

Chapter 7 GUIDED WEAPON INSTALLATION

LIST OF CONTENTS

DESCRIPTION	Para.		Para.		Para.
		<i>Red Top missile installation</i>			<i>Missile pack cold-air system functioning test (Firestreak only)</i>
General information	1	Missile pack	15		Switch/connector rig... ..
Armament controls and indicators ...	2	Missile pylons	16		Procedure
Armament safety break	3	Ejector release units	17		Deleted
Deleted	4	Hydraulic system... ..	18		Test equipment and test procedure ...
		<i>Pure-air system</i>			Harmonization
<i>Firestreak missile installation</i>		General information	19		Exchanging the pure-air cylinder -
Missile pack	5	Operation	20		Red Top pack
Missile pylons	6	Pressure gauge... ..	21		General information
Ejector release unit	7	Missile launching shoes	22		Procedure
Ejector release unit safety plugs ...	8	Missile firing link and safety plug	23		Re-arming the aircraft... ..
Hydraulic system... ..	9	Misfire indicators	24		
Hot- and cold-air systems	10				
A.C. generator ram-air supply ...	11				
Missile launching shoes	12				
Missile firing link and safety plug	13				
Misfire indicators	14				

SERVICING

REMOVAL AND ASSEMBLY

LIST OF TABLES

	Table
Tools and equipment	1

LIST OF ILLUSTRATIONS

	Fig.		Fig.
Armament controls and indicators ...	1	<i>Red Top missile installation</i>	
Armament safety break panel	2	Missile pack - Red Top	5
<i>Firestreak missile installation</i>		Hydraulic system - Red Top pack ...	6
Missile pack - Firestreak	3	Pure-air system - Red Top pack ...	7
Hydraulic system -		Switch/connector rig	8
Firestreak pack... ..	4	Exchanging the pure-air cylinder ...	9

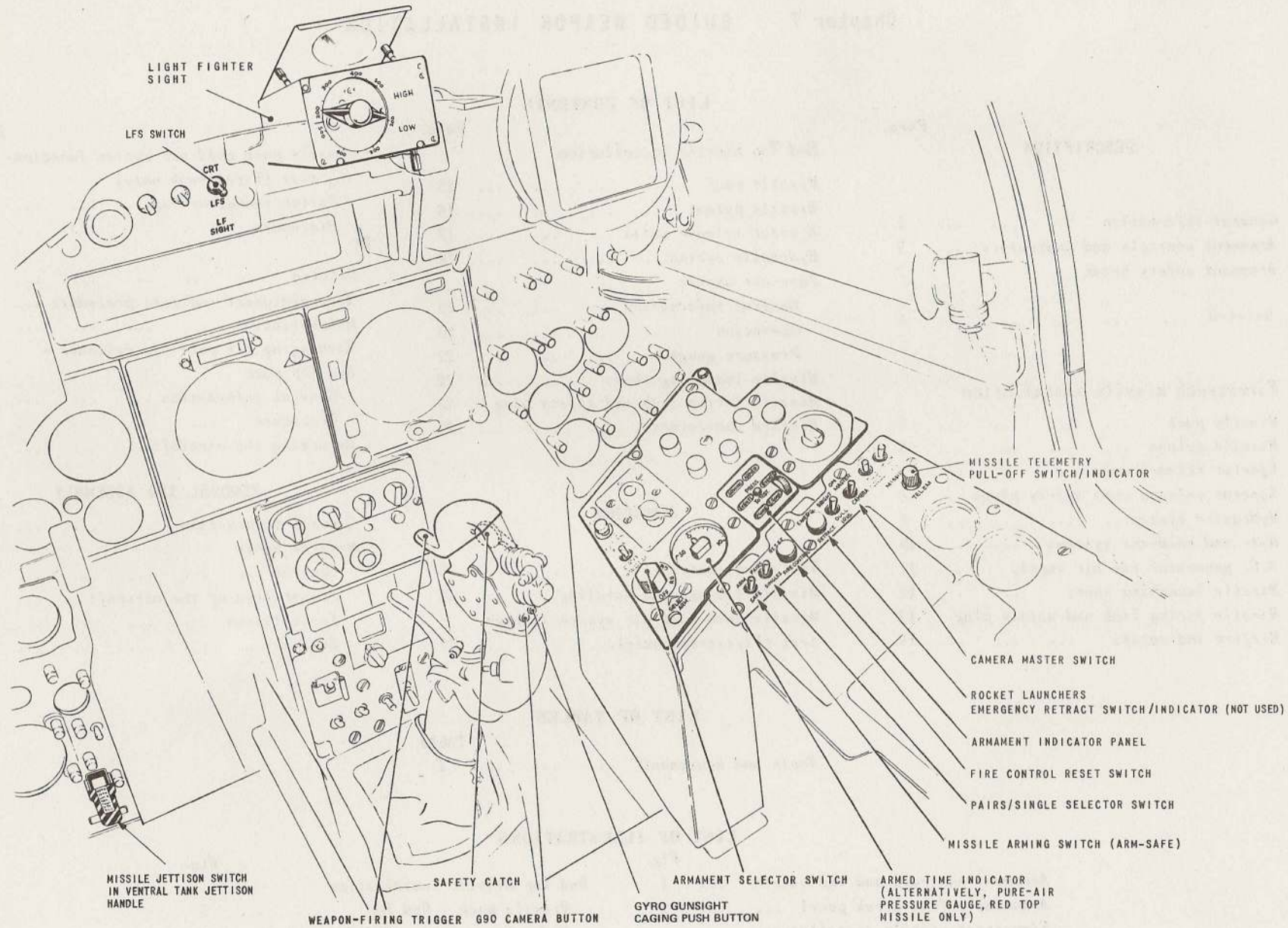


FIG.1. ARMAMENT CONTROLS AND INDICATORS

DESCRIPTION

General information

1. When prepared for the guided missile role the aircraft is fitted with either a Firestreak or a Red Top missile pack which is installed in the armament bay in the lower front portion of the fuselage. The packs are each designed to carry two missiles, the launching shoes attached to the missiles being secured to the pack pylons by ejector release units. Air and electrical services are fed to the missiles during the initial arming and throughout the armed period through connectors on the pylons and launching shoes. The weapon fire control system operates in conjunction with AI 23D equipment and a Light Fighter Sight is provided. The Firestreak and Red Top missiles and their testing and servicing are described in A.P.118C-0701-1 and A.P.118C-0601-1, series respectively.

Armament controls and indicators (fig.1)

2. With the exception of the missile jettison push-switch (8), the weapons-firing trigger (9) and the gyro gunsight caging push button (10), all controls and indicators associated with the guided weapons installations are on the forward and aft instrument panels on the starboard console. The majority are common to both the Firestreak and Red Top control systems; where this is not so is indicated in the following details:-

(1) Armament selector switch

This is a hexagon-headed rotary switch

having settings marked GW-RB-OFF. When the appropriate mode is selected an electrical supply is connected to the LFS/CRT switch; the RB position is not used.

(2) Singles/Pairs selector switch

Selection of PAIRS or SINGLES to be fired is dependent upon the nature of the target and the form of attack. If SINGLES is selected, the missile to be launched is that which first locks-on to the target.

(3) Missile arming switch

This is the controlling switch for the air and electrical services of the missile which commence to function when the switch is set to ARM.

(4) Armament indicator

The armament indicator unit is mounted on the forward panel of the starboard console. With the ARMAMENT SELECTOR at GW, movement of the ARM/SAFE switch to ARM causes the ARMING section of the indicator to be illuminated and the ARMED section to flash for approximately 2 seconds; after the two minutes required for arming have elapsed, the ARMED section also lights. Lock-on of either or both of the missiles is indicated by illumination of EVENT 1 or EVENT 2 or both, with Red Top. Departure is shown by the lighting of the appropriate P.GONE or S.GONE sections. A PRESS-TO-TEST switch is fitted in the centre of the unit and a dimmer switch is provided for use as required; testing can only be done with the undercarriage down.

(5) Armed time indicator (Firestreak only)

This indicator has a clockwise mechanism, the pointer registering the armed time from the moment the ARM/SAFE switch is moved to ARM. When 15 minutes have elapsed, including the two minutes arming time, the cooling air and ammonia supplies will be exhausted; the ARM/SAFE switch should then be set to SAFE. During servicing, the pointer may be returned to zero by turning the resetting knob on the indicator face.

(6) Pure-air cylinder pressure gauge (Red Top only)

Cylinder pressure is indicated to the pilot by a gauge on the starboard console in circuit with a transmitter in the pack. The gauge has a range of 0-6000 lb/in² significant pressure levels being indicated by coloured sectors (para.19).

(7) Fire control reset switch

Operation of the F.C.R. push-switch resets the fire control system either after ground testing or, in flight, after a simulated firing sequence. Operation of the switch extinguishes the P.GONE and/or S.GONE lights. The switch must not be operated if a Red Top misfire has occurred.

(8) Missile jettison switch

This switch is incorporated in the ventral-tank jettison handle and is guarded by a spring-loaded flap. Operation of the switch completes the circuit to fire the cartridges in the ejector release units thus jettisoning the missiles and launching shoes laterally.

(9) *Weapon-firing trigger*

The weapon-firing trigger is on the control column handle and when not in use is hinged upward and is secured by a safety-catch. Squeezing the trigger completes the firing circuit but the missiles will not fire unless the system is armed and the missile homing eyes have acquired.

(10) *Gyro gunsight caging push button*

The gunsight caging push button is located on the control column handle. It is used to cage the L.F.S. gyro unit

when the armament system is used in the 'GUNS' role. In the 'CRT' mode of the 'G.W.' role, the button is in parallel with the 'Reject out' switch on the AI 23D control unit.

Armament safety break (fig.2)

3. The armament safety break panel mounted on the rear wall of the starboard undercarriage well comprises a bank of microswitches, and is operated by a key inserted in the access slot and turned 90 degrees clockwise to the SAFE position. A warning pennant attached

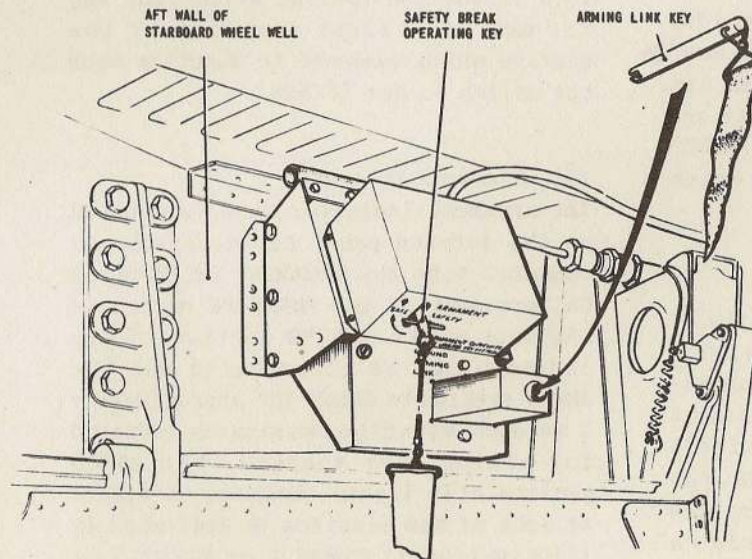
to the operating key provides visual indication that the key is fitted. A similar operating key, without a warning pennant, is wire-locked in a stowage mounted on the port side of the cockpit rear pressure bulkhead and is provided for route servicing only.

4. Deleted.

FIRESTREAK MISSILE INSTALLATION

Missile pack (fig.3)

5. The Firestreak missile pack pro-



NOTE...
ILLUSTRATED WITH ARMAMENT CIRCUITS 'SAFE'

Fig. 2. Armament safety break panel

vides pylon mountings for two missiles, and accommodates the systems and equipment necessary to maintain missile services during the arming and armed periods prior to firing. The missiles, with their attached launching shoes, are secured to the pylons by ejector release units, with mating connections for the pack-to-missiles services on the contact faces of the shoes and pylons. The pack is shaped to conform to the front fuselage contour and is formed by five diaphragms, two edge members with supporting structural components, and a stressed-skin outer covering. Removable panels are provided to give access to the pack equipment and servicing points when the pack is fitted.

Missile pylons (fig.3)

6. The front and rear spars of the pylons are formed by extensions of the two rear pack diaphragms. The central portion of the pylon structure, between the spars, provides a housing for the ejector release unit. Each pylon has a leading and trailing edge section, the inboard portion of the latter being detachable to provide clearance for removal of the lower engine hatch; a cut-away in the detachable section gives access to the securing screw. A ram air duct, located in the leading edge of the starboard pylon, admits cooling air through a filter to the electrical a.c. generator in the pack. An electrical connector, hot- and cold-air connectors, missile shoe bearing pads, and locating dowel sockets are located on the external face of the pylon. The rear dowel socket is adjustable, vertically, for missile alignment, this being effected

by the adjustment of socket screws which are recessed into the upper and lower surface of the pylon above and below the socket position, and locked by screwed plugs. An ejector release unit crutching point is provided in the pylon lower surface, and is accessible on removal of a plug. A metal fairing is attached by three socket screws to the external face of the pylon when the missile is not fitted.

Ejector release unit

7. The missile launching shoe is secured to the pylon by the engagement of its suspension lug in the jaws of a No. 4 Mk.1* ejector release unit. The unit is secured in its housing between the pylon front and rear spars by two bolts passing through the top and bottom attachment plates and through adapters fitting flush with the pylon skin. Access to a brace-operated crutching mechanism is obtained by removal of a plug in the undersurface of the pylon beneath the housing. Emergency jettisoning of the missile and shoe is effected by operation of a push-switch incorporated in the ventral tank jettison handle which completes the circuit to fire the cartridge in each ejector release unit and eject the missiles and shoes outwards and clear of the aircraft. Inadvertent operation of the switch is prevented by a suitably marked spring-loaded flap covering the switch. For a detailed description of the No. 4 Mk.1* ejector release unit and its servicing refer to A.P.1664E, Vol.1.

Ejector release unit safety plugs

8. Safety plugs are provided to replace

the ejector release unit electrical connectors, when the aircraft is on the ground. These plugs, which are stowed in the pack near the release units, must be fitted as soon as possible after shut-down, and the warning pennants attached to the plugs arranged to stream through the access apertures.

Hydraulic system (fig.4)

9. Power for the missile pack hydraulic circuit is supplied by the aircraft services hydraulic system, the fluid entering and leaving the circuit through self-sealing couplings at the rear of the pack. The pressure is employed to drive a hydraulic motor which is coupled through a two-stage gear train to an a.c. generator, the two components being combined in one unit. The motor is controlled by a solenoid-operated selector valve in circuit with the G.W. arming switch in the cockpit. When the switch is set to ARM, with G.W. selected on the ARMAMENT SELECTOR SWITCH, the selector valve operates to supply pressure fluid to the motor, which continues to run until the arming switch is returned to SAFE, or both missiles have been fired; the selector valve is then automatically closed. The return fluid is cooled by passing through a heat exchanger mounted transversely in the pack between diaphragms 4 and 5. Connection of the system to the aircraft supply is facilitated by King Type 3200 couplings and flexible pipe runs.

Hot- and cold-air systems

10. Supplies of hot and cold air are required for various missile services. The hot air is ducted from the aircraft

RESTRICTED

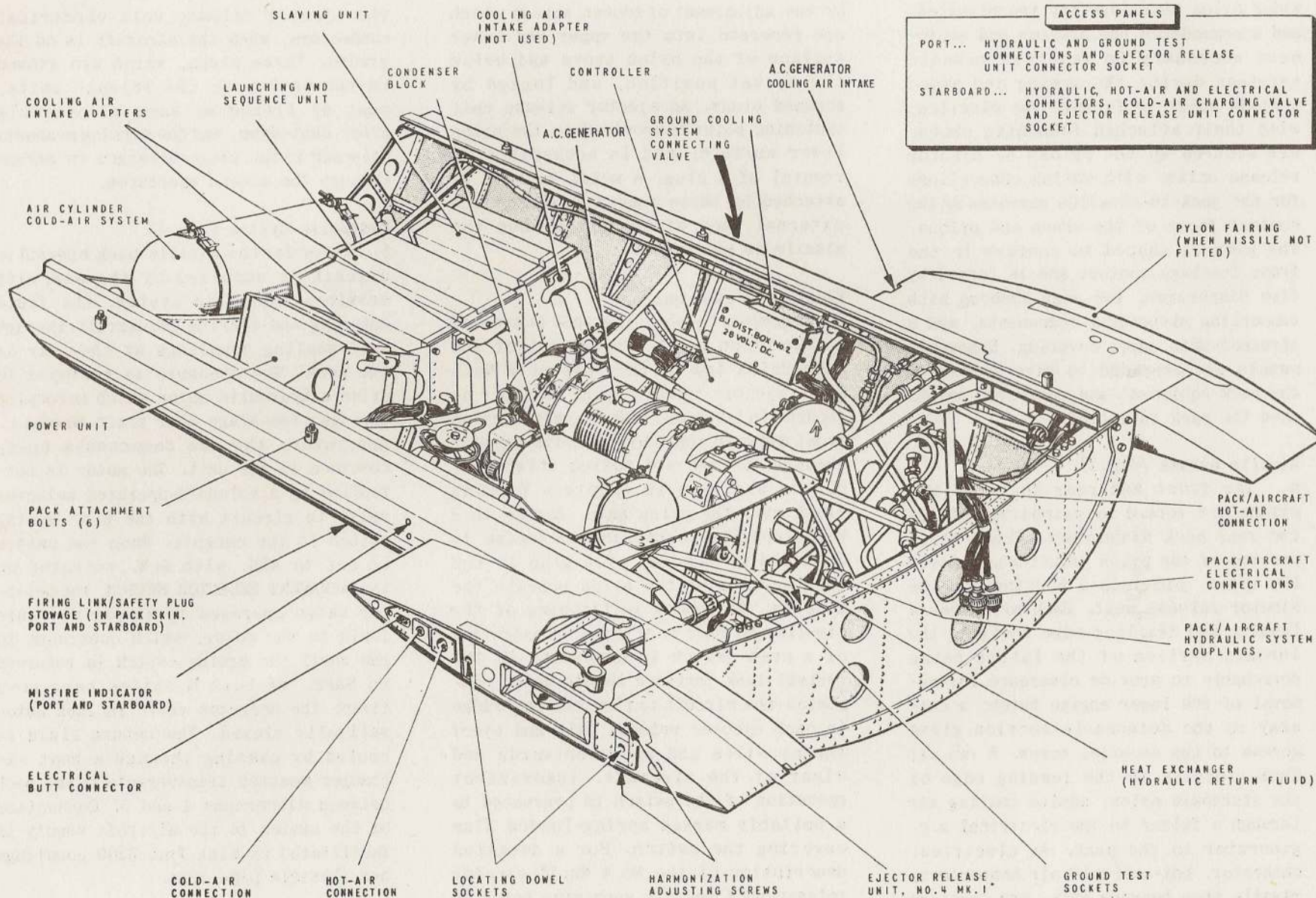


FIG. 3. MISSILE PACK—FIRESTREAK

RESTRICTED

system through a coupling in the pack, and is led, through a temperature control valve, to a pipeline branching to connectors in the pylons. When the missiles and shoes are in position, and the aircraft engines running, hot air is directed to the missiles to circulate around the components and maintain them at the correct working temperature. The components of the cold-air system are contained in the pack, air being stored in a cylinder in the forward compartment. The cylinder is charged to 3300 lb/in², the pressure being registered on a skin-mounted gauge beneath the starboard pylon. The remaining components are mounted in the rear compartment of the pack. From the cylinder, the high-pressure air is directed rearward, via a four-way connector, to a pressure-relief valve, an ON-OFF cock, and a high-pressure filter in the ground charging line. The pressure-relief valve is set to open at 3500 lb/in², and the ON-OFF cock is wire-locked in the ON position. From the ON-OFF cock, the air passes to a pressure reducing valve with an output of 200 lb/in². From the reducing valve the air is directed through an air drier and a low-pressure filter, to a twin-electropneumatic tap. The tap is in circuit with the G.W. ARM/SAFE switch in the cockpit and, with the switch in the ARM position, air is directed to the cold-air system connectors in the pylons, and thence, via the launching shoes, to the missiles. Within the missiles, the air is cooled by evaporation of ammonia stored in a steel container in the launching shoe, and led forward to the components in the nose. Other components

are cooled by ammonia expansion coils and their associated pipe runs.

◀ A.C. generator ram-air supply

11. A supply of cooling air to a small heat exchanger in the a.c. generator gearbox is provided by an intake duct in the leading edge of the starboard pylon. From the duct, air is led to an inlet in the a.c. generator casing, the circulated air being expelled from an outlet port in the casing and then through louvres in the pack skin.

Missile launching shoes

12. The missile is issued fitted with a launching shoe which carries a suspension lug for attachment to the ejector release unit in the pylon. The missile is mounted on launching rails fitted to the shoe, fore-and-aft movement being restrained by a shear bolt which is screwed and locked into the shoe, the shank of the bolt projecting into the missile body. Two locating dowels, one fore and one aft of the suspension lug, mate with sockets in the pylon. Forward of the locating dowels are the hot-air, cold-air and electrical connectors. The shoe is fitted with front and rear removable fairings, the former being secured by a screw and the latter by a screw-operated worm gear. The front fairing gives access to the missile services connectors and to the shear bolt, whilst the rear fairing houses an ammonia container which, with the fairing, is assembled to the shoe after the missile has been fitted to the pylon.

Missile firing link and safety plug

13. A firing link is inserted into a

housing in the missile body, forward of No. 4 wing, when the missile is required to be in an operational condition; this is normally immediately before take-off. A safety plug is fitted as a replacement for the firing link when this is removed. Stowage for the plug or link from each missile is provided on the appropriate side of the third compartment of the missile pack, the stowages being accessible beneath hinged quick-release panels.

Misfire indicators

14. Two solenoid-type misfire indicators are fitted in the missile pack and are mounted one on the port and one on the starboard wall of the third compartment. Each indicator is connected into the appropriate missile firing circuit, the armature being extended when the circuit is energized. An aperture is provided in the pack on each side through which the indicators may be examined; a second aperture, immediately beneath, makes provision for illumination of the indicator by an inspection lamp if necessary. Should an aircraft return with the pylon loaded, after an attempt to fire the missile, examination of the appropriate indicator determines the serviceability of the firing circuit up to that point. A manual resetting device is fitted forward of each indicator; rotation of an eccentric disc returns the armature to its normal position. A screw slot is provided whereby the disc spindle may be rotated with a screwdriver, the reset position being indicated by the half-black screw head merging with a crescent-shaped mark on the pack to form a black semi-circle.

RESTRICTED

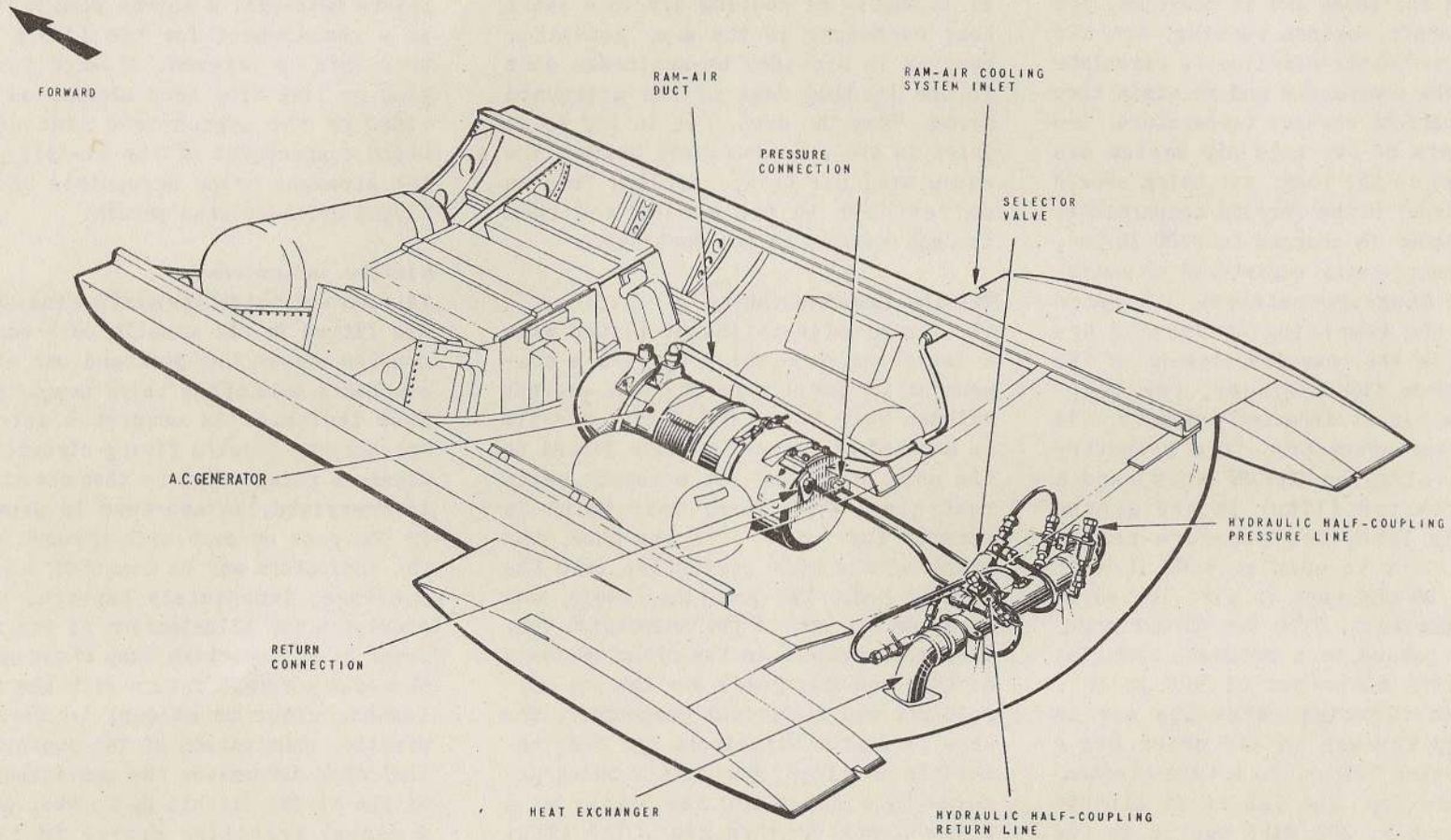


FIG. 4. HYDRAULIC SYSTEM - FIRESTREAK PACK

◀ANNOTATION CHANGE▶

RESTRICTED

3 8965-1

RED TOP MISSILE INSTALLATION

Missile pack (fig.5)

15. The Red Top missile pack is fitted as an alternative to the Firestreak pack (para.5), the location and method of attachment being identical. Components of the hydraulic, electrical, pure-air cooling, and launching sequence control systems are housed in four compartments formed by transverse diaphragms in the pack structure. The disposition of the components in the pack is illustrated in fig.5.

Missile pylons (fig.5)

16. The two missile pylons are positioned at the rear of the pack, their upper surfaces being level with the pack edge members. Extensions of the two rearmost pack diaphragms form the front and rear pylon spars, the space between in each case providing a housing for an ejector release unit. On the face of the pylon are connections to the missile services which mate with similar connections on the missile launching shoe. The trailing edge of each pylon projects beyond the rear of the pack, the inboard section being detachable to permit the installation or removal of the lower engine hatch. Clearance is provided for the removal and refitting of the securing screw. Fairings are provided for protection of the pylon connections when missiles are not fitted, securing lugs on the fairings engaging with the jaws of the ejector release units and fairing locating dowels entering the sockets in the pylons. A Red Top missile pylon is illustrated in fig.5.

Ejector release units

17. Ejector release units, No.4 Mk.1* (para.7) are used with both Red Top and Firestreak installations.

Hydraulic system

18. The missile system a.c. power supplies are provided by a hydraulically-driven a.c. generator mounted in the pack, pressure being supplied by the aircraft services system. The motor is controlled, through a selector valve, by the missile ARM-SAFE switch in the cockpit, output commencing when the switch is set to ARM. Return fluid from the motor passes through a heat exchanger in the rear compartment of the pack before passing through the coupling to the services return line. It is essential that the a.c. generator revolutions be maintained during the missile arming and armed period; to ensure this a pressure regulator and non-return valve are interposed in the circuit to prevent the use of the air brakes from causing a reduction in pressure to the motor. The operation of the device is described in Sect.3, Chap.6.

Pure-air system (fig.7).

General information

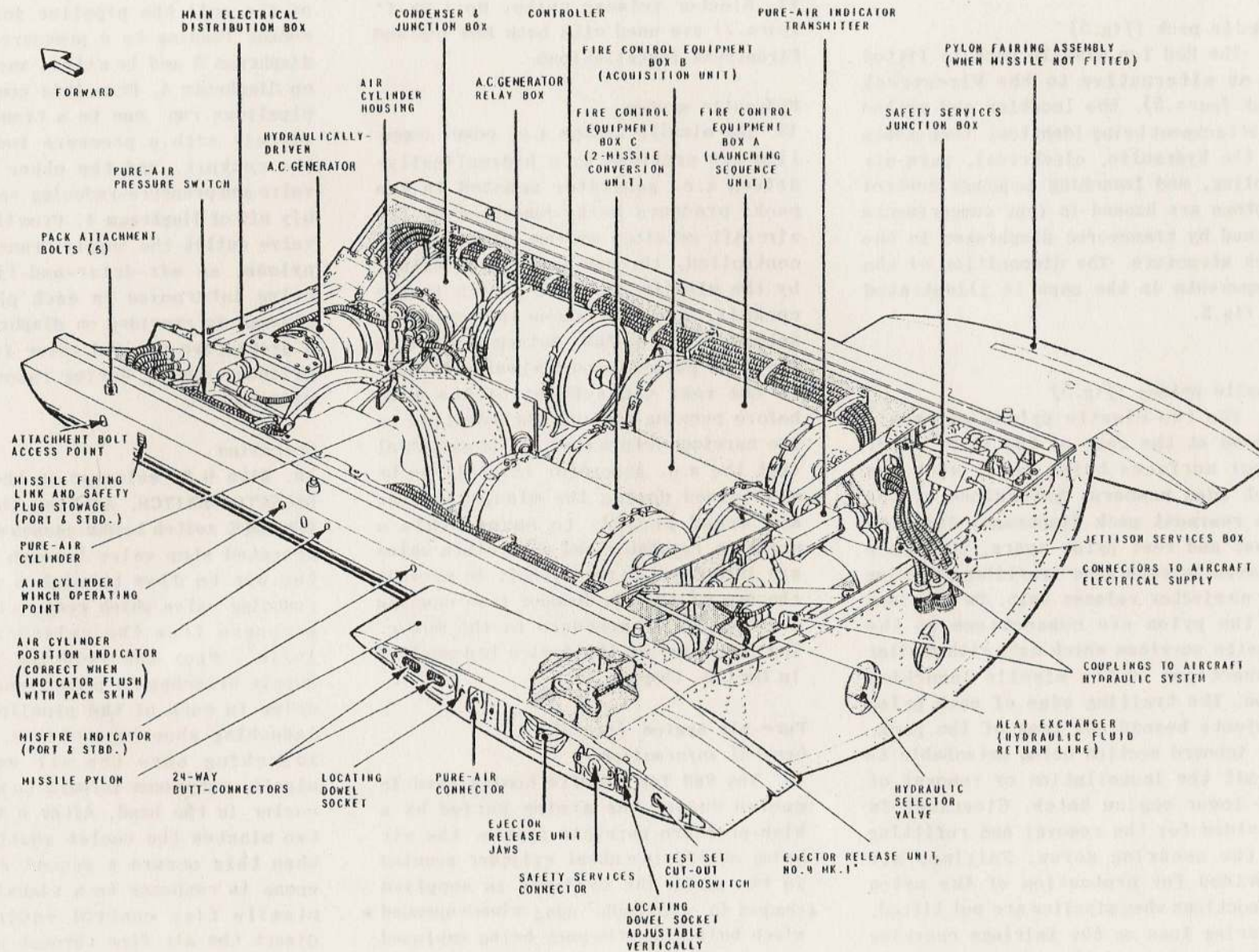
19. The Red Top missile homing head is cooled during the arming period by a high-pressure pure-air system, the air being stored in a steel cylinder mounted in the pack. The cylinder is supplied < charged to 4200 lbs/in² min., a brace-operated > winch built into the pack being employed when replacement is necessary. The cylinder housing is located between pack diaphragms 3 and 3A, the cylinder outlet being connected to the system pipeline

by a coiled pipe and union. Downstream of the coil the pipeline joins a connector leading to a pressure switch on diaphragm 2 and to a three-way connector on diaphragm 4. From this connector the pipelines run, one to a transmitter in circuit with a pressure indicator in the cockpit, and the other to a stop valve and pressure-reducing valve assembly aft of diaphragm 4. From the reducing valve outlet the supply branches to the pylons, an air-drier-and-filter unit being interposed in each pipe run. A stowage is provided on diaphragm 2A for a protective cap and cover for the air cylinder outlet during removal or replacement.

Operation

20. With G.W. selected on the ARMAMENT SELECTOR SWITCH, setting the missile ARM/SAFE switch to ARM causes a solenoid-operated stop valve to open and allow the air to flow through a pressure-reducing valve which reduces the initial pressure from the cylinder to 3000 lb/in². From the reducing valve the supply branches to pass through an air drier in each of the pipelines to the launching shoe connections. From the launching shoe the air enters the missile and passes forward to a Parkinson cooler in the head. After a maximum of two minutes the cooler should strike. When this occurs a second stop valve opens in response to a signal from the missile fire control equipment, to divert the air flow through a reducing valve with an output of 1850 lb/in², the first stop valve being simultaneously closed. This cycle will continue each time ARM is selected until the air

RESTRICTED



3-896E-1

FIG. 5. MISSILE PACK-RED TOP

RESTRICTED

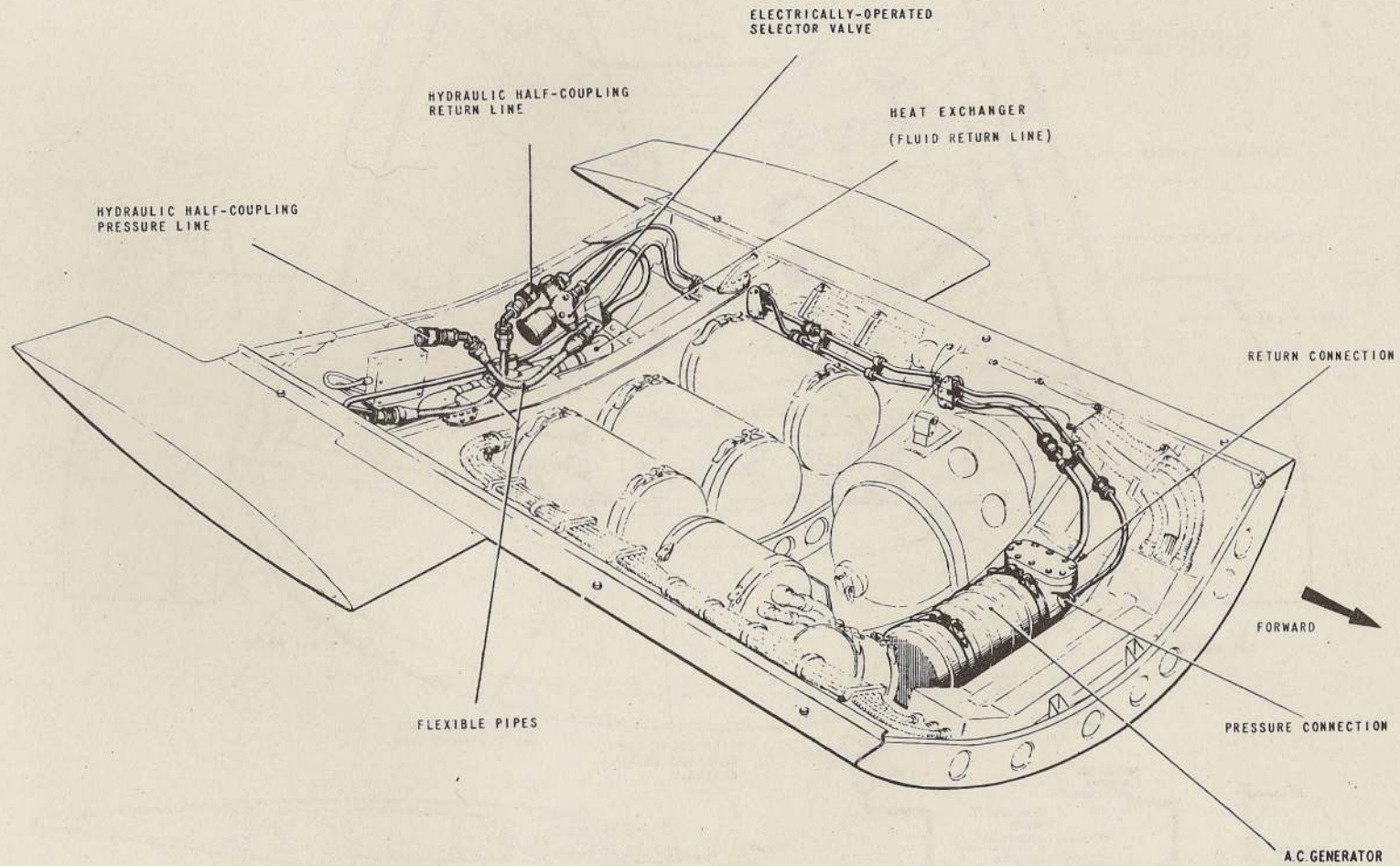


FIG. 6. HYDRAULIC SYSTEM—RED TOP PACK

3-8967-1

cylinder pressure falls to 3000 lb/in². As the cooler cannot strike if ARM is re-selected below this pressure, the pressure switch operates to ensure a continuous flow of pure air irrespective of the ARM-SAFE switch selection. When a missile is fired the air supply is automatically cut off at the launching shoe connection.

Pressure gauge (fig. 7)

21. A pressure gauge on the starboard console with a range of 0-6000 lb/in² in circuit with a transmitter in the pack indicates the pressure in the pure-air cylinder. The pressure ranges 1000 - 1850 lb/in², 1850 - 3000 lb/in², and 3000 - 6000 lb/in² are marked by red, yellow, and white sectors respectively, a white radial line at 1850 lb/in² showing the minimum arming pressure and a break at 4500 lb/in² indicating the usual pressure of a fully charged cylinder at 20 deg C (the pressure will vary with ambient temperature, by approximately 15 lb/in² for every deg C, above or below 20 deg C ambient temperature and a minimum reading of 4200 lb/in² is acceptable). For details of the circuit and a description of the gauge, refer to A.P.101B-1003-1B, Sect.6, Chap.2.

Missile launching shoes

22. The missile is issued with a launching shoe fitted. The shoe is classed as part of the missile for purposes of storage and issue and is described, together with the Red Top missile, in A.P.4865, Vol.1.

Missile firing link and safety plug

23. The final step in the preparation of the missile for a sortie is the insertion of a firing link in replacement of the safety plug fitted at all other times. A stowage is provided for the link or plug, as appropriate, on each side of the pack between diaphragms 2 and 2A. This takes the form of a dummy socket, and is accessible beneath a hinged flap secured by quick-release fasteners.

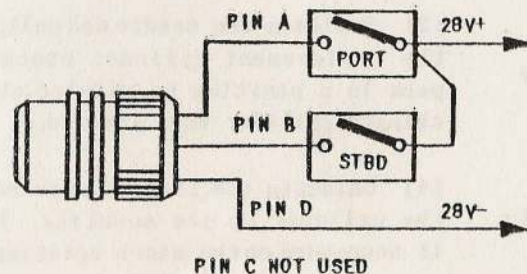


Fig.8. Switch/connector rig

3-8969-1

Misfire indicators

24. Two solenoid-type misfire indicators are fitted in the pack. Their location and method of use follows the description given in para.14, of those provided for the Firestreak installation.

SERVICING

WARNING

The relevant safety precautions detailed on the LETHAL WARNING marker card must always be observed before entering the cockpit or performing any operations upon the aircraft.

Tools and equipment

25. Tools and equipment required for servicing the missile installations are listed in A.P.2852B, Vol.1, Sect.4, and additional items in Table 1.

Missile storage and handling

26. Regulations relating to the storage and handling of the missiles are given in A.P.2608A and A.P.3158, Vo.2.

Missile pack cold-air system leakage test (Firestreak only)

27. To perform this test:-

- (1) Remove the starboard access panel from the rear undersurface of the pack.
- (2) Remove the blanking cap from the cold-air system charging valve and connect the adapter of a high pressure air charging trolley.
- (3) Charge the system to 3300 lb/in² as indicated on the skin-mounted pressure gauge beneath the starboard pylon.
- (4) Hold this pressure for 10 min; there must be no pressure drop over this period.
- (5) Hold the pressure for a further 30 min and proceed immediately with the functioning test detailed in para.28.

Missile pack cold-air system functioning test (Firestreak only)

Switch/connector rig (fig.8)

28. To perform this test a locally manufactured switch/connector rig is required to control the electromagnetic taps of the missile pack cold-air unit. The rig comprises a Plessey 4-way socket assembly, Pt.No.2CZ84873, to make external connection with the pack cold-air valve; two switches one labelled PORT to control the port electromagnetic tap, the

RESTRICTED

other labelled STARBOARD for the starboard tap; cable with which to connect the rig to a 28-volt d.c. supply. The wiring of the rig is given in fig.8.

Procedure

29.

(1) Ensure that the system is charged to at least 3000 lb/in².

(2) Connect the fire control system test set and its associated pylon connector boxes.

(3) Disconnect the electrical cable from the pack cold-air valve and connect in its place the switch/connector rig.

(4) Select both rig switches ON, Both electromagnetic taps in the cold-air valve should open, and the pressure gauge on each pylon connector box should indicate between 185 and 210 lb/in².

(5) Select the port switch OFF. The port tap should close and the port pressure gauge indicate zero. The starboard pressure gauge should still indicate between 185 and 210 lb/in².

(6) Select the starboard switch OFF. The starboard tap should close and both pressure gauges should now indicate zero.

(7) Select both switches ON. Both pressure gauges should again indicate between 185 and 210 lb/in².

(8) Select the starboard switch OFF. The starboard pressure gauge indication

should fall to zero whilst the port gauge indicates between 185 and 210 lb/in².

(9) Select the port switch OFF. Both pressure gauges should now indicate zero.

Note...

Ignore any minor pressure peaks in the gauge indications caused during the tests by opening or closing of the electromagnetic taps.

Upon conclusion of the tests disconnect and remove the test equipment and re-make all connections broken for the purpose of the tests.

30. Deleted.

Test equipment and test procedure

31. Details of the test equipment provided for the missile pack and firing circuits, together with details of the tests, are given in Sect.6, Chap.2.

Harmonization

32. The procedure for harmonizing the missile pylons is detailed in Chap.8.

Exchanging the pure-air cylinder - Red Top pack (fig.9)

General information

33. The pure-air cylinder must be ex-

changed when the pressure falls to 3000 lb/in²; if ARM is selected below this pressure the Parkinson cooler will not strike. A brace-operated built-in winch is provided for hoisting the cylinder into or lowering from the pack, a supporting pallet with a capacity for two cylinders and a mobile cradle being used to transport the charged and discharged cylinders. A two-handed handling bar with a hoisting hook is used to lift the cylinders on or off the pallet. The replacement cylinder is fitted with a transit cap and a blanking plug. These are removed when the cylinder is installed and are secured to a stowage on the rear face of diaphragm 2A by a captive quick-release pin.

Procedure

34. To exchange the cylinder:-

(1) Remove the panel from the port side of the pack beneath the cylinder housing.

(2) Close the cylinder stop valve, disconnect the pipeline, and fit the blanking cap and transit cap stowed on the rear face of diaphragm 2A.

(3) Position the cradle and pallet with the replacement cylinder beneath the pack in a position to receive the discharged cylinder when lowered.

(4) Unfasten the three straps securing the cylinder to its mounting, leaving it suspended on the winch hoisting hook.

(5) Insert the brace into the winch-

RESTRICTED

operating point on the port side of the pack and lower the cylinder on to the pallet, guiding it into position by hand. Note that the cylinder position indicator protrudes from the pack skin.

(6) Detach the hoisting hook from the cylinder suspension lug and manoeuvre the cradle to bring the replacement cylinder beneath the mounting in readiness for hoisting.

(7) Attach the hoisting hook to the cylinder suspension lug and operate the winch to hoist the cylinder up to the mounting, steadying it by hand. Continue to winch until the cylinder position indicator is flush with the pack skin. Fasten the three securing straps around the cylinder.

(8) Remove the transit cap and blanking cap from the cylinder and secure them in their stowed position with the captive quick-release pin.

(9) Connect the cylinder to the system supply line, open the stop valve and wire-lock the lever in the open position.

(10) Check that the skin-mounted gauge on the starboard side of the pack reads 4200 lb/in^2 at 20 deg C .

Note . . .

Indicated pressure will vary by 15 lb/in^2 for every deg C above or below 20 deg C ambient temperature.

(11) Refit the access panel and return the empty cylinder and equipment to the servicing bay.

Re-arming the aircraft

35. The procedure for re-arming the aircraft will be detailed in A.P.2852B, Vol.1.

REMOVAL AND ASSEMBLY

General information

36. Instructions for the installation of the missile packs are given in the following paragraphs. If a replacement pack is fitted, the harmonization procedure detailed in Chap.8 must be applied before use.

Missile packs

General

37. The procedure for installing either the Fire-streak or Red Top missile pack is the same, the equipment being suitable for both packs. For manoeuvring prior to installation, or for removal

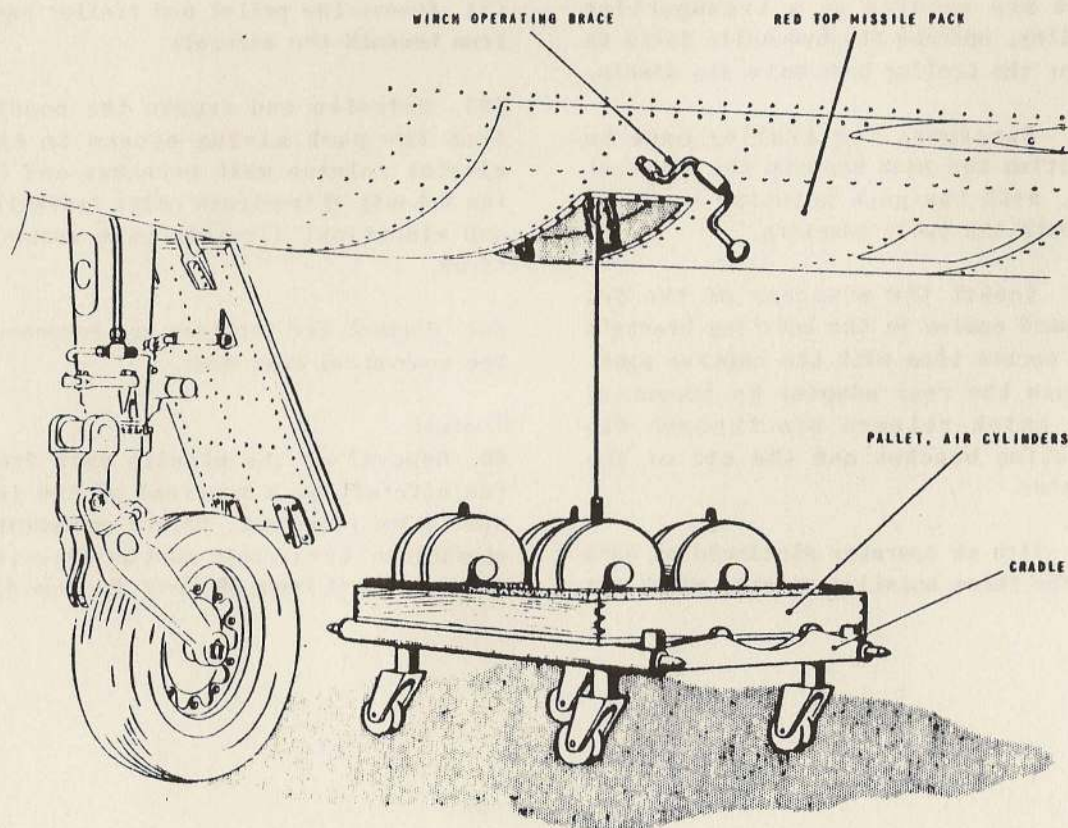


Fig.9. Exchanging the pure-air cylinder

3-8970-1

from the aircraft to the servicing bay, the pack is mounted on a pallet, supported by a mobile trolley base. For greater distances, or for transport over rough ground, the trolley base may be carried on a transporting trolley which, by means of a hydraulic jacking system, raises the trolley base with its wheels clear of the ground. The pack is hoisted into the aircraft armament bay by means of the three built-in winches, and is secured to the longerons by six captive bolts in the pack edge members.

Preparation of the aircraft

38. Before commencing to install the missile pack:-

- (1) Ensure that all armament switches are at OFF or SAFE.
- (2) Using the hoisting brace, operate the three built-in winches, two port and one starboard, to lower the cables in readiness for attachment to the pack hoisting points.
- (3) Withdraw the quick-release pins securing the nose-wheel rear door stays

and allow the door to rest on the nose-wheel.

Installation

39. To install the pack:-

- (1) Ensure that the safety plugs are fitted in the ejector release units.
- (2) If the trolley base, pallet and pack are mounted on a transporting trolley, operate the hydraulic jacks to lower the trolley base onto its wheels.
- (3) Manoeuvre the trolley base to position the pack beneath the armament bay, with the pack hoisting brackets beneath the cable adapters.
- (4) Insert the adapters of the two forward cables in the hoisting brackets and secure them with the captive pins. Secure the rear adapter by inserting the quick-release pin through the hoisting bracket and the eye of the adapter.
- (5) With an operator stationed at each of the three hoisting points, winch the

pack up uniformly until it bears lightly against the longerons, with the spigots on the pack edge-members engaged in the locating recesses at the securing bolt positions.

- (6) Engage and tighten the pack bolts progressively, working in pairs from rear to front and repeating.
 - (7) Remove the pallet and trolley base from beneath the aircraft.
 - (8) Unfasten and remove the panels from the pack giving access to the ejector release unit breeches and to the hot-air (Firestreak only) hydraulic and electrical aircraft/pack connections.
 - (9) Connect the services and reconnect the nose-wheel rear door.
- Removal*
40. Removal of the missile pack from the aircraft is a reversal of the installation procedure. Before commencing operations the aircraft must be supported by a trestle at frame 59 (*Sect. 2, Chap. 4*).

TABLE 1

Tools and equipment

Ref. No.	Part No.	Description	Remarks
4G/5561		Trolley, transporting, Mk. 2	
◀ 26DK/95185	EB2. 88.1773	Trolley base	
26DK/95313	EB2. 88.4559	Ejector release safety plug assembly	
26DK/95615	EF3. 88.829	Pallet, pack, universal	
GM/E/31757		Cradle	
GM/E/31833		Pads	
75R/1	HT. 1604	Cradle, air cylinders	M.L. Aviation
		Pallet, air cylinders	M.L. Aviation
		Handling bar	M.L. Aviation
4GC/5699		Hoist, a/c heavy component, 2½ cwt.	
4GC/5443		Tube, extension 36 in.	
4GC/5743		Handle	
4GC/5432		Sheath, top	
26DK/95696	EF3. 88.591	Hook, attachment	
26DK/95743	EF3. 88.563	Spanner, socket	
26DK/95709	EF3. 88.103	Brace, hoisting	
26DK/95084	EB2. 88.2719	Brace, pack bolts	
26DK/95470	EF3. 88.79	Beam, missile loading, universal	
26DK/95903	EF3. 88.2399	Clamp	
		Wrench, Type W8 Unbrako	Firestreak
		Wrench, Type W6 Unbrako	Red Top
		Wrench, Type B3 Acratork	Red Top
11A/6222		Adapter	
11A/5023		Handle, crutching	
4G/5803		Trolley, charging, high pressure air	} Alternatives
4G/5888		Trolley, charging, high pressure air	
1E/5245		Key, arming link	Ground testing of firing circuits
	EF3. 88.2553 ▶	Key, safety break	Post Mod. 4197
Local manufacture		Rig, switch connector	Para. 28

This file was downloaded
from the RTFM Library.

Link: www.scottbouch.com/rtfm

Please see site for usage terms,
and more aircraft documents.

