



# Instructions for Cleaning an Aircraft with eOx<sup>®</sup> Aircraft Cleaning Products

Description: eOx<sup>®</sup> is a specialty line of products that provide superior aircraft cleaning. They are suitable for external and internal cleaning of virtually every aircraft surface. eOx completely removes difficult substances such as hydraulic fluid, oil, grease, carbon, brake dust, and dirt safely, easily, and economically. The products mentioned in these instructions are eOx Aircraft Hydraulic Fluid Remover (AHFR) and eOx Aircraft Cleaner (AC).

Before using eOx, consult the MSDS or EH&S for proper personal protective equipment.

## General eOx Application Notes

### 1. Spray Applicator

- When using a spray applicator, pour the eOx AC into the sprayer first, followed by the water.
- For the first two deep cleanings, use a dilution of 1-part eOx AC to 3-parts water (1e:3W).
- For future cleanings, reduce the concentration to with each cleaning to a minimum of 1e:8W provided the result is still acceptable.
- Always use eOx AHFR in its concentrated form with separate equipment.
- Only use eOx AHFR for spot removal of hydraulic oils and heavy carbon stains.
- When the aircraft cleaning is complete, rinse all sprayers and equipment with water.

### 2. Brushes

- Use separate brushes for the application of the eOx AHFR and eOx AC
- Mark the brushes with tape or use two different colored brushes to make the distinction.
- DO NOT lay brushes on the ground, as FOD will stick to the brush and further contaminate and/or potentially damage the aircraft surface.
- Prior to using a new brush, rinse it completely with eOx AC. This will render the brush anti-static and remove any manufacturing residues.

- At the end of each cleaning job, completely rinse all brushes with water.

### 3. Inspection of the Aircraft

- Before the general cleaning of the aircraft, check for heavy hydraulic fluid and carbon deposits.
- These locations require a pre-treatment with [eOx AHFR](#). See below.
- Once identified, the cleaning procedure can start in compliance with all safety and security rules and regulations.

## A. Exterior Cleaning

### 1. [eOx Aircraft Hydraulic Fluid Remover \(AHFR\)](#)

#### Testing Standards:

AMS-1526B: Cleaner for Aircraft Exterior Surfaces Water-Miscible, Pressure-Spraying Type

#### Product Application Notes:

- [eOx AHFR](#) is a spot cleaner designed to remove heavy contaminations of dried hydraulic fluid and carbon deposits from the aircraft fuselage, wheel wells, landing gear, and engine area.
- [eOx AHFR](#) can be slippery on coated concrete surfaces. Use caution in the event of a spill. If cleaning outside, the rougher concrete should not pose an issue.

#### Cleaning Procedure:

- Spray [eOx AHFR](#) undiluted as fine as possible onto the surface to be cleaned. The fine mist facilitates the penetration of the [eOx](#) into the contamination. Excessive use of product on the aircraft will NOT bring a better result.
- Keep the spray nozzle 12-18 inches away from the aircraft. In case of windy working conditions, the spray nozzle should be closer to the aircraft to avoid product being blown away.
- Use an approved brush scrub the aircraft surface with the [eOx](#). Allow the product to work for a maximum of 15 minutes. Scrub the area again.
- Rinse the surface with fresh water.
- Depending on the level of staining, repeat these step until the surface is clean.

## 2. eOx Aircraft Cleaner (AC)

### Testing Standards:

AMS-1526B: Cleaner for Aircraft Exterior Surfaces Water-Miscible, Pressure-Spraying Type.

Boeing D6-17487: Exterior and General Cleaners and Liquid Waxes.

Douglas CSD #1: General Purpose Cleaner.

### Product Application Notes:

- If cleaning the plane during a summer day, cool the surface of the aircraft with water prior to spraying the diluted eOx AC on the surface.
- ALWAYS dilute eOx with water prior to use. Dilutions vary from 1e:3W (deep cleaning) to 1e:8W (after several cleanings).
- Spray the diluted product as fine as possible on the surface. The fine mist facilitates the penetration of the eOx into the dirt. Excessive use of product on the aircraft will NOT bring a better result.
- Keep the spray nozzle 12-18 inches away from the aircraft. In case of windy working conditions, the spray nozzle should be closer to the aircraft to avoid product being blown away.
- Use an approved brush to scrub the aircraft surface with the eOx.
- After two (2) deep cleanings, eOx will form an anti-static layer on the fuselage. This means that dirt will no longer stick to the surface as before and consequently it will be easier to remove the contamination in the future. Dilution can then be increased gradually to 1e:8W with each successive cleaning. The time spent scrubbing will also decrease.
- Always work always on limited areas to avoid the product drying prior to rinsing.

### Cleaning Procedures:

- First, remove the hydraulic oil and carbon spots with eOx AHFR. See Section 1 above.
- Aircraft cleaning of can start from the bottom to the top. This method will avoid the creation of stripes on the fuselage. Due to the antistatic properties of eOx, the contamination that will run down from the top to the bottom cannot adhere to the cleaned surface anymore. A proper rinsing is of course required. See Figure 1 on next page:



Figure 1: Note beading of dirt on previously cleaned surface.

- Treat the complete bottom part of the fuselage with eOx AC (so the areas where the hydraulic fluid and carbon were removed are treated twice).
- When the bottom half is finished, the cleaning personnel split into two teams:
  - Team A (two persons) starts working on one side of the aircraft just before the wing and work from the middle up to the front of the aircraft. They continue on the other side and stop just before the wing.
  - Team B (one-person) starts behind the wing and works from the middle to the end (stabilizers & elevator), continue on the other side, and stop just before the wing.
- Both teams then clean the underside of the wing and engines followed by the top of the wing (if required).
- The first cleaning with eOx can take upwards of 8 hours depending on the actual condition and size of the aircraft. By the third wash, the anti-static effect will reduce the time to an average of 4 hours to finish the job (4.5 hours for a B-757-200).

## B. Interior Cleaning

### eOx Aircraft Cleaner (AC)

#### Standards:

AMS-1550A: Cleaner for interior materials of aircraft, water base.

Douglas CSD #1: General Purpose Cleaner.

1. Cleaning Of Ceilings, Tables, Plastic Side Walls, and Toilets
  - Dilute eOx, 1e:5W, and spray as fine as possible on the surface.
  - Use a professional soft haired brush to work in the product.
  - Rinse with water or damp sponge.
  - If necessary, dry the surface with a clean towel.
2. Cleaning Of Carpets, Upholstery
  - For manual cleaning, dilute eOx, 1e:10W, and spray as fine as possible on the surface.
  - For machine cleaning, dilute the eOx, 1e:15W, and fill the cleaning machine.
  - Scrub the surface with a brush.
  - Remove the product and contamination with a clean sponge.
  - Retreat the surface with a damp sponge.
3. Cleaning Of Leather Seats
  - Dilute eOx, 1e:10W, and spray as fine as possible on the surface.
  - Massage surface with a soft brush (avoid stiff brushes).
  - Remove the product and contamination with a sponge.
  - Retreat the surface with a damp sponge and dry.
  - Follow manufacturer's instructions for treating the leather with an appropriate leather conditioner.
4. Cleaning Of Ovens
  - Dilute eOx, 1e:3W, with HOT water.
  - Spray the product on the inside walls of the oven.
  - Let it work for 5-10 minutes.
  - In case of heavy contamination, repeat this action a second time.
  - Remove the product and contamination with a sponge.
  - Rinse the inside with water and dry.

## C. eOx Package Sizes

### eOx AHFR

1-quart spray poly bottles  
12 x 1-quart spray poly bottle cases  
1-gallon poly bottle  
4 x 1-gallon poly bottle case  
55-gallon poly drum

### eOx AC

"Ready to Use"  
1-quart spray poly bottles  
12 x 1-quart spray poly bottle cases  
1-gallon poly bottle  
4 x 1-gallon poly bottle case  
55-gallon poly drum

### "Concentrate"

1-gallon poly bottle  
4 x 1-gallon poly bottle case  
55-gallon poly drum

## D. Contact Information

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