

12 May 2003

This Master Entry Plan (MEP) covers procedures for members of the Confined Space Entry Team from the Aircraft Landing Gear Maintenance Shop (MADPML) to perform preventative maintenance or repairs in Collector Dust 505 Out NE, PM 008018; Collector Dust 505 Out NE, PM 008019; and Collector Dust 505 Out NE, PM 008020.

1. Location: Dust Collectors are located outside Building 505, East side.

2. Description of Workplace: The three dust collectors are elevated 12 feet off the ground and require the use of a man lift to reach the access panels they enter to perform their work tasks. There are two access panels adjacent to each other; they are 3.5 feet by 2.5 feet. The dust collectors are of metal fabrication and the overall outside diameter is 7 feet high by 8 feet long by 6 feet wide. The dust collectors are used to filter a blasting agent – abrasive grains and powders (garnet). MADPML maintenance personnel enter dust collectors to perform periodic maintenance or repair on this equipment

3. Tasks/Operations to be Performed: The following tasks will be accomplished in accordance with job plans and work control documents for preventative maintenance or repair of dust collectors.

Note: *Coordinate with production foreman prior to working on equipment.*

3.1. Every 30 days the following will be accomplished:

3.1.1. When airflow is reduced to an unacceptable level when fan damper is wide open. Replace tenkay filter cartridges P/N 72518-001 and clean panic filter.

3.1.2. Check packing gland rings and adjust.

3.1.3. Check threaded packing gland packing assembly for flue gas leakage while damper is on lone, Tighten nuts to prevent leakage.

3.2. Every 90 days the following will be accomplished:

Same as 30-day maintenance plus:

3.2.1. Inspect all air lines and assure that no leaks occur.

3.2.2. Check actuator limit switches for proper setting any signs of potential failure or safety hazard.

3.3. Every 180 days the following will be accomplished:

Same as 30 and 90-day maintenance plus:

3.3.1. Check that all screws, bolts and connections are well tightened.

3.3.2. Make a thorough mechanical inspection of machine and equipment.

4. Chemicals Used: No chemicals are introduced into the confined space.

Are any lub oil or chemical leak detector used in paragraph 3 ? If so, list them as chemicals.

Note: *If any chemicals are needed to accomplish repairs, the MSDS will be reviewed, the CSPT will be contacted for guidance and approval, and the chemical will be listed on the permit.*

5. Technical Data Required: AFOSH STD 91-25, *Confined Spaces*; AFMC 21-127, *Depot Maintenance Plant Management*; AFOSH STD 48-137, *Respiratory Protection Program*; *Respirator Protection Program OI for PEG 5073C*; *Manufacturer's Tech Data*; and the current Bioenvironmental Engineering Survey for PEG 507C3.

6. Prevention of Unauthorized Entry: The dust collector doors are labeled **CONFINED SPACE – ENTRY BY PERMIT ONLY**. Entrance to confined space will be roped off and posted with restricted entry signs. Attendant will monitor entry point.

7. Potential Hazards: Oxygen depletion, Engulfment, dust, explosion and entrapment.

7.1. Potential Hazard Description:

7.1.1. Oxygen Depletion.

7.1.2. Engulfment - Dust environment.

7.1.3. Explosion of dust particles.

7.1.4. Dust - Inhalation of fine dust particulate

7.1.5. Entrapment - Converging areas in the interior of the collector and entanglement in lines.

7.2. Control of Hazards: All hazards are controlled with methods consistent in the current Bio Survey; MSDSs on all products approved for use in this confined space. **This deals with chemical use, I believe. No chemicals are being used.**

Lockout/tag out requirements will be complied with to eliminate the potential for electrical shock, engulfment and hazardous dust atmospheres in the confined space. Atmospheric conditions will be monitored and PPE, including full- face MSA Air purifying respirator with P100 cartridges, will be worn during confined space entry. The P100 cartridges are to be changed out every two hours. Entrants must be cognizant of areas of the confined space in which they may become entrapped by converging areas and entangled in lines in the interior of the confined space. In case of a fall, entrant must wear a rescue harness with a lifeline for retrieval. Take precautions for explosions by not introducing a source of ignition or a lot of static electricity. **How do you prevent static electricity?**

If work tasks include riveting, welding, cutting, burning, heating, or grinding, a hot work permit will be obtained from the Fire Department.

8. Entry Procedures:

8.1. Entry Permit Requirement: An AF Form 1024, Confined Space Entry Permit, is required for all entries. Permit will not be issued until confined space meets requirements and acceptable entry conditions specified in paragraphs 8.2 and 8.3 are met. All permits must be coordinated with the OO-ALC/MANLBP Supervisor or alternate.

8.2. Engineering Controls and Isolation Methods (Lockout/Tagout):

Lockout/Tagout procedures will be followed to lockout electricity and air for dust collectors in accordance with OO-the ALC Form 215 attached to the applicable dust collector prior to entering the dust collectors to perform maintenance or repair.

PM 8018, PM8019 and PM 8020 (same procedures on each collector)

Warning: De-energize electrical power to control panel and tag, “out of service,” before performing inspection and maintenance. Do you mean = Lock and tagout electrical power to control panel ?

Note: *When changing cartridges, shut off all electrical power and fasten access doors open.* Same question as above?

8.2.1. ELECTRICAL: E1 Electric Motor is located 10 ft NE of Dust Collector. Pull switch. Place padlock through handle. E2 Power to unit is located 5 ft up on tower frame. Pull switch. Place padlock through handle. Tagout also?

8.2.2. AIR: A1 air valve is located 5 ft up on N side of tower. Turn valve to off. Lock with valve lock and tag out.

NOTE: *Dust collector 8018 can be de-energized by main electrical switch for PM 8015. Dust collector 8019 can be de-energized by main electrical switch on PM 8016. Dust collector 8020 can be de-energized by main electrical switch on PM 8017.*

8.3. Acceptable Entry Conditions:

8.3.1. All lockout/tagout procedures must be complied with.

8.3.2. Authorized attendant must be present.

8.3.3. Oxygen levels must not be less than 19.5% nor greater than 23.5% in the confined space.

8.3.4. Proper PPE including full-face air purifying respirator with P100 cartridges

8.3.5. Availability of Fire Department Emergency Rescue Services confirmed by calling 7-3021.

8.3.6. Hot Work permit signed by Fire Department, when required.

8.3.7. Permit is signed by all members of the confined space entry team and posted before work begins in the confined space.

8.3.8. Rescue harness and life line attached to retrieval device.

9. Authorization:

9.1. Confined Space Entry Team: Will consist of trained and authorized personnel from the Landing Gear Support Shop/MADPML. (See Authorized Entry Supervisor Listing, attachment 2.) The team will consist of four people: The entry supervisor, the entrant, the attendant, and the runner

9.1.1. Entry Supervisor: Note: See Attachment 1 for Authorization List.

9.1.1.1. Maintains a copy of this MEP.

9.1.1.2. Responsible for isolation of the area, the assigning of tasks, briefing the team before entry.

9.1.1.3. Ensures acceptable entry conditions listed in paragraph 8.2 and 8.3 are complied with.

9.1.1.4. Ensures personnel who are ill or on medication that may affect their ability to safely perform assigned tasks are excused from the operation.

9.1.1.5. Ensure entry equipment is available and serviceable.

9.1.1.6. Ensures proper PPE is available being worn, including respirator.

9.1.1.7. Ensures emergency rescue personnel are available.

9.1.1.8. Authorizes the confined space entry permit. Ensures the entry permit is complete, dated and signed by all team members prior to the entry and cancels the permit if conditions are no longer acceptable.

9.1.1.9. Insures personnel are in task, respirator, atmospheric testing equipment and confined space entry trained.

9.1.2.10. Revokes confined space entry permit when entry conditions are not consistent with the MEP

9.1.1.11. Entry supervisor will act in accordance with duties in AFOSH 91-25.

9.1.2. Attendant:

9.1.2.1. Responsible for monitoring the entry area and maintaining effective communication with the entrant(s).

9.1.2.2. Must be able to summon help in case of an emergency.

9.1.2.3. Limit entry only to those authorized.

9.1.2.4. In the event of an emergency, orders the evacuation of the confined space and directs the runner to notify emergency response personnel. Remains at the attendant's post and not leave for any reason except self-preservation unless replaced by an equally trained and qualified person.

Note: The attendant may assist the entrant in self-rescue only when assistance can be rendered without his/her body breaking the plane of the confined space entry.

9.1.3. Entrant:

9.1.3.1. Understands task to be performed.

9.1.3.2. Reviews the permit before entry, complying with entry procedures, ensures acceptable conditions exist, wears PPE, alerts attendant of changes in condition.

9.1.3.3. Responds immediately to the attendant's evacuation orders.

9.1.4. Runner:

9.1.4.1. Notifies emergency rescue services calling 911 via base telephone or 777-1911 via cell phone when alerted to do so by the attendant.

9.1.4.2. Assists in emergency rescue by directing the rescue team to the location of the entrant.

10. Training: The confined space entry team entry supervisor, attendant, entrant, and runner must have the following training: MAWH Confined Space Course 0523, Annual Site Specific Training, Confined Space Awareness Training and Atmospheric Tester Training, and respiratory training. All training shall be documented on individual's AF Form 55, Employee Safety and Health Record.

11. Entry Equipment and PPE:

11.1. Atmospheric Testing Equipment.

11.2. PPE includes coveralls, nitrile gloves, safety glasses, safety shoes, and full-face air purifying respirator with P100 cartridges. **Anti static coveralls ? Rescue harness, retrieval line and retrieval device ?**

12. Testing: Atmospheres in confined space will be tested and documented by the confined space entry team. Oxygen levels will be tested first. Oxygen levels must be between 19.5% and 23.5% followed by tests for LEL content, which will be maintained at 10% or less. An Eagle Tester will be used to check and monitor atmospheres and must be calibrated every thirty days, and before use? Is there a potential LEL problem? Can dust be checked for LEL? Can the Eagle tester check Dust?

13. Communication and Observation: The attendant will stand directly outside the confined space opening and verbally communicate with the entrant. The attendant will verbally notify the runner to call emergency rescue via base phone or cell phone when emergency rescue assistance is required.

14. Rescue: The 75ABW/CEF provides rescue support for all confined space entries. The attendant will direct the runner to notify Hill AFB Emergency Rescue by calling 911 on the nearest base phone. Call 777-1911 if using a cell phone. The runner must be able to provide the dust collector location and nature of the emergency to the 911 operator. The nearest base phone must be determined before entry and listed on the entry permit. The attendant cannot leave the confined space unless he/she is relieved by a trained and qualified person or for self-preservation. Upon the rescue teams arrival, the runner will direct the team to entrant's location.

Warning: Use of a Cell phone is limited to areas that do not have a potential for an explosive/flammable atmosphere

15. Contractor Interface: Contractors must be informed that work is to be performed in a permit required confined space. Insure information is included in the statement of work. The entry supervisor must coordinate with the contractor on any existing permits and inform the contractor of potential hazardous conditions within the area to be entered. The contractor will immediately inform the owner of the confined space and the entry supervisor of hazards detected in the confined space, when work in the confined space has been terminated, before completion and when the work has been completed. The contractor must be briefed on the contents of the AFOSH STD 91-25, Chapter 7.

16. Permit Routing and Control: Permits including cancelled permits will be kept on file in the MADPML shop for one year. A copy must be forwarded to MAD safety which in turn forward a copy to MAN Safety.

17. Amendment to the MEP: The MEP must be reviewed at least once a year by the entry supervisor and coordinated by Confined Space Program Team (CSPT) consisting of Bio-environmental Engineering /SGPB, Fire Department/CEF and Base Safety/SEG. Changes at any time to the MEP other than spelling and grammar will void the use of this MEP, require the termination of the confined space entry and must be brought to the attention of the entry supervisor, organizational safety office and the CSPT. The Base Safety Office/SEG will make all corrections. Reviews will be coordinated by the CSPT.

18. Coordination:

_____ OO-ALC/MADPML Chief/Entry Supervisor	_____ Date
_____ OO-ALC/MADPML Entry Supervisor	_____ Date
_____ OO-ALC/MADPML Entry Supervisor	_____ Date
_____ OO-ALC/MADPML Alternate Entry Supervisor	_____ Date
_____ OO-ALC/MADPML Alternate Entry Supervisor	_____ Date
_____ OO-ALC/MANLBP	_____ Date
_____ OO-ALC/MAN Safety	_____ Date
_____ OO-ALC/MAD Safety	_____ Date
_____ OO-ALC/MADP	_____ Date
_____ OO-ALC/SGPB	_____ Date
_____ 75 CES/CEF	_____ Date
_____ OO-ALC/SEG	_____ Date

Confined Space Entry Supervisor Authorization

The following personnel assigned to the Aircraft Landing Gear Maintenance Shop (MADPML) are authorized to approve and sign confined space entry permits for work to be performed in Collector Dust Out NE, PM 008018; Collector Dust Out NE, PM 008019; and Collector Dust Out NE, PM 008020. Permit is signed and posted before work begins in the confined space.

NAME	OFFICE	PRIMARY/ALTERNATE
James J. Steed	MADPML	Primary
Glen Anderson	MADPML	Primary
Robert Jordan	MADPML	Alternate
George Jones	MADPML	Alternate