Chapter 3-2

REMOVAL AND NEUTRALIZATION OF CORROSIVE AGENTS

CONTENTS

Introduction

1 Severe corrosion of metals can be caused by some of the fluids encountered during the operation and maintenance of aircraft and associated equipments. In spite of stringent regulations governing the carriage of dangerous cargoes, corrosive fluids are sometimes accidentally spilt in transport aircraft. This chapter gives instructions for removing and neutralizing common corrosive agents, namely:

Acids.
Alkalis.
Mercury.

Micro-organisms.
Paint strippers.
Toilet and galley contaminants.
Other corrosive agents.

2 Removal of the contaminant is usually urgent. Ideally it should be identified at once (visually or with litmus paper or universal indicator paper) but removal by mopping up, washing and drying must not be delayed if identity remains doubtful. Avoid spreading the contaminant when removing and neutralizing it.

3 After the removal of the corrosive agent:

3.1 Examine structure for corrosion.

3.2 Remove corrosion.

3.3 Repair the structure if required.

3.4 Renew protective treatments.

WARNINGS...

PERSONNEL ENGAGED IN SERVICING OPERATIONS INVOLVING THE USE OF ACIDS OR ALKALIS, MUST STRICTLY OBSERVE THE FOLLOWING PRECAUTIONS IN ORDER TO MINIMIZE THE RISK OF PERSONAL INJURY:

(1) WEAR RUBBER GLOVES AND GOGGLES.

(2) IMMEDIATELY FLUSH CONTAMINATED SKIN OR CLOTHING WITH CLEAN WATER (WARM IF POSSIBLE). CLOTHING SHOULD BE REMOVED AS SOON AS POSSIBLE TO PREVENT SKIN CONTAMINATION.

(3) WASH A CONTAMINATED EYE IMMEDIATELY BY HOLDING THE EYE OPEN AND CONTINUOUSLY FLUSHING IT WITH CLEAN WATER, USING AN EYE IRRIGATOR. SEE AP 100E-10, SECTION 2, ORDER NO 23.

(4) INFORM THE MEDICAL OFFICER IMMEDIATELY IF EYE OR SERIOUS SKIN CONTAMINATION OCCURS.

(5) WHENEVER CONCENTRATED ACID IS DILUTED, ADD THE ACID TO THE WATER AND NOT VICE VERSA. ADEQUATE VENTILATION IS TO BE PROVIDED.

(6) DISPOSE OF WASTE RAGS CONTAMINATED WITH ACIDS OR ALKALIS IN ACCORDANCE WITH THE INSTRUCTIONS OF THE SUPERINTENDENT, PROPERTY SERVICES AGENCY (PSA).

Acids

Identification

4 A liquid contaminant should be checked for acidity or alkalinity with universal indicator paper pH1 to pH11. The paper will change colour and the pH value is indicated by the colour chart on the cover of the booklet. A pH value of less than 7 (red end of the scale) signifies an acid solution. Values between 7 and 4 correspond to fairly harmless acidity. At pH3 a slow but appreciable attack commences; pH1 indicates a strong acidic solution. Alternatively use blue litmus paper which turns red in the presence of acid.

Effects

5 Most acids are corrosive to aluminium, magnesium and titanium alloys and to steel, zinc and cadmium. Most of the damage takes place in the first few days of contact with the rate diminishing progressively over a prolonged period, therefore immediate treatment is essential.

Source of contamination

6 The most likely source of acid is the sulphuric acid electrolyte used in lead acid batteries. Aircraft batteries are usually housed in a separate compartment protected against spillage and examined at regular intervals. Surfaces that might be affected by acid electrolyte or the acid spray are painted to DEF-1402 normally black but other colours are also available. Acid can also be spilt from transported equipment (eg radios and MT vehicles) containing inadequately packaged batteries.

7 Fires involving plastic materials may generate hydrochloric acid vapour which can cause corrosion directly, or by damaging primers, lead to corrosion ultimately. The fires do not have to be serious to cause corrosion, which need not necessarily occur in the vicinity of the fire and could occur much later, after repairs. Aircraft that have suffered fires involving plastic materials are to be inspected twice, at monthly intervals after the fire, to ensure that corrosive action has not been initiated.

Removal of acid

8 Whenever acid spillage occurs or contamination identified as acidic is discovered, as much as possible should be removed using a clean rag moistened with water and frequently wrung out. This is to be followed by neutralization of the area with an aqueous solution of 10% by weight (or a saturated solution) of sodium bicarbonate. Application of the neutralizing solution may be either directly to the area or by the use of swabs.

9 Care should be taken to ensure contamination is not washed into inaccessible areas during neutralization operations. Barriers of absorbent material, such as Kimwipe, should be positioned to prevent ingress of liquids into such areas. These barriers should then be removed and the structure concealed by the protective barrier swabbed with neutralizing solution.

10 Where electrical equipment, soundproofing or trim is not affected, flush the area with copious quantities of cold water.

11 Ascertain whether cleaning is adequate as follows:

11.1 Test with universal indicator paper: if the pH value is between 5 and 9, cleaning is satisfactory.

11.2 When testing, pay close attention to positions where a capillary film of acid could be trapped (in lapped joints). If in doubt remove components for cleaning.

11.3 When cleaning is nearing completion, test the final washing water to ensure that its pH lies between 5 and 9 before application. Fresh water is not always chemically neutral.

12 When the treatment is completed to the satisfaction of the supervisor, the structure must be thoroughly dried out and examined for:

12.1 Deterioration of paint or plated finish, and corrosive attack especially where paint is damaged, followed by restoration of protective treatment.

13 The area of spillage in an aircraft is to be re-examined at weekly intervals until no further corrosion occurs. If the first weekly inspection reveals no corrosion, re-examine a week later.

Alkalis

Identification

14 When tested with universal indicator paper pH1 to pH11, a pH value of more than 7 (blue end of the scale) signifies an alkaline solution. Values up to 10 indicate only a negligible amount of alkali, whereas a slow but appreciable attack occurs at a true pH value of 11. As the universal indicator papers only register up to pH11, greater pH values (which can cause rapid attack) will be indicated as pH11. Alternatively, use red litmus paper which will turn blue in the presence of alkali.

Effects

15 All alkalis are extremely corrosive to aluminium alloys, the rate of attack being many times faster than an attack by an equivalent acid. Prompt action is therefore even more necessary than for an acid. Alkalis cause rapid corrosion of zinc. Steel and the alloys of magnesium and titanium are normally immune from attack. Concentrated alkalis such as certain battery electrolytes attack cadmium, therefore cadmium plated components may become unprotected and liable to corrosion.

Source of contamination

16 The most likely source of alkali spillage is the potassium hydroxide electrolyte used in nickel-cadmium batteries. The remarks about battery compartments apply as in para 6 except that nickel-cadmium battery compartments may be painted either to DEF1402 or to DTD 5580. Common alkaline substances are: washing soda (sodium carbonate), potash (potassium carbonate), lime (calcium oxide) and cement.

Removal of alkali spilt in aircraft

17 To remove alkali, carry out the procedure as follows:

17.1 Mop a contaminant, identified as an alkali, with a clean rag moistened with water, taking care to prevent the spread of alkali. Rinse the rag frequently in water and wring it out before moppping is resumed.

WARNING...

CHROMIC ACID IS POISONOUS AND THE COMMERCIAL PURITY GRADE IS CORROSIVE TO SOME METALS AT HIGH CONCENTRATION. RAGS CONTAMINATED BY CHROMIC ACID ARE A FIRE RISK AND ARE TO BE DISPOSED OF AS INDUSTRIAL WASTE AND AS INSTRUCTED BY THE SUPERINTENDENT, PROPERTY SERVICES AGENCY (PSA).

17.2 Swab all contaminated areas with a 5% (by weight) solution of chromic acid in water. The chromic acid not only neutralizes any remaining alkali, but it also passivates any bare metal surface.

17.3 Cover the area with large quantities of clean, cold water. Take care not to damage electrical equipment or to soak the sound proofing and trim, or to flush the alkali into inaccessible places.

17.4 Check the cleaning efficiency, and dry and examine the structure as described in para 11.

17.5 Re-examine the area at weekly intervals until no further corrosion occurs. If the first weekly inspection reveals no corrosion, re-examine a week later.

Removal of alkali spilt elsewhere than in aircraft

18 An alkali spilt elsewhere should be treated in accordance with para 17

except that a saturated solution of boric acid should be used as the neutralizing agent instead of chromic acid.

Lithium batteries

19 Lithium batteries may be found in equipment fitted to aircraft (sonar locating beacons), personal items (calculators, watches) or in cargo. If lithium batteries sustain damage either physically (impact damage or overheating) or electrically (short circuit), venting of sulphur dioxide gas will take place. This gas will combine with any available moisture to form a sulphurous acid. Any compartments which may have been contaminated by venting lithium batteries should be thoroughly examined for signs of acid damage and the procedure detailed at para 8 carried out.

20 If Lithium batteries are severely damaged to the extent of liquid electrolyte being spilt, many hazards will be present in addition to that of sulphur dioxide. The electrolyte contains acetonitrile, which is a powerful solvent for many organic materials although a normal sound paint finish should suffer little damage. Liberation of lithium bromide presents a serious hazard to many metals and alloys, including stainless steels and titanium. This liquid cannot be effectively neutralized, the only course of action being to flush the area with copious quantities of water in an attempt to remove the lithium bromide from the aircraft as rapidly as possible.

21 Advice on further rectification should be sought from the CSDE and RAE Farnborough via the aircraft Engineering Authority.

Mercury

Identification

22 Mercury is readily identified as a silvery liquid. Small quantities of spilt mercury usually form globules which are extremely mobile and may quickly disperse into hidden parts of the structure. Mercury hazards are outlined and safety precautions detailed in AP 100B-01, Order 1701.

Effects

23 Although modern aircraft paint finishes, sealing compounds, oxide films and even grease or oil delay the onset of mercury attack, speedy removal is essential to prevent mercury dispersing to areas of structure where protection is inadequate. If mercury comes into contact with bare metal, and moisture is present, the attack progresses rapidly and cannot be arrested by normal cleaning processes.

24 Metallic mercury, and mercury salts or solutions, in contact with susceptible materials form an amalgam which has no appreciable structural strength. A small quantity of metallic mercury may cause a great deal of damage, especially on aluminium structures. Following amalgamation, the oxidised aluminium separates, releasing the metallic mercury which continues to amalgamate with fresh aluminium. This process is particularly rapid in moist conditions and the affected area may be destroyed. Intergranular penetration by the mercury causes embrittlement which initiates cracks and accelerates crack propagation. Degradation of structural strength may be complete and will be accelerated if the material is under stress. The possibility of mercury attack is increased:

24.1 On a freshly abraded surface.

24.2 By chloride ions (usually present in a maritime aircraft).

24.3 By moisture.

25 The visual signs of attack and possible embrittlement are:

25.1 On aluminium or aluminium alloys: a greyish powder, fuzzy deposit or whiskery growth.

25.2 On copper, brass and gold: a silvery stain or coating.

25.3 On silver, cadmium or zinc: the surface of the affected area appears slightly brighter than that of the surrounding metal. This may be difficult to detect.

Sources of contamination

26 Certain aircraft instruments incorporate switches containing mercury, but these are usually well protected. More likely sources of spilt mercury are test instruments such as thermometers and manometers or mercury-vapour lamps. If possible their use should be avoided in the testing of aircraft systems.

Removal of mercury

27 Where mercury attack is found or suspected, assume that intergranular penetration has occurred and that structural integrity has been compromised. The area of metal affected is to be removed and replaced: use an approved repair scheme.

WARNINGS...

BOTH MERCURY AND MERCURY VAPOUR ARE TOXIC AND THE FOLLOWING SAFETY PRECAUTIONS ARE TO BE OBSERVED WHEN IT IS NECESSARY TO REMOVE SPILT MERCURY.

(1) ENSURE THERE IS ADEQUATE VENTILATION: MERCURY READILY VAPORIZES AT AMBIENT TEMPERATURES AND, IF SUFFICIENT LIQUID IS EXPOSED IN A CONFINED SPACE AT NORMAL TEMPERATURES, THE TOXIC CONCENTRATION OF MERCURY VAPOUR MAY RISE WELL ABOVE THE ACCEPTED SAFETY LEVEL.

(2) DO NOT INHALE OR SWALLOW MERCURY. AVOID CONTAMINATING SKIN OR EYES.

(3) WEAR PROTECTIVE CLOTHING AND RUBBER GLOVES DURING DECONTAMINATION WORK.

(4) WASH THOROUGHLY AFTER WORK ON MERCURY DECONTAMINATION. KEEP HANDS AWAY FROM MOUTH AND DO NOT EAT, SMOKE OR BLOW THE NOSE WITHOUT FIRST WASHING HANDS CAREFULLY WITH SOAP AND HOT WATER.

(5) THOROUGHLY WASH TOOLS AND CLOTHING USED DURING DECONTAMINATION, AND DISCARD DRILL BITS USED ON CONTAMINATED AREAS.

(6) TAKE EXTREME CARE TO PREVENT THE MERCURY DISPERSING TO OTHER PARTS OF THE STRUCTURE: UNDER NO CIRCUMSTANCES ATTEMPT TO DISLODGE MERCURY WITH AN AIR JET OR BY DOWSING WITH WATER.

(7) AVOID SCRATCHING OR DAMAGING THE AIRCRAFT PAINT FINISH.

28 Where mercury has been spilt on any part of an aircraft structure the following action must be taken immediately.

28.1 Avoid moving the aircraft or disturbing the mercury. Isolate the area so that mercury is not transferred by footwear or clothing.

28.2 Remove the source of contamination most carefully, avoiding further spillage.

28.3 Remove all mercury using any suitable recovery method. Ensure evidence of corrosion is not obliterated.

28.4 Examine the area radiographically to ascertain the area and extent of corrosion at floor level. This is the only satisfactory method because mobile globules of mercury can be hidden in the aircraft structure. Radiography is performed by the Command Regional NDT Team as a Command NDT technique, in accordance with AP 100A-01, Leaflet 318 or, for RN aircraft, by authorised NDT personnel or NATEC NDT teams.

28.5 If necessary, remove the floor panels and carry out a further radiographic examination of the underfloor skin and structure, including electrical cables and terminals and any components susceptible to mercury attack.

28.6 Remove every trace of residual mercury indicated on the radiographs.

28.7 Examine the affected area for corrosion with a magnifying glass of 10 x magnification. All parts showing signs of mercury attack and all bare metal areas that have been in contact with mercury, whether or not corrosion is evident, must be replaced in an approved manner. If the nature of any corrosion product is in doubt, a sample should be sent, under cover of RAF Form 3811 and with the approval of Command HQ, to RAE Farnborough (attention Head of Materials and Structures Department) for analysis; or to NAML in the case of RN aircraft.

28.8 Finally, inspect again radiographically to ensure that all traces of mercury have been removed. Apply an approved paint scheme to the repaired area.

29 If mercury contamination occurs at an airfield without radiographic facilities, proceed as para 28.1 to 28.3, carefully removing the source, examining progressively the affected area for traces of mercury, and removing it by an approved method before stripping the structure. Material exhibiting signs of mercury attack must be replaced and the suspect area marked with chalk or grease crayon. The aircraft must then be routed to a base with radiographic facilities, for complete decontamination and inspection as outlined in para 28.

30 Details of the occurrence, including the exact area affected and the action taken, is to be entered in the appropriate aircraft documentation.

31 The area previously contaminated is to be re-examined not more than 6 months and not less than 1 month after the occurrence to ensure that further corrosion or cracking has not occurred.

Mercury kit

CAUTION...

> The mercury decontamination kit contains corrosive materials and should not be taken inside an aircraft. Occasionally, owing to the short effective life of the copper brushes, it may be necessary to take the kit inside an aircraft; great care should then be taken to avoid spillage of the corrosive contents.

32 A special mercury decontamination kit (fig 1) for use with the capillary-brush method is to be locally manufactured by units that service transport aircraft under the direction of a Q-A-CPM tradesman (RAF only). The kit is to be housed in a suitable container externally marked as to the contents and stating that the kit is only to be taken inside aircraft under exceptional circumstances. The container is to be of a suitable size to

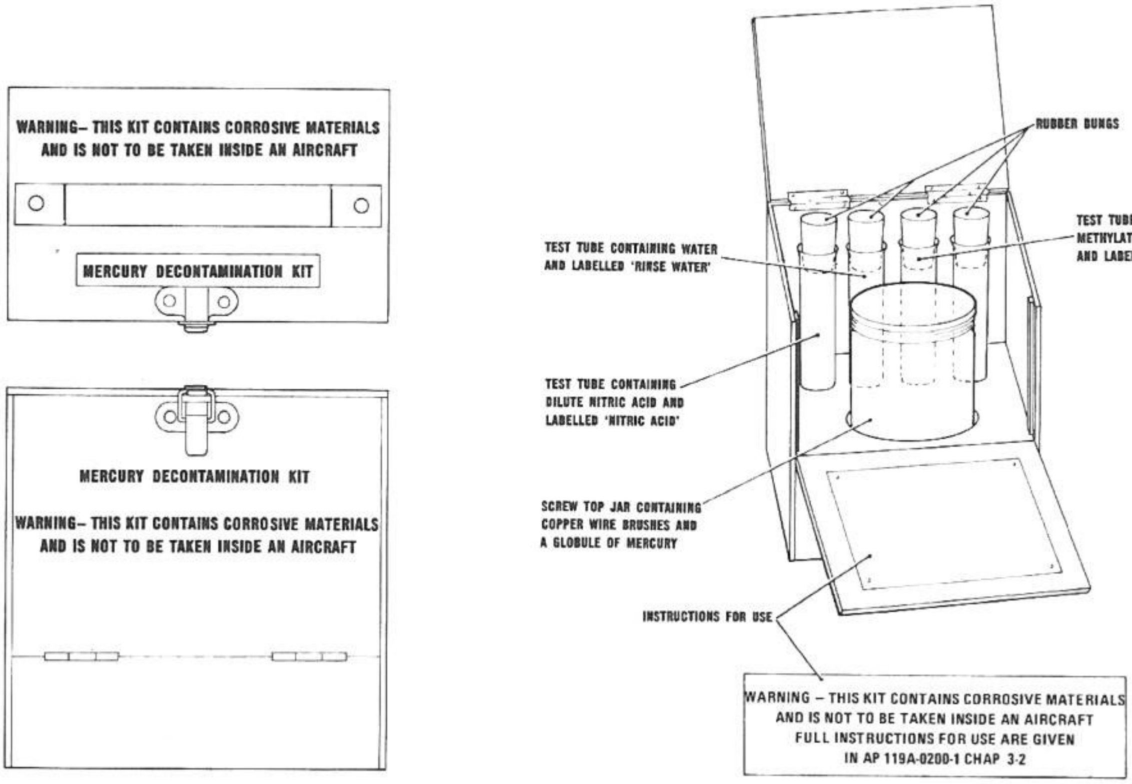
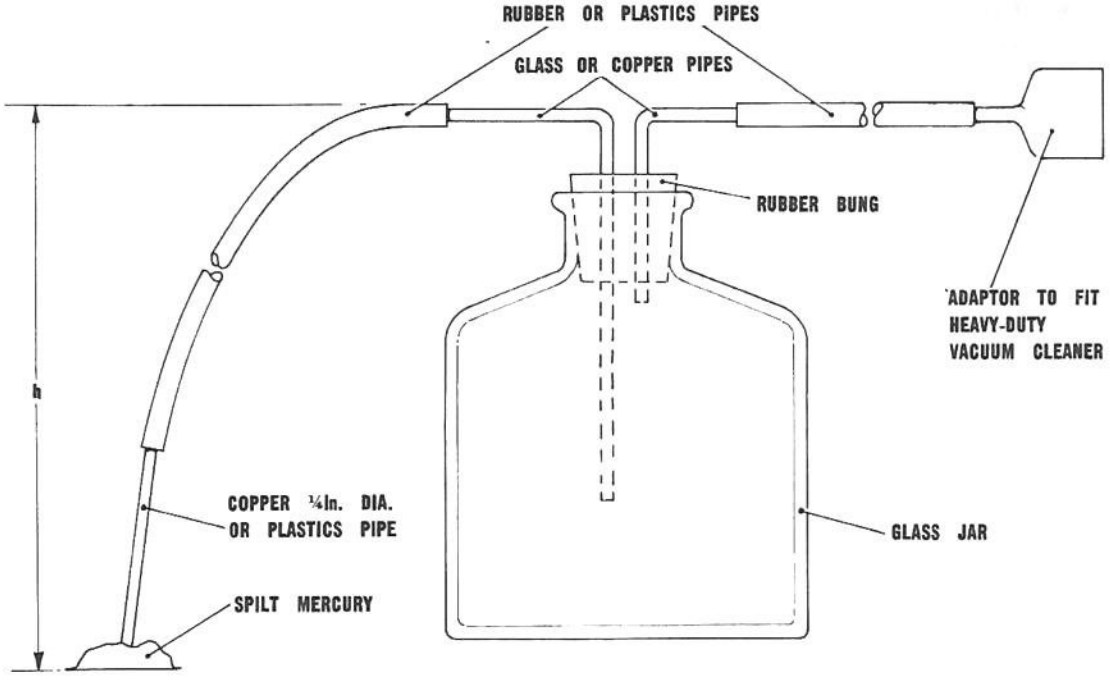


Fig 1 Mercury decontamination kit



NOTE– THE SUCTION HEAD h SHOULD BE KEPT AS SMALL AS POSSIBLE AND MUST NOT EXCEED 6in.

Fig 2 Vacuum pump for removing mercury

DK-353/1 Mk

Amendment No 3 to AP 119A-0200-1

REMOVE and DESTROY Chap 3-2 Pages 9 and 10 (one leaf) and SUBSTITUTE this new chap 3-2 Pages 9 and 10 (one leaf).
Record the incorporation of this amendment in the amendment record.

accommodate the following items which may be obtained from Service sources, sizes are not critical:

Test-tube containing dilute nitric acid, 20 to 25% by volume.
Test-tube containing water.
Test-tube containing methylated spirits.
Screw-top jar containing a small globule of clean mercury and a number of copper-wire brushes.
Spare test-tube.

33 The brushes are lengths of multi-stranded copper wire (old electrical leads are ideal) with 5 cm (2 in) of insulation stripped from one end and the exposed wires doubled back and bundled together. This doubles the lifting capacity of the brush and obviates scratching with the sharp ends of the wire. The brushes are effective under water and many organic liquids because such liquids do not much reduce the surface tension of the mercury.

Mercury decontamination methods

Capillary brush method

34 Carry out the procedures as follows:

34.1 Dip a brush into the nitric acid until the pink copper surface is exposed.

34.2 Rinse the brush quickly in distilled water to remove the acid.

34.3 Dip the brush in methylated spirits and shake off surplus liquid.

Note...

Three or four brushes should be prepared using this method (para 34.1 to 34.3).

34.4 Dip one brush into the globule of mercury in the large jar. The strands of the brush should become wetted with mercury. Shake off the excess mercury before removing the brush from the jar. The brush is now ready to remove contaminating mercury on contact.

34.5 Place this brush in the spare test tube and take into the aircraft. Place the end of the brush in contact with the spilt mercury. The mercury should be drawn up into the body of the brush.

34.6 Empty the brush by shaking off the pendant drop into the spare test tube. Gently spread the wires apart and shake again into the spare test tube.

34.7 Repeat para 34.5 and 34.6 until the brush loses its efficiency through dirt. Repeat from para 34.4 with a fresh brush until all contaminating mercury is removed.

35 After use, the kit should be cleaned and replenished with new liquids and brushes and held available for immediate use. Used brushes should be discarded because the copper ages and strands begin to crack. Contaminated mercury and brushes should be returned to the Supply Squadron for disposal.

Notes...

(1) Overexposure to air between para 34.4 and 34.5 may result in oxidation of the copper wire and failure to form an amalgam. If wetting is not satisfactory, para 34.1 to 34.4 should be repeated.

(2) The active life of the brush after para 34.4 and 34.5 may be only a

few minutes, and the process will have to be repeated as necessary.

(3) The brush must be discarded if the copper strands show signs of breaking as a result of amalgamation with the mercury.

Alternative methods of removal

36 Should the capillary brush method of removal not be available, the following alternative methods may be used.

36.1 Suction. A heavy duty vacuum cleaner, or vacuum pump, can be used to pick up pools or large globules of mercury. Since mercury or mercury vapour may have an adverse effect upon their mechanisms, the spilled mercury must be collected in a glass trap located near to the free end of the suction pipe as shown in fig 2. Flexible plastic pipes of small bore may remove mercury from otherwise inaccessible corners.

36.2 Adhesive tape. Small globules of mercury can be picked up by pressing adhesive tape or medical plaster onto them, but care is necessary to prevent spreading the contamination, especially when the tape is removed.

36.3 Foam collector. A commercially made plastic foam collector can be used on flat surfaces to pick up small globules of mercury. The pad is pressed onto the mercury and, when pressure is released, the globules are drawn into the pad. Mercury may then be expelled into a suitable container by squeezing the pad in the special holder. The plastic foam collector (manufacturer's number MGH400W) is available from: Gallenkamp, Belton Rd **West, Loughborough, Leicestershire LE11 OTR.**

Micro-Organisms

Identification

37 Severe corrosion of aluminium alloy integral fuel tanks has been caused by micro-organisms. Fungal growths appear as slimy spots or mottled sheets adhering to upward facing surfaces within the tanks. Sometimes the growths form a dense mat. The colour is usually brown, progressing from light to dark as the growth develops and ages; other colours, including purples and greens, have also been observed.

Effects

38 The conditions existing underneath the fungal growths are corrosive. If unchecked, fungal mats eventually penetrate the best protective coatings and corrode the metal beneath. The severity of the corrosive attack may be due to acid products of metabolism, an oxygen gradient from the edge to the centre of the mat, or the presence of other organisms under the mat. The exact mechanism is not known.

39 Corrosion of aluminium alloy fuel tanks usually takes the form of deep pitting, often with intergranular attack. Machined plank construction (necessarily unclad) incurs greater risk of deep corrosion than riveted or adhesive-bonded skins in which the core alloy is protected by the pure aluminium cladding.

40 Fungal corrosion in steel storage tanks is less destructive, as the damage is transgranular and pitting is shallower. However fungal growths must be suppressed in storage tanks since any spores liberated pass through the distribution system into aircraft fuel tanks.

Source of contamination

41 Cladosporium Resinae is not the only organism responsible for micro-organic corrosion but its spores have a world-wide distribution and this predominant fungus may appear in cultures from samples of fuel taken from any distributive system or aircraft. However for germination to occur, certain conditions must prevail within the fuel tank:

41.1 Water. The tank must contain free water, whether it enters in bulk with the fuel, or dissolved therein so that it is precipitated as the fuel temperature falls. Additionally, water can condense from the air-space above the fuel, particularly during descent, when warm moist air is drawn into tanks cooled by flight at high altitude.

41.2 Nutrient. Gas-turbine engine fuels provide the nutrients necessary for the fungus to germinate: the additives in gasoline prevent fungal growth on piston-engined aircraft. Sometimes jet engine fuels contain additives. See para 37.

41.3 Oxygen and Trace Elements. The necessary oxygen, nitrogen, sulphur, phosphorus and potassium are normally present in the fuel.

41.4 Temperature. A temperature of between 5°C and 40°C (41°F and 104°F) is required, but growth rate is maximized at about 30°C (86°F) and extremely slow below 20°C (68°F).

42 Although good drainage is provided on most aircraft, it is impossible to exclude all residual water from integral tanks. Water falls as droplets through the fuel and settle on the upward facing surfaces of the tank and plumbing. These droplets displace the fuel and adhere to the tank lining through surface tension.

43 Water is most likely to collect near the flanges at the bottom of large vertical surfaces and below drip points in the tank roof (stringer cut-outs and fasteners), particularly around access panels. In most aircraft, more water is found at wing roots than at wing tips, because the airspace is larger at the roots. Droplets of water sometimes gravitate inboard, along the roof.

44 The risk of fungal contamination is related to an aircraft's operational role. Large transport aircraft with integral tanks are usually the worst affected. There is less condensation in the smaller fuel tanks of fighter aircraft, and less opportunity for the water to settle in a fixed location. Since an aircraft is below the growth temperature when flying and for a period afterwards, heavy utilization often reduces the risk. Aircraft that spend a lot of time on the ground, particularly in tropical regions or in heated hangars, are more likely to be contaminated. However high altitude, short haul flight cycles involving wide and frequent swings in temperature incur special risk from condensation.

45 Fuel Systems Icing Inhibitor (FSII), used in Avtur/FSII (NATO Code F-34) and Avtag/FSII (NATO Code F-40), is a biocide, and so long as inhibited fuel is used there is unlikely to be any fungal growth. Occasionally, refuelling with non-inhibited fuel is unavoidable.

Removal

46 The slime or fungal deposits must be removed from the affected surface with a bristle brush and a solution of one part (by volume) of cleaning compound (DTD 5507B) and five parts hot water at about 50°C (122°F). The area must be rinsed with copious quantities of clean water. The tank surfaces and plumbing must be carefully inspected for any remaining contamination and for

corrosion. In some areas it may be necessary to remove the tank coating partially or completely, to totally eliminate contamination and to detect minor irregularities of the metal surface which may be the only visible indication of underlying corrosion.

Paint strippers

47 Paint strippers primarily remove paint but they can also degrade adhesive bonds, sealants and other non-metallic materials. Take care to prevent any paint stripper dripping into inaccessible areas of the structure. Remove paint strippers thoroughly in accordance with AP 119A-0601-0, Chapter 5 to prevent residues being trapped under paint applied subsequently.

Toilet and galley contaminants

48 Fluids spilt in toilet and galley areas (urine, soft drinks, coffee, etc) can be very destructive, especially if allowed to seep into aircraft structure in the bilge areas. Mop any spillage as soon as possible. Soaked carpets or mats should be dried or removed after major spillage. Clean the area using cleaning compound (DTD 5507B) diluted with water in a 1 : 9 ratio. Apply the least possible amount of liquid. Scouring powder must not be used for toilet and galley cleaning since it is liable to block the drainage systems.

Other contaminants

49 If spilt fluid is not identified as one of the preceding contaminants, assume that it is corrosive, toxic and inflammable, and take appropriate precautions. Mop it up as soon as possible and then clean the area with cleaning compound (DTD 5507B) diluted with water in a 1 : 9 ratio, taking care not to spread the contaminant. Be careful to ensure that no contaminant is retained in hydraulic or electrical equipment, cable looms, furnishings or any similar locations.