R-22, R-134a and R404a) and mineral oil current and available for inspection? <i>(29 CFR 1910, 40 CFR, 22 CCR, MCO 5090.2A)</i>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Are all training records current and available for inspection? <i>(MCO P5090.2A 9104.1(k)(5)- inspection only)</i>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Is proper PPE (e.g., heavy-duty gloves, eye protection [safety glasses and face shield], and steel-toed boots) used when handling Freon or mineral oil? <i>(29 CFR 1910)</i>	<input type="checkbox"/>	<input type="checkbox"/>	

<p>4. Is a fully stocked spill kit kept nearby in a designated location known to all shop personnel? (29 CFR 1910, 40 CFR, 22 CCR, MCO P5090.2A)</p>			
<p>5. Are fire extinguishers kept nearby in known locations? (CFR 1910, 40 CFR, 22 CCR, MCO P5090.2A)</p>			
<p>6. Are signs reading "Non-Flammable Compressed Gas" posted in the area and on HAZMAT storage lockers? (40 CFR, 22 CCR, MCO P5090.2A)</p>			
<p>7. Are only approved containers used to drain and store Freon and mineral oil (separately)? (40 CFR, 22 CCR, MCO P5090.2A)</p>			
<p>8. Is Freon draining procedures only performed outdoors as Freon displaces oxygen (O₂)? (29 CFR 1910)</p>			
<p>9. Is all used oil deposited into the used mineral oil drum located in the Hazardous Materials Area, and kept separate from other POL drums? (40 CFR, 22 CCR, MCO P5090.2A)</p>			
<p>10. Is all used Freon (other than R-22) deposited into the Robinair for recycling? (40 CFR, 22 CCR, MCO P5090.2A)</p>			
<p>11. Is the following process sequence used when draining refrigerant from a unit?</p> <p>A. Recovery: remove the refrigerant from the unit into an external container, without necessarily testing it.</p> <p>B. Recycle: (through the Robinair) to clean the refrigerant for reuse by oil separation and single or multiple filter dryers.</p> <p>C. Reclaim: restore refrigerant to original chemical specification so it can be reused.</p> <p>(40 CFR, 22 CCR, MCO P5090.2A)</p>			
<p>12. When draining refrigerant from an A/C unit, is the tank it is being drained into filled to no more than 80% of the tanks rated volume at any time? (MCO P5090.2A)</p>			
<p>13. If the tank is going to be transported in a vehicle of any kind, is the level of refrigerant in the tank no more than 60% of the tanks rated volume, at 70 degrees F? (MCO P5090.2A)</p>			
<p>14. Are vehicles/units marked with "Empty" on all sides after being drained of Freon and oil? (40 CFR, 22 CCR, MCO P5090.2A)</p>			
<p>15. Is a copy of a completed Refrigerant Removal Certification</p>			

Form filled out and attached to the unit the refrigerant was removed from? Is a copy in the MWU Office for 3 years? <i>(40 CFR, 22 CCR, MCO P5090.2A)</i>			
16. Are all containers kept closed except when materials or HW are added or removed? <i>(40 CFR, 22 CCR, MCO P5090.2A)</i>			
17. Are containers labeled and stored outside generator bay in HAZMAT storage locker? <i>(40 CFR, 22 CCR, MCO P5090.2A)</i>			
18. Is HW Log maintained and available for inspection? <i>(40 CFR 262)</i>			
19. Are all spills properly cleaned up immediately? <i>(40 CFR, 22 CCR, MCO P5090.2A)</i>			
20. Is a Spill Log book maintained and available for inspection? <i>(40 CFR, 22 CCR, MCO P5090.2A)</i>			
21. Are used rags properly disposed of in red FOD buckets and taken to Airframes for disposal when full? <i>(MCO P5090.2A)</i>			
22. Are all inspection records current and available for review? <i>(MCO P5090.2A 9104.1(k)(5)- inspection only)</i>			

ADDITIONAL COMMENTS:

CORRECTIVE ACTION TAKEN:

Environmental Compliance Coordinator

Name: _____

Signature: _____

Date: _____