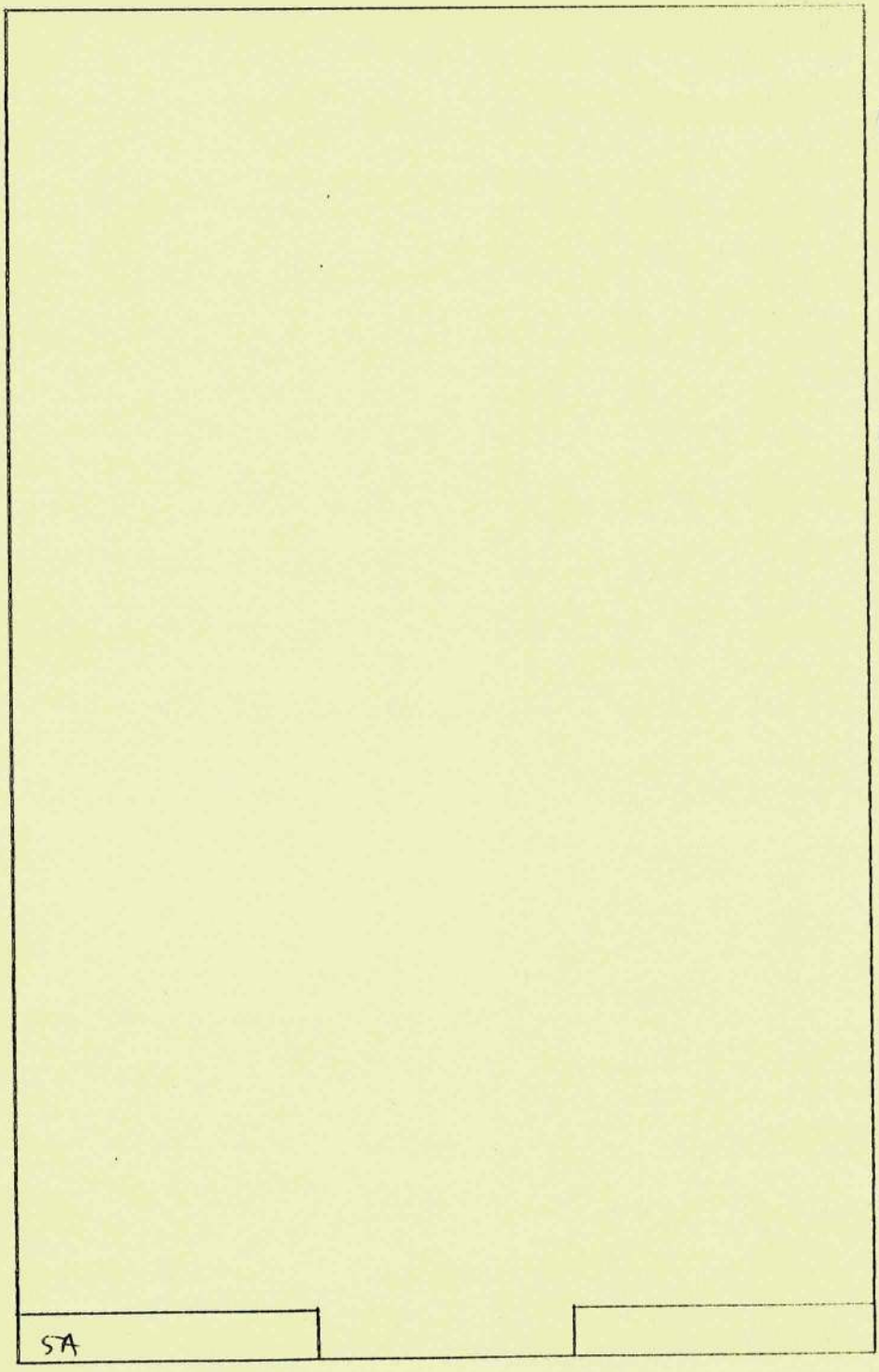
# SECTION 2

# SAFETY PRECAUTIONS


5A

List of Contents





Continued overleaf

List of Contents (Contd)

1. Toxic Effects - Fire Extinguishants.

a. Methyl Bromide and/or Chlorobromomethane. Highly toxic vapours are given off by methyl bromide and/or chlorobromomethane. The gas or liquid state can cause burns or blisters if it comes in direct contact with the skin. If the vapour is inhaled or contact is made with the skin, personnel must seek medical attention without delay.

b. Bromochlorodifluoromethane (BCF) and/or Bromotrifluoromethane (BTM). BCF and BTM are non-toxic but exposure to excessive concentrations of their vapours may cause dizziness and judgement may be impaired. When these compounds are exposed to heat or fire the decomposition products are hazardous even in small concentrations. These products have a sharp, acrid odour which causes discomfort in the eys, nose and throat. Personnel seriously affected must seek medical assistance.

2. PX-24 (NATO C-643) Application. PX-24 provides a temporary protection to metals against corrosion. Although normally quite safe to use it can be dangerous if misused. The dangers are:

a. Aircraft surfaces are extremely slippery where PX-24 has been used.

b. PX-24 can interfere with the safe operation of certain systems. It is not to be applied to:

(1) Oxygen system components.
(2) Brake assemblies.
(3) Firewire couplings.
(4) Commutators, slip rings and brush gear of electrical machines.
(5) Clear vision panels.
(6) Non-metallic structural materials.
(7) 'Black boxes' of all kinds.
(8) Cabin and cockpit equipment and furnishings, eg
  (a) Safety harness.
  (b) Seat fabrics.
  (c) Instrument faces.
  (d) Rudder pedals.
  (e) Soundproofing.


Continued overleaf

2. PX-24 Application. (Contd)

c. PX-24 also has an adverse effect on rubber and plastics if prolonged contact is allowed. The carrier fluid, and not the residual fluid, causes the deterioration after heavy application or immersion. After such applications the items are to be rapidly and thoroughly cleaned. After light accidental overspray the rapid evaporation of the carrier prevents significant damage.

d. PX-24 is not to be deliberately sprayed onto bearing surfaces, but provided that is is applied as a thin film accidental overspray of normal aircraft bearings is acceptable. However, following the application of PX-24 to adjacent structure, recirculating ballscrew jacks should be cleaned with white spirit, dried and lubricated.

e. Liquid PX-24 contains White Spirit a volatile petroleum based solvent which evaporates from spray or drying liquid. The solvent is highly inflammable.

f. When using PX-24 the following precautions are to be observed:

(1) Ensure good ventilation of working area.

(2) Avoid inhaling spray.

(3) Do not swallow PX-24. (If swallowed summon medical aid. Do not induce vomiting).

(4) Wash skin with soap and water immediately after use.

g. PX-24 is not normally to be applied extensively to a matt external paint finish, because it will impart a sheen which will nullify the non-reflective property of the matt finish.

3. Liquid Oxygen (LOX)

a. If eyes or skin are splashed, immediately flush with copious amounts of water, and seek medical attention without delay.

b. Clothing splashed with LOX is to be hung in the open for 24 hours before further use.

c. Concentrations of gaseous oxygen (particularly from LOX sources) trapped in clothing renders the clothing highly inflammable. Personnel inadvertently exposed to concentrations of gaseous oxygen are warned not to smoke or enter crew rooms etc, for a minimum of 30 minutes. Clothing is to be thoroughly shaken out in order to remove trapped oxygen.

4. Trichloroethane. Trichloroethane (33D/2201949 or 33D/2203 782) also known as Inhibisol, Genklene and Chlorothane has a strong degreasing action on the skin and gives off a toxic vapour. The following general health precautions are the minimum to be observed.

4. Trichloroethane. (Contd)

a. All unnecessary exposure to the vapour is to be avoided.

b. The work area is to be well ventilated. Suitable respirators are to be worn and control of filter cartridges maintained in accordance with AP 119A-0512-1.

c. Smoking, eating and drinking in the work area is prohibited.

d. Care is to be taken to prevent splashing when handling the fluid. Goggles or eye shields are to be worn as necessary. If any does enter the eyes, they are to be washed out immediately with clean running water and medical assistance obtained.

e. Rubber gloves are to be worn and any portion of the skin liable to come into contact with the fluid is to be protected by a barrier cream. If the skin is splashed the affected parts are to be thoroughly washed with soap and clean water as soon as possible.

Full details of precautions and hazards associated with Trichloroethane are laid down in AP 119A-0512-1.

5. Ammonia Bottle

a. Anhydrous Ammonia. Ammonia in liquid form if permitted to come into contact with the eyes will cause blindness and if it contacts the skin it will cause burns. In gaseous form it is toxic and can cause irritation to the eyes and skin.

b. Servicing. Protective clothing consisting of visor and hood, rubber gauntlets, rubber apron and denims buttoned at the neck and wrists must be worn at ALL times when carrying out ANY operation involving the Charging or Discharging of Ammonia bottles.

c. Handling. Personnel involved in fitting, removing or the delivery of Ammonia bottles who detect or suspect a leak, are either to withdraw to safety and allow the bottle to vent to atmosphere, or, wearing their protective equipment and with breathing apparatus, remove the bottle to a 'Safe Area'. Leaking bottles are to be reported to the NCO IC Ammonia Servicing Section. On NO account are leaking ammonia bottles to be immersed in water.

NB: A safe area is an area where the prevailing wind will not carry the venting ammonia to areas where there are personnel.

5. Ammonia Bottle (Contd)

d. Servicing Areas. No person is to work in an enclosed area or building such as the Ammonia Filling Bay without the presence of a safety man.

e. Water Supply. A supply of water in containers sufficient to permit complete immersion in the event of a person being splashed extensively with Ammonia, must be available at all times.

f. Transportation. When transporting ammonia bottle to and from MSF a quantity of clean fresh water must be carried so that splashes which may occur may be treated.

g. Breathing Apparatus. Compressed air breathing apparatus and oxygen Resuscitators MUST be available in ALL areas when ammonia is handled; instructions for their use may be found in:

(1) Breathing Apparatus - AP 951 Chap 504 Annex A.

(2) Resuscitators - AP 3329, Chap 56, paras 6, 7 and 8.

h. Training. All personnel involved in the servicing and handling of Ammonia equipment must be given continuation training, at three monthly intervals, covering Safety Precautions First Aid and the practice use of safety equipment.

j. Ammonia Bottles. Discharged and purged ammonia bottles are identified by a GREEN band on the bottle neck. Bottles with a RED band or UNIDENTIFIED bottles are to be regarded as containing ammonia and be handled and stored in accordance with current procedures.

6. Avpin. Avpin deposits are highly poisonous. If any is deposited on the skin, it is to be scrubbed off with soap and water. If any enters the eyes, seek medical attention immediately. Special care is to be taken to ensure Avpin does not enter the mouth or nostrils.

7. Oil, OX-38 (NATO O-149). Avoid prolonged contact with skin as toxic effects can be caused by absorbtion.

8. Synthetic Oil. Care is to be taken not to spill synthetic oil, which has an injurious effect on aircraft finishes and electrical cables. Synthetic oil is also injurious to the skin. A prophylactic ointment is to be applied to the hands before commencing work.

9. Fuel System Icing Inhibitor (FSII) (34B/2201038). Prolonged and repeated inhaling of the vapours, and prolonged and repeated contact by the inhibitor with the skin should be avoided during handling. Hands are to be washed after contact with the inhibitor or with fuel containing inhibitor.

10. Silicone Compound and Rain Repellent. Care is to be taken to prevent silicone compound or rain repellent making contact with the eyes.

11. Cartridge Operated Equipment. Personnel are warned of the danger of interfering with cartridge operated equipment fitted to this aircraft, eg, fire extinguisher bottles, canopy jettison, overwing tanks (when fitted). Under no circumstances are tradesmen to work on this equipment without ascertaining from NCO IC Aircraft Servicing that it is safe to do so. Cartridge operated fire extinguishers when removed from aircraft are to be passed to the Weapon Section who are solely responsible for replacing cartridges.

12. Operation of Flying Controls and Hydraulically Operated Services

a. Personnel and ground equipment are to be clear of moving parts during operation of flying controls and hydraulically operated services. A man (or men) is to be detailed to observe the flying control(s) or hydraulically operated service(s) being operated. Accumulator hydraulic pressure(s) is/are to be released:

(1) Before in-situ servicing of hydraulically operated components.

(2) Before servicing checks which specifically detail handpump operation.

b. When exhausting hydraulic pressure from control accumulators the rate of operation of the control column and rudder bar is not to exceed one stroke in 5 seconds.

13. Aircraft Towing.

a. The Services System (Brakes) is to be pressurized to 1750 lbf/in2 before moving the aircraft.

b. The minimum turning radius is six feet, measured from the inner main wheel of the turn.

c. If the aircraft is to be towed with the missile pack, ejection seat or canopy removed adequate ballast must be provided. It may be necessary to remove/drain the ventral tank/pack.

WARNING: When an adjustable tow bar has been used and the shear pin has fractured during the tow, towing is to cease until a new shear pin is fitted and the NCO IC Aircraft Servicing is to be informed


Continued overleaf

14. Canopy Safety Lock. The canopy jack safety lock is to be fitted at all times during servicing when the canopy is open. Care is to be taken when fitting or removing the safety lock to prevent inadvertent disturbance of the restrictor cable.

15. IPN Starter Exhausts. Care is to be taken when moving in the vicinity of the exhaust whenever IPN starter is being operated.

16. Fuel Tank Servicing. A flame proof torch or lamp is the only illumination permitted during the servicing of fuel tanks.

17. High Pressure Gas/Air Systems.

a. Before work is carried out on any part of a high pressure gas/air system, the system is to be depressurized completely. A entry to this effect is to be made on the appropriate job card (Mod Form 720 series) and signed by the NCO IC Servicing before any work is authorised. Before system pressure testing, a detailed examination of system joints is to be carried out so as to eliminate the risk of high velocity leakages. When high pressure gas/air systems or components are replenished or tested, pressure is to be applied slowly or explosive combustion within the component or system may take place (Also see item 21).

b. Oxygen systems are not to be completely depressurized, system isolation should be practised to prevent this. When an oxygen system has been depressurized below 500 lbf/in2 purging will be necessary.

18. Oxygen System Contamination. The oxygen system together with all tools and equipment used during its servicing are to be kept free from contamination by grease or oil. Whenever painting, doping or sealing operations are being carried out in the vicinity of lower pressure oxygen hoses, the hoses are to be removed from the aircraft, and the regulator outlets temporarily sealed until the cockpit has been adequately ventilated and the paint, dope or sealing compound has dried.

19. Undercarriage Selector Inadvertent Operation. Whenever inadvertent or unintentional operation of the undercarriage 'UP' selector is made the following actions are to be carried out immediately:

a. Ground locks are to be fitted.

b. The NCO IC Aircraft Servicing is to be informed.

c. The aircraft is to be placed unserviceable for under carriage selector reset.

20. Air Intakes and Jet Pipes Personnel are to ensure that the following instructions are complied with before entering air intakes or jet pipes for servicing or any other purpose.

a. The aircraft is to be placed nose or tail into the wind.

b. A warning notice is to be displayed in the cockpit.

c. Verbal contact is to be maintained with a Safety Man positioned at the entrance to the air intake or jet pipe.

d. The engine is not to be turned except by the person in the air intake or jet pipe.

e. All loose articles are to be removed from clothing and special care is to be taken to ensure no loose objects roll into the compressor.

21. Dieselling. When the pressure is rapidly increased within a closed volume containing an inflammable substance, such as hydraulic oil a spontaneous combustion, or 'dieselling' may take place. A condition conducive to this occurance is created when the closed volume is small, as in a pressure gauge, and inflation is carried out quickly. To minimise the danger of 'dieselling', it is essential that all equipment used when charging, or testing, pressures in undercarriage shock absorbers etc, is to be free from contamination by oil and grease etc, any control cocks or screws are to be operated slowly to prevent a rapid rise in pressure.

22. Safety Ohmeter. When using safety ohmeter for checking ohmic values of fire extinguisher cartridges, ensure no radio frequency sources are operating on the aircraft and any adjacent aircraft within 9 meters.

23. Deleted by AL 23.



Continued overleaf

24. Deleted by AL 23.

25. Parking and Armed Aircraft. Armed aircraft are to be parked in designated loading areas and, if forward firing weapons are fitted, on safe headings in accordance with the requirements of AP100B-01 Order 1836 Para 10.

26. Missile Misfire - Special Instructions.

a. Under no circumstances is any unscheduled work or alterations to the sequence of operations contained in SP 118(W) to be carried out without prior authority of the Specialist Officer or his deputy.

b. All checking, testing, or work on equipment containing explosives is to be carried out under supervision of a SNCO of A tech (W) (Q-RTF-X) tradesman.

c. Servicing personnel are to take maximum anti-static precautions on missiles under investigation and on the associated ground support equipment.

d. The Safety Ohmeter Mk 6 is the only electrical measuring instrument permitted to be used on explosive equipment to measure resistance.

e. Ensure upper, lower or ventral gun installations are safe before any work is carried out on the Aircraft or Missile.

27. Ejection Seat Harness Restraint Apron (Mk5). When notified by the Pilot that the aircraft is to fly with an unoccupied ejection seat a harness restraint apron is to be fitted.

28. Microwave Radiation Hazard. There is a microwave radiation hazard from the following equipment in these aircraft:

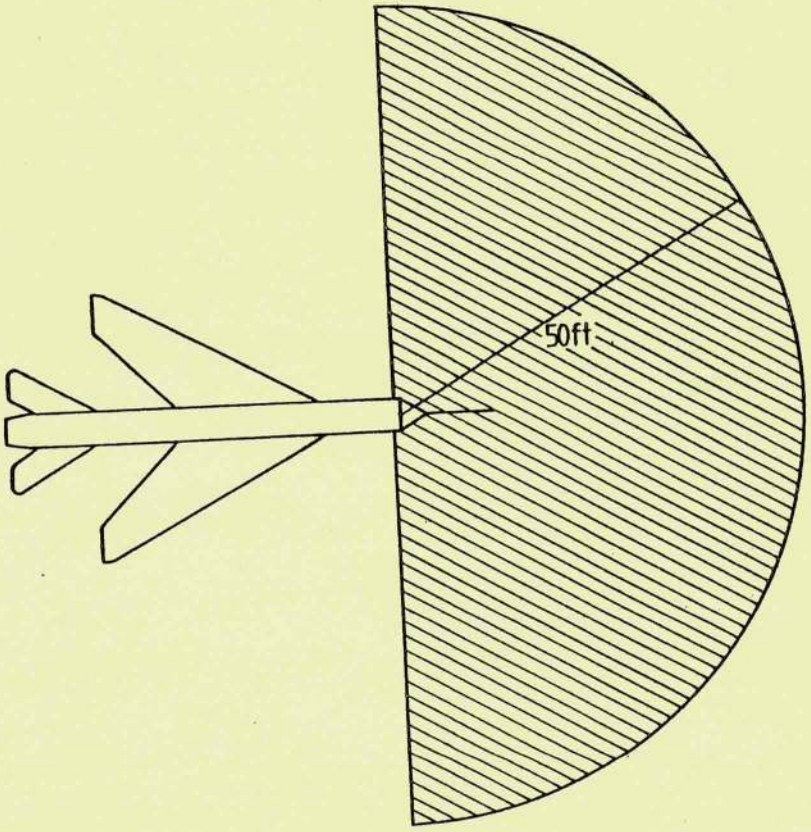
a. AI 23 C/D

Prior to ground transmission the area indicated in (Sect 2 Fig 1) is to be roped off and notices warning personnel to keep clear displayed.

29. Cabin Pressure Tests.

a. All personnel working inside an aircraft during cabin pressure tests are to be approved by the Medical Officer as being physically fit for this work.

b. Only ground test rig (4F/1714) is to be used for cockpit pressure testing and is to be operated only by authorized personnel. The relief valve on the test rig is not to be set above 10 lbf/in2.




AI 23 C/D RADIATION DANGER AREA
FIG 1

29. Cabin Pressure Tests (Contd)

c. When it is essential that personnel occupy the cockpit during pressure tests, communication is to be constantly maintained with personnel outside the aircraft.

d. When cockpit is occupied during pressure tests, the rates of change of pressure using the ground test rig are not to exceed the equivalent of 2000 feet per minute. If the tests are carried out using the engines the maximum permissible rate of change is 1000 feet per minute.

e. Before cockpit pressure testing is commenced the aircraft is to be moved clear of other aircraft and personnel not actively engaged in the test are to be kept clear.

30. Airbrake System. Personnel are warned of the serious hazard on the airbrake system if the d.c. power is interrupted whilst the airbrakes are extended. Provided sufficient hydraulic pressure is available the airbrakes will retract immediately d.c. power is restored. When work is to be carried out on the airbrakes or the airbrake area, with the airbrakes in the extended position, the airbrake fuse is to be removed as soon as the airbrakes are extended and is not to be refitted until airbrake operation is required.

31. Engine Starter System - Fuel Priming and Drainage Checks. An explosion can occur on starting if IPN fuel accumulates in the starter combustion chamber due to blocking of the nozzle plate drain hole during servicing and rectification. Fuel Priming and Drainage Checks are to be carried out in accordance with SP 104(P) after installation of the starter system, or at defect rectification. Hot starter units are to be allowed to cool for ONE HOUR before these checks are made. Personnel are not to remain in the engine intake during the checks until TWO satisfactory fuel drainage checks have been completed.

32. Engine Starter System - Defect Investigation and Rectification. Personnel are not to observe, investigate or carry out servicing in the vicinity of engine starter units until a cooling period of ONE HOUR has elapsed after all cases of:

32. Engine Starter System - Defect Investigation and Rectification (Contd)

a. Attempted starts where full starter combustion occurs but engine does not rotate. In this case no further attempt is to be made and the starter is to be removed for investigation.

b. Two combustion cycles of the starter where the engine fails to reach self sustaining speed. (Wet start).

33. Avpin Drainage, No 2 Engine Installation. If during the starting cycle there is no Avpin combustion, or during fuel priming and drainage checks, the following action is to be taken:-

a. Ensure Avpin flows from starter exhaust.

b. Ensure Avpin DOES NOT flow from overboard drain below panel 55P.

NOTE: Failure to satisfy either condition renders the aircraft unserviceable and the cause is to be investigated.

34. Engine Wet Start.

a. If at the completion of the engine starting cycle the engine rotates but fails to light a second attempt can be made when the engine has ceased to rotate, but not later than ONE MINUTE after the first attempt providing there is no fuel drainage from the engine and jet pipe fuel drains. If fuel drainage occurs, further attempts to start MUST NOT be made until at least one hour has elapsed. This will allow the starter to cool and the engine and jet pipes to drain of fuel before restarting.

b. If the wet start is on No 2 engine with No 1 engine stationary, observe a TEN MINUTE wait before attempting to start No 1 engine.

35. No 2 Engine Starter System - Failure to Initiate Avpin Combustion (Mk6). Avpin will normally drain from No 2 engine starter exhaust following a failure to initiate system. If unchecked Avpin will drain down side of fuselage into interspace between ventral fuel pack and fuselage skin, thereby creating a serious FIRE AND EXPLOSION risk. Starter crew are to quickly mop up Avpin drainage immediately Pilot indicates that starter has failed to initiate. Sortie is to be abandoned for ONE HOUR if Avpin enters interspace between ventral fuel pack and fuselage skin.

36. Control of Power Supplies.

a. The NCO IC Aircraft Servicing is to be informed whenever power is required.
b. The main ON/OFF switch of the Internal/ External power supply unit is to be set to 'OFF' before connecting to or disconnecting from the aircraft.
c. Prior to switching power 'ON' the external power supplies are to be trimmed to their correct voltages by electrical tradesmen.
d. D.c. external power supplies are always to be switched 'ON' before making a.c. supplies available to the aircraft.
e. Before switching external supplies 'OFF' when engines are running the aircraft battery isolation switch is to be set to 'ON'.

37. External Electrical Power Supplies. Before connecting external power supplies, ensure that the earthing requirement of para 43 is complied with. The following cockpit switch checks are to be made:-

a. Battery isolation switch 'OFF'.
b. Flight refuel switch selected to 'REFUEL'.
c. Canopy handle selected 'OPEN' toggle switch neutral.
d. Undercarriage control handle selected 'DOWN'.
e. Pitot head, clear vision panel and de-icing/ rain dispersal switches are set to 'OFF'.
f. Master armament selector 'OFF'.
g. GW arming switch 'SAFE'.
h. Armament trigger safety catch 'SAFE'.
j. External stores jettison controls 'SAFE'.
k. MRG swich 'OFF'.
l. Fuel dump switch 'OFF' (Guarded) (MK 6).
m. Overwing tanks jettison switch 'OFF'. (Guarded) (MK 6).

38. Fuses

a. Whenever an aircraft is withdrawn from the line for servicing or rectification, other than for After Flight, Turn Round or Before Flight Servicings, fuses are to be withdrawn from the a.c. supply lines to the ventral pack fuel transfer pump (MK6).



Continued overleaf

38. Fuses (Contd)

b. All unused fuse positions are to be fitted with dummy fuses.

c. Before disconnecting components or plug/socket connections the appropriate circuit fuses are to be removed.

d. All electrical power supplies connected to the aircraft are to be isolated before withdrawing fuses.

e. Where fuses are removed, the correct servicing dummy fuses are to be fitted.

f. On completion of servicing all flagged dummy fuses are to be removed and the correct rating live fuses fitted.

g. Before refitting a fuse, the qualified tradesman is to satisfy himself that the electrical work for which fuse removal was effected has been satisfactorily completed and that electrical power supplies are isolated.

39. Earthing of Aircraft and Ground Equipment

a. The following information reflects the current instructions for earthing of aircraft and ground equipment when using a ground electrical power supply of lethal voltage, ie, greater than 30 volts (rms) a.c. or 50 volts d.c. Mandatory requirements are detailed in AP3158, 2nd Edition, Volume 2 Leaflet B14.

b. Tables 1 and 2 specify the requirements for earthing of refuellers and ground equipment. They also indicate the compatibility of an electrical power supply with the operation being carried out.

39. Earthing of Aircraft and Ground Equipment (Contd)

c. Table 1 for the following:

(1) Electrically driven GPU without negative/neutral strapped to chassis.

(2) Engine driven GPU.

(3) External batteries.

(4) No external power supply connected.

TABLE 1

| OPERATION | IS POWER SUPPLY COMPATIBLE WITH OPERATION | EARTH CONNECTION REQUIRED BETWEEN AIRCRAFT AND TRUE EARTH | SEPARATE EARTH CONNECTION BETWEEN | |
|---|---|---|---|---|
| | | | AIRCRAFT AND GPU | GPU AND TRUE EARTH |
| REFUELLING/ DEFUELLING | YES | YES | NO | NO |
| SERVICING | YES | YES | NO | NO |
| USE OF MAINS POWERED EQ'PT | YES | YES | NO | NO |
| SPECIAL WEAPON LOADING/ UNLOADING | YES | YES | NO | NO |
| ▶ HYDRANT REFUELLING | YES | YES | NO | NO ◀ |



Continued overleaf

39. Earthing of Aircraft and Ground Equipment (Contd)

d. Table 2 for electrically driven GPU with negative/neutral strapped to chassis.

NB: This GPU is to be marked with a warning notice 'DISCONNECT AIRCRAFT EARTH LEAD BEFORE POWER IS APPLIED TO AIRCRAFT'.

TABLE 2

| OPERATION | IS POWER SUPPLY COMPATIBLE WITH OPERATION | EARTH CONNECTION REQUIRED BETWEEN AIRCRAFT AND TRUE EARTH | SEPARATE EARTH CONNECTION BETWEEN | |
|---|---|---|---|---|
| | | | AIRCRAFT AND GPU | GPU AND TRUE EARTH |
| REFUELLING/ REFUELLING | YES | NO | NO | NO |
| SERVICING | YES | NO | NO | NO |
| USE OF MAINS POWERED EQ'PT | NO | - | - | - |
| SPECIAL WEAPON LOADING/ UNLOADING | NO | - | - | - |
| HYDRANT REFUELLING | YES | NO | NO | NO |

40. Refuelling/Defuelling. No mains powered tools, equipment or test equipment is to be used during Refuelling/Defuelling. Only those aircraft electrical circuits essential to the operation are to be in use. Prior to transfer of fuel the bonding circuit is to be completed using the following sequence:

40. Refuelling/Defuelling (Contd)

(1) Ensure refueller trailing strap is touching the ground.
(2) Bond refueller chassis to aircraft earth point using refueller bonding lead.
(3) When using pressure refuelling:
(a) Remove blanking caps.
(b) Fit refueller coupling.
Disconnection is to be carried out in the reverse order of sub-para 40(2) and (3).

41. A.c. Transfer Pump-Power Supplies. (Mk 6) A.c. ground supplies are not to be connected to the aircraft if all three of the following conditions are evident, as the a.c. fuel pump in the ventral pack would operate, causing fuel to vent overboard:

a. Internal battery removed or disconnected.
b. Refuelling panel removed.
c. Aircraft fuel state 'FULL'.

42. Fuel Venting A.c. Transfer Pump (Mk6). Immediately after switching external supplies to 'ON' ensure that the ventral pack transfer pump is not running, by checking that there is no indication on the pressure gauge (Ventral Pack Skin). If the pump is running, isolate power supplies immediately and investigate.

43. Emergency Battery. (Mk 5). After any servicing operation carried out in the cockpit ensure that the instrument master switch and the emergency lighting switch are both in the 'OFF' position,

44. Engine Running Danger Areas. Attention is drawn to the danger areas applicable to the Lighting aircraft as shown in (Sect 1 Fig 8). In particular, personnel are not to stand in the shaded area during engine starting.

45. Polyurethane Paint. When applying polyurethane paint by brush or roller, the following precautions are to be observed:

a. Before starting work barrier cream is to be applied to the hands.
b. Splashes of paint on the skin are not to be allowed to dry and are to be removed as quickly as possible with soap and water or an approved cleansing agent.
c. Smoking, drinking and eating are prohibited whenever the paint is in use.

46. Noise Hazard. Personnel are warned of the potential danger of damage to the ears when working near aircraft with engine(s) running. When working on or near aircraft with engines running, personnel are to wear Fluid seal type ear defenders.

47. Aircraft Cleaning Compounds. Aircraft cleaning compound is a non-toxic, non-inflammable agent used for the removal of oil, grease dirt and other contaminants from aircraft surfaces. The strong degreasing action of this agent may cause actual damage to the skin, or remove the natural oils which can lead to dermatitis. The following safety precautions are to be observed during their use:

a. Make available adequate supplies of clean water for rinsing purposes.
b. Wear appropriate protective clothing.
c. Apply Barrier Cream No. 1 (33D/2241945) to hands and forearms before work.
d. Dilute the compound to suit the state of contamination.
e. Wear eye shades when splashes are likely to enter the eyes. If compound enters the eyes, wash them immediately in clean running water and seek medical aid without delay.
f. Do not use compounds to clean the skin.

Heavy duty cleaning compound (33D/2240455), in concentrated form, is toxic and flammable. In addition to the above hazards it can cause pollution to local drainage systems and should only be used when specifically authorised and in accordance with current instructions.

Full details of precautions and methods of application of degreasing, cleaning and protective materials are laid down in AP 119A-0509-1.

48. GW Pack

a. Pure Air System. The pack pure air system is to be discharged before any part of the system is disconnected.

b. High Pressure Air Care is to be exercised when operating high pressure air equipment. Air nozzles are not to be directed towards clothing, hands or any part of the body. Personnel subjected to accidental injection into the skin must receive immediate medical attention.

49. Pure Air Charging Equipment Care is to be taken when handling liquid air to prevent it making contact with the skin. Liquid air is potentially dangerous since it can cause severe burns.

50. Ground Handling Equipment

a. When laying out ramps on the Missile Transporter Mk 2, the tradesman is to ensure that his hands are clear of the hinge in the centre of the ramp.

b. The wheels of the Missile Transporter Mk 2 are of the split rim type. The rim nuts (usually painted Red) are not to be removed whilst the tyre is inflated.

c. The towing speed of Missile Transporter Mk 2 fitted with Dunlop circumferentially ribbed tread RL 2, is not to exceed 10 MPH.

d. Extreme care is to be taken when towing Missile Transporter Mk 2 fitted with Dunlop circumferentialy ribbed tread tyres RL 2 in icy or wet road conditions.

51. Aerosol Sprays. The following precautions are to be meticulously observed:

a. The tin is not to be damaged, forced open or heated above 50 degrees C, even when empty.

51. Aerosol Sprays (Contd)

b. The spray is not to be used near open flame or hot surface.

c. Smoking is prohibited when spraying.

d. Ensure adequate ventilation when spraying.

52. Loaded Gun Circuit Testing - RF Hazard. The cap of a 30mm round of ammunition is susceptible to initiation by RF radiation when the loaded gun circuit is tested using the Aden Gun Circuit Test Unit near a RF source. Gun circuit testing during arming or initial stoppage investigation is to be carried out only when the aircraft is positioned outside the category 2 safety distances from RF sources specified in AP110A-0102-1 Part 5 Leaflet C1 for the aircraft type.

53. Gaseous Tritium Light Sources (GTLS). GTLS (sometimes known as Beta Lights) contain a radioactive material. If a light is broken, the following precautions are to be observed:

a. Thoroughly ventilate the area using a forced draught where possible, for a period of 30 minutes.

b. Handle any debris carefully with gloved hands.

c. Dispose in accordance with AP 4687A, Volume 2, Leaflet F4, Apr 80.

54. Methanol.

a. Methanol is a highly inflammable and toxic liquid which readily vapourises at low ambient temperatures. Swallowing methanol or inhaling the fumes can be dangerous and if this happens, medical attention is to be sought without delay.

b. After use of compressor washing liquid containing methanol the engine compartment is to be thoroughly ventilated for a period of 15 mintues before personnel enter the compartment, or before engine start.

55 Polytetrafluoroethylene (PTFE). When PTFE is heated above 250 degC toxic compounds are evolved which, if inhaled, can have extremely unpleasant effects. All work involving PTFE materials is to be carried out in a well ventilated area. Smoking in the work area is prohibited. Hands and clothing are to be thoroughly cleansed of all PTFE particles when work is complete.

56. Maintenance Activities on Armed Aircraft.

a. During the loading/off-loading of explosive armament stores servicing or maintenance activities are not to be undertaken unless they form part of an Operational Turn Round (OTR) servicing.

b. The following servicing and maintenance on an Initially Armed aircraft may be undertaken:

(1) Flight servicings.

(2) Maintenance authorized by the Parent Command HQ.

(3) Exceptionally, to meet an operational need, other maintenance activities as authorized by OC Eng Wg.

c. No maintenance, except that authorized in the Operational Readiness Servicing Schedule (ORSS) for the aircraft type, is to be undertaken on a finally Armed or Combat Armed aircraft.

d. The foregoing restrictions are equally applicable to the maintenance or servicing of aircraft in HAS and other authorized readiness buildings. When more than one aircraft is housed in the building the parent command HQ will assess the hazards involved and promulgate additional regulations in command ESIs.

Note: Within the context of this instruction an explosive armament store is any projected or otherwise launched store, including a practice store, which has an explosive or pyrotechnic content. Excluded from the instruction are internally stored pyrotechnics and explosives used to operate an aircraft system such as an assisted escape system, fire protection system or weapon release system, etc. A more detailed definition is given in AP100B-01, Order 1836.

57. Sonar Locator Beacon (SLB). The following precautions are to be observed when handling and testing the SLB:

a. Do not operate the Pressure switch with any metallic tool or other implement likely to damage the diaphragm.

b. Avoid touching the acoustic window. Metal implements may damage the surface and fingers may leave traces of grease that will affect the wetting, either condition will affect the acoustic efficiency of the window.

c. The end cap must not be unscrewed whilst the unit is installed on the aircraft. The partial unscrewing of this cap is sufficient to release any Sulphur Dioxide gas which may have accumulated within the unit at pressure of up to 1034 kN/m2 (150 lbf/in2).

d. The SLB is powered in use by Lithium Sulphur Dioxide batteries which are a potential source of danger if mishandled. The safety precautions to be observed when handling these batteries are printed on the SLB case. Over heating (70°C or above) may cause the batteries to give off toxic fumes.

e. Should the operation of the SLB be in any way suspect the unit is to be removed from the aircraft and returned to the Bay for examination.

▶ 58. Electrical Connections.

a. Disconnection or reconnection of electrically operated components or assemblies to facilitate other servicing is to be carried out only by the specialist tradesmen responsible for the component or assembly.

b. All electrical circuits affected by disconnection of plugs and sockets are to be functionally checked after plugs and sockets have been reconnected. ◀

59. Airborne Radio Installations (ARIs).

a. ARIs are only to be operated by specialist tradesmen, except where other tradesmen are specifically authorised.

b. Personnel about to operate ARI transmitters are to indicate clearly to personnel working on the aircraft which aerial is to be used and warn them not to approach within 1.8 m (6 ft) of that aerial.

c. ARI transmitters are not to be operated when:

(1) Personnel are within 1.8 m (6ft) of the in-use aerial.

(2) Refuelling operations are in progress on, or within 15.2m (50 ft) of the aircraft.

(3) Weapon loading/unloading, arming/disarming is in progress within 30 m (100ft) of the in-use aerial.

d. HF equipment is not to be operated within the confines of a hanger when 'open aerial' transmission is to be used.

60. Hydraulic Components - Cholorinated Solvents. Chlorinated solvents such as Trichloroethane combine with minute amounts of water found in operating hydraulic systems, to form hydrochloric acid which will corrode internal metallic surfaces. All internal surfaces and drillings of hydraulic components are to be dry and free from residual solvent before assembly and installation.

61. Low Pressure Oxygen Hose. Personnel are to ensure that when an ejection seat is raised to its highest position, the tension on the low pressure oxygen hose is insufficient to break the quick disconnect coupling.

62. Insulation Testing of Aircraft Avionic Equipment and Aircraft Wiring. Personnel are warned that damage may be caused to electronic equipment when insulation testing aircraft wiring or installations. Insulation testing is only to be carried out when specifically called for in the aircraft servicing documents or when authorised by the Specialist Officer.

63. High Pressure Tyres. Lightning tyres are pressurised in excess of 250 lb/in2. Inflation/deflation is only to be carried out using a Tyre Inflation Unit type NA 1600/2 (4G/1050542). Under no circumstances is a high pressure gas supply to be connected direct to a tyre.