Chapter 1-1

AIRCREW EQUIPMENT ASSEMBLY EJECTION SEAT, MARTIN-BAKER TYPES 9B Mk 2, 9B1 Mk 2 and 9B2 Mk 2 (Post Mods ES 3700, PA 571 and SE 108)

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LEADING PARTICULARS

Ejection seat, Type 9B Mk 2		
Reference No	27L/6149300	
Part No	MBEU 43662	
Ejection seat, Type 9B1 Mk 2		
Reference No	27L/6149301	
Part No	MBEU 43655	
Ejection seat, Type 9B2 Mk 2		
Reference No	27L/6149302	
Part No	MBEU 43657	
Ejection system	Cartridge operated telescopic ejection gun and rocket assistance.	
Ejection gun velocity	64 ft/s approx	
Firing system	Single (seat pan) firing handle initiating a gas-operated system	
Ejection gun firing unit time delays	Type 9B Mk 2 seat	0.30 s
	Type 9B1 Mk 2 seat	0.40 s
	Type 9B2 Mk 2 seat	0.30 s
Drogue gun	Operates 0.55 s after ejection	
Barostatic time-release unit	Operates 2.00 s after ejection provided the delay is not arrested: At altitudes above 10 000 ft the delay is arrested until the seat has descended to 10 000 ft.	
Seat pan actuator	Operation limited to one minute in any five minute period.	

COMPOSITION OF THE ASSEMBLY

1 The aircrew equipment assembly comprises the following items of equipment which are described in the listed publications:

Equipment	AP No	Contractor
Ejection seat, Type 9B Mk 2) or Type 9B1 Mk 2) or Type 9B2 Mk 2)	AP 109B-0139-13A	Martin-Baker
Parachute assembly B, Mk 61	AP 108C-0136-12	Martin-Baker
▶ Quick-release fitting Mk 17	AP 108D-0504-12	AML ◀
Personal survival pack Type ZJ Mk 2	AP 108E-0539-123A	Martin-Baker
Emergency oxygen	AP 107D-0602-13A	BOC
Regulator, oxygen, man mounted Type 417A Mk 1 or	AP 107D-0214-12	Normalair - Garrett
Regulator, oxygen, man mounted Type 317A Mk 1 (See AP 108-0001-1, Chap 1-1, Sch 37)	AP 107D-0205-12	Normalair - Garrett

INTRODUCTION

2 The Type 9B Mk 2 ejection seat is fitted to the Jaguar GR Mk 1 aircraft and the Type 9B1 Mk 2 and Type 9B2 Mk 2 ejection seats are fitted to the front and rear positions respectively of the Jaguar T Mk 2 aircraft. Mods ES 3700, PA 571 and SE 108 introduced a new negative-g strap with quick-release fitting, a modified seat pan firing handle, a combined seat/parachute harness and a single-handed release personal survival pack. This chapter is primarily concerned with the installation of the aircrew equipment assembly (AEA) in the seat, the strapping in procedure and the drill to be used when leaving the aircraft after landing. A brief description of the various components of the AEA and their functions is included.

DESCRIPTION AND OPERATION

SEAT FIRING

3 Ejection of the seat is initiated by pulling the seat pan firing handle which is situated on the front face of the seat pan between the thighs. Pulling the seat pan firing handle withdraws the sear from the firing unit in the port horn of the seat pan; this action fires a cartridge, the gas from which is piped to the harness retraction unit which pulls back and restrains the occupant in the correct posture for ejection. At the same time gas pressure passes to the sear of the withdrawal plunger unit which operates a cross-shaft to remove the sears from the canopy jettison firing unit and the breech time-delayed ejection gun firing unit, thereby initiating canopy jettison and seat ejection.

PARACHUTE ASSEMBLY

4 The parachute assembly is packed into a rigid moulded pack contoured and shaped to fit into the back of the seat pan. The bottom edge of the pack is provided with two blocks which locate the pack in a channel in the bottom portion of the back

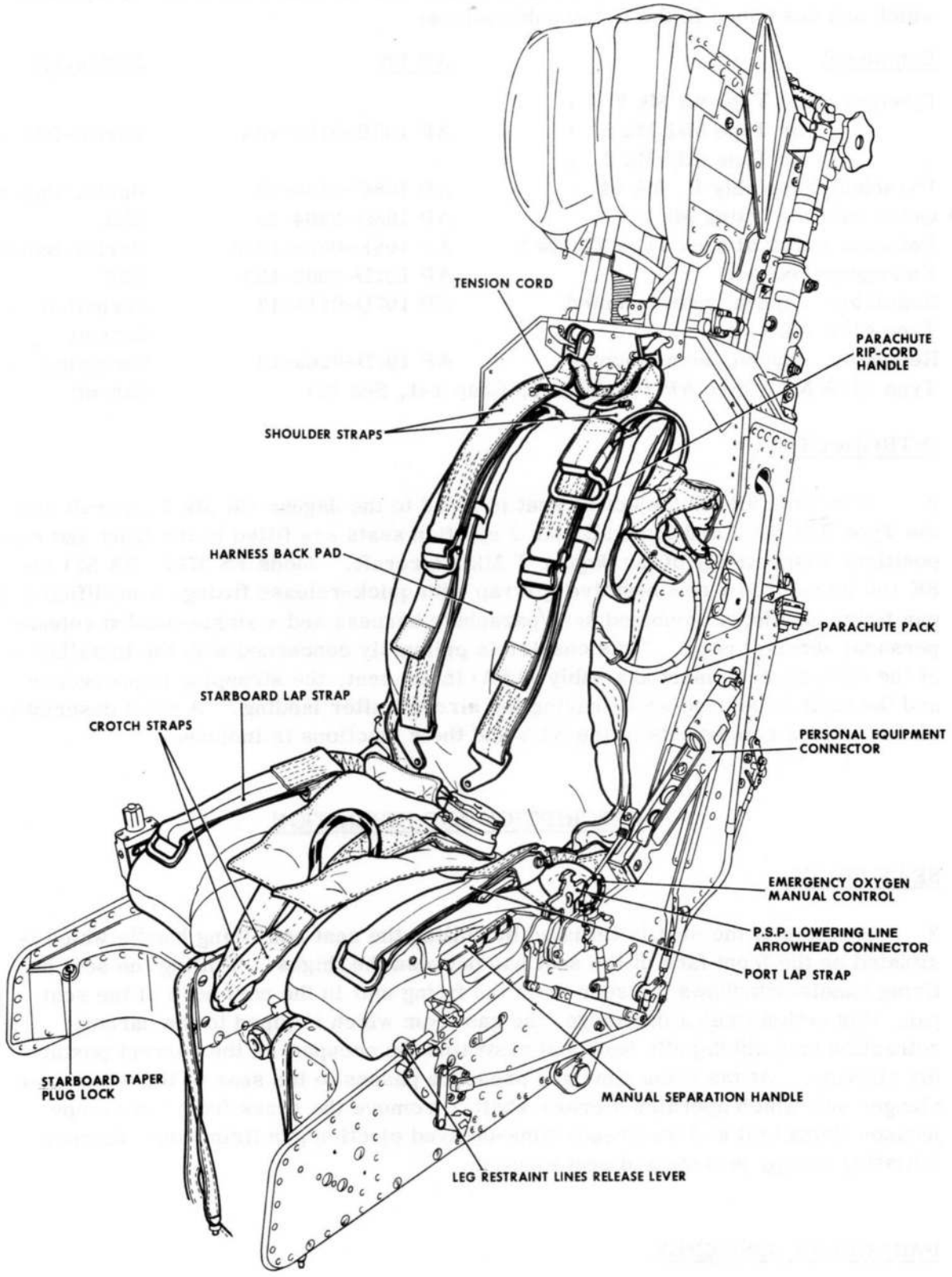

Fig 1 The seat equipped - port view
(Mod SE 124 and ES 3826 incorporated)

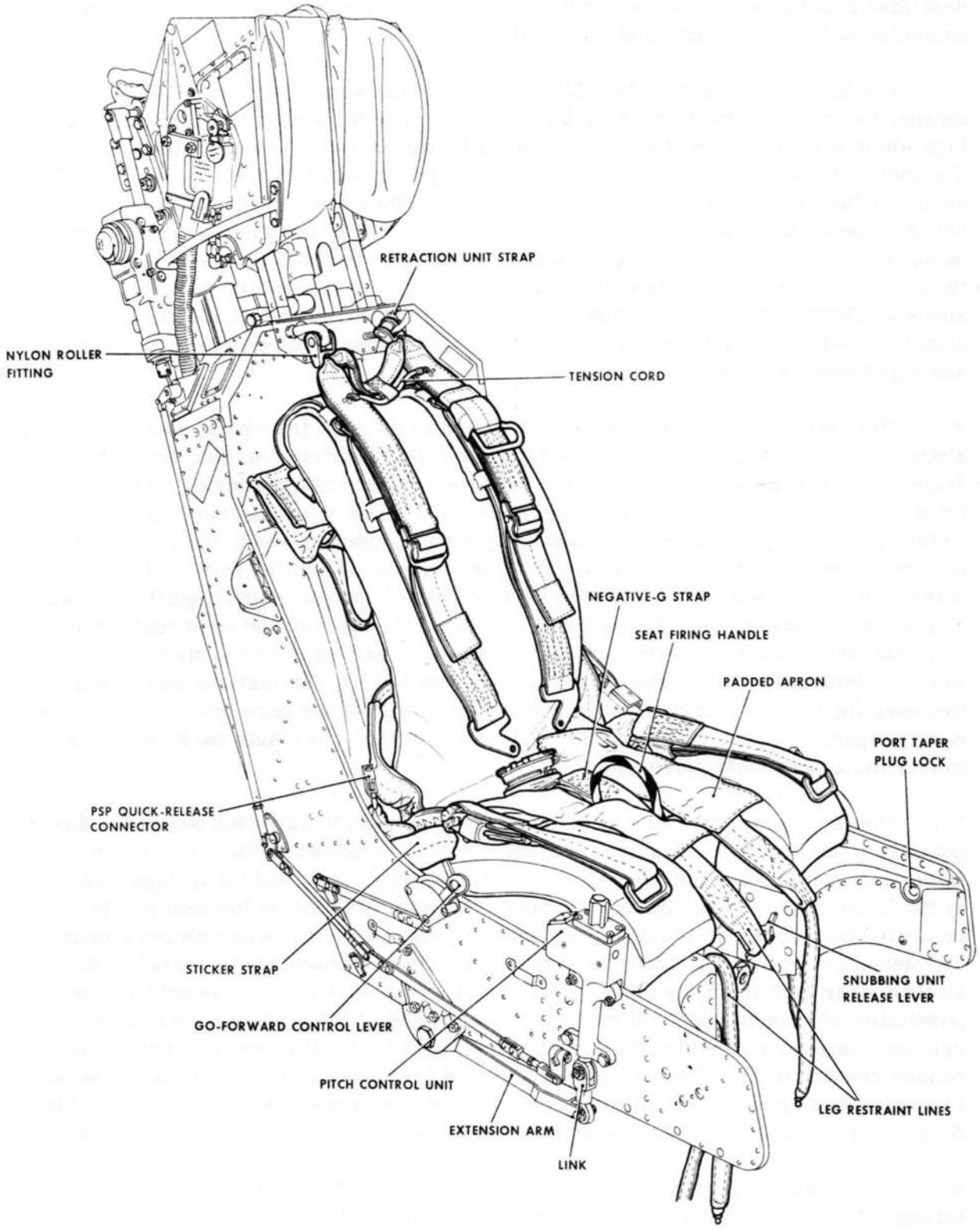

Fig 2 The seat equipped - starboard view
(Post-mod PA 605 or STI/SE/370)

of the seat pan. The top of the parachute pack is prevented from tipping forward by two nylon blocks attached to the inside surface of the seat pan sides which provide sufficient restraint for the purpose, but allow the pack to withdraw during seat/man separation. The parachute lift webs are incorporated into the harness assembly to become an integral part of it.

5 The harness comprises two adjustable shoulder straps, two adjustable lap straps, two crotch straps and a back pad. The shoulder straps terminate in angled lugs which are locked into the quick-release fitting on a negative-g restraint strap. The outer straps terminate in nylon roller fittings through which are passed the straps of the harness power retraction unit before they are locked into the upper harness locks during the equipping procedure. To retain the shoulder straps on the occupant's shoulders during flight a short cross strap is fitted between the eyes of the roller fittings on each shoulder strap. STI/SE/370 deleted the inner blue shoulder straps and the crossed restraint straps and introduced an elastic tension cord between the shoulder straps. Mod PA 605 introduces a new harness assembly and supersedes STI/SE/370.

6 The parachute rip cord handle is attached to the port lift web at shoulder height, a downward pull being required to deploy the parachute after a manual separation sequence. The pack opening is on the top face, closure being effected by fabric flaps secured by three cones and rip pins covered by an outer flap secured by a Velcro strip. The rip pins are attached by a short closure line to the parachute portion of the parachute withdrawal line which emerges from the centre of the outer flap and is then routed over the back of the seat pan, through a guillotine unit and up the vertical channel in the front surface of the upholstered head rest where it is attached to the seat portion of the withdrawal line by a screwed coupling. Both portions of the withdrawal line are restrained in the vertical channel by safe ties (see fig 10). Two retention straps on the bottom of the pack are attached to the survival pack (PSP) on equipping the seat; they provide parachute pack retention to facilitiate parachute deployment.

7 The lap straps terminate in D-rings and incorporate adjusting buckles. Incorporated in the lower harness are two lugs which are engaged in the lower locks in the seat pan to form the lower harness attachment. Two additional lugs attached to the lower harness are clipped into spring sticker clips inside the seat pan to restrain the occupant in the seat after the operation of the harness release mechanism. The developing parachute pulls the occupant from the ejection seat separating the sticker strap lugs from the clips. This slight check in separation precludes the possibility of man and seat collision during parachute deployment. Two quick-release connectors provide attachment points for the personal survival pack single-handed release line. The back pad is attached to the harness by beckets and serves to locate the straps making fitting of the harness easier and also more comfortable. A small apron attached to the lower harness by beckets serves the same purpose.

8 When strapping in the crotch straps are drawn up between the legs, passed through the D-rings of the lap straps and then the shoulder straps are passed down through the loops on the ends of the crotch straps before the lugs are engaged in the quick-release fitting (fig 3).

9. The shoulder straps are tightened by pulling down on the free ends and loosened by lifting up the lever on the adjustable buckle. The lap straps are tightened by pulling inward on the free ends of the straps and can be loosened by pulling on the lever attached to the snubber lever incorporated in the buckle.

NEGATIVE-G RESTRAINT (fig 3)

10. Negative-g restraint is provided by a fixed length negative-g restraint strap and a VEE strap. The negative-g strap consists of a webbing strap having a lug on the lower end of which is engaged in the lock on the front face of the seat pan. At the upper end of the strap is a quick-release fitting into which the lugs on the parachute shoulder straps are engaged. The strap is released at the lower end when the lock in the seat pan is opened on operation of the harness release mechanism. Only the top two points of the quick-release fitting are used to be compatible with the simplified two-point connecting parachute harness. To release the lugs locked into the fitting rotate the face plate a quarter turn (90 degrees) from the locked position and press to release. The negative-g VEE strap has a ring at the end of each arm and a bracket secured at the junction of the two arms. The upper two rings are passed one over each crotch strap and located between the fixed beckets on the padded apron (fig 3). The bracket is passed over the lug of the negative-g strap before the lug is secured in the seat pan lock.

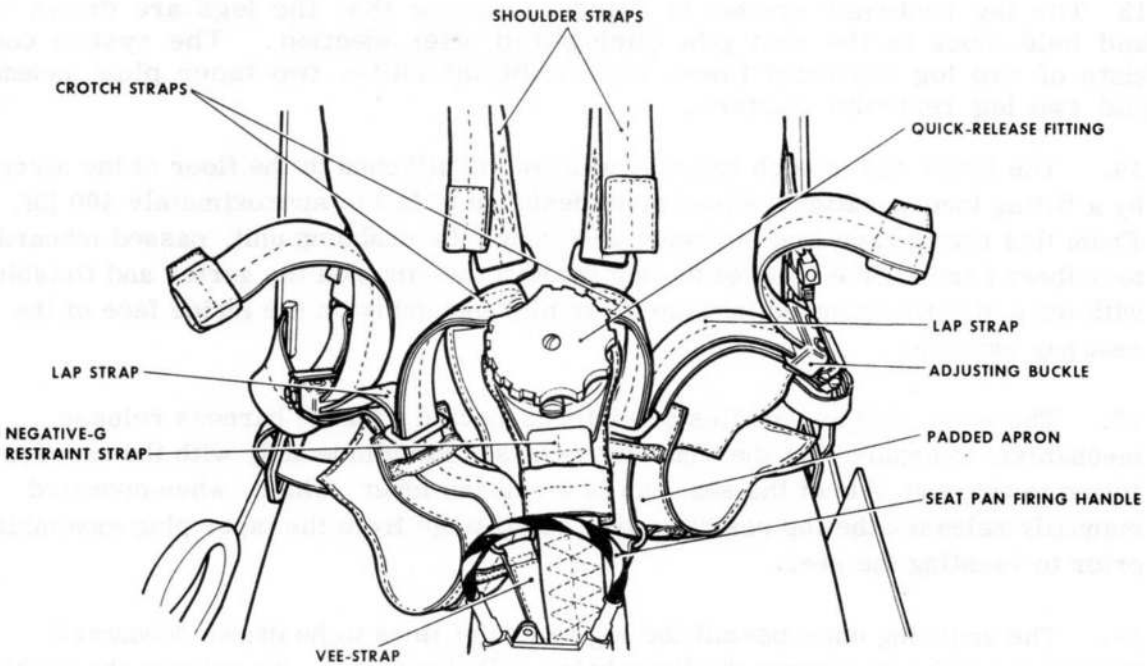

Fig 3 Securing the harness straps

PERSONAL SURVIVAL PACK, TYPE ZJ Mk 2

11. The Type ZJ Mk 2 personal survival pack (PSP) is a rigid cased pack complete with cushion and is housed in the seat pan serving the dual purpose of seat cushion and container for a liferaft and survival equipment. The seat cushion is designed and shaped to give maximum support and comfort to the seated occupant. The padding, although resilient, is slow to return to original form after compression, thereby helping to absorb acceleration loads imposed during ejection. The pack and cushion are extended forward in the shape of two horns to give rigid support to the thighs on ejection.

12 The pack has two side attachment lanyards each ending in a D-ring. A single-handed release line with an arrowhead connector at each end is passed through both rings and the connectors are mated with the quick-release connectors on the parachute harness. Release of either connector allows the pack to fall away, the freed end of the release line slipping through the rings to provide a single-handed release facility. A lowering line which is stowed in a rolled case in the port side of the cushion terminates in an ▶ arrowhead and lug connector which is fitted in a spring sticker clip on the port side of the seat pan. The arrowhead is mated, when strapping-in, with a quick-release connector on a lanyard attached to the life preserver enabling the pack to be lowered and suspended approximately 15 feet below the ejectee. The pull to remove the lowering line arrowhead and lug from the sticker clip on man/seat separation is transferred to the lanyard to operate the PLB in the life preserver. ◀

LEG RESTRAINT SYSTEM (fig 4)

13 The leg restraint system is fitted to ensure that the legs are drawn back and held close to the seat pan during and after ejection. The system consists of two leg restraint lines, two snubbing units, two taper plug assemblies and two leg restraint garters.

14. The lower end of each leg restraint line is attached to the floor of the aircraft by a fitting incorporating a shear rivet designed to fail at approximately 400 lbf. From this fitting each line is routed up through the snubbing unit, passed inboard to outboard around the front of the leg through the rings on the garter and finishing with the end fitting plugged into the taper plug assembly on the inside face of the seat pan extension.

15. The taper plug assemblies are interconnected with the harness release mechanism to ensure that the lines are released simultaneously with the harness. Fitted to the port side of the seat pan is a release lever, which, when operated manually releases the leg restraint line end fittings from the taper plug assemblies, prior to vacating the seat.

16. The snubbing units permit the leg restraint lines to be drawn downward through the unit but prevent the lines being pulled upward. To release the snubbing units to permit adjustment of the leg lines it is necessary to operate the release lever situated on the inboard face of each unit.

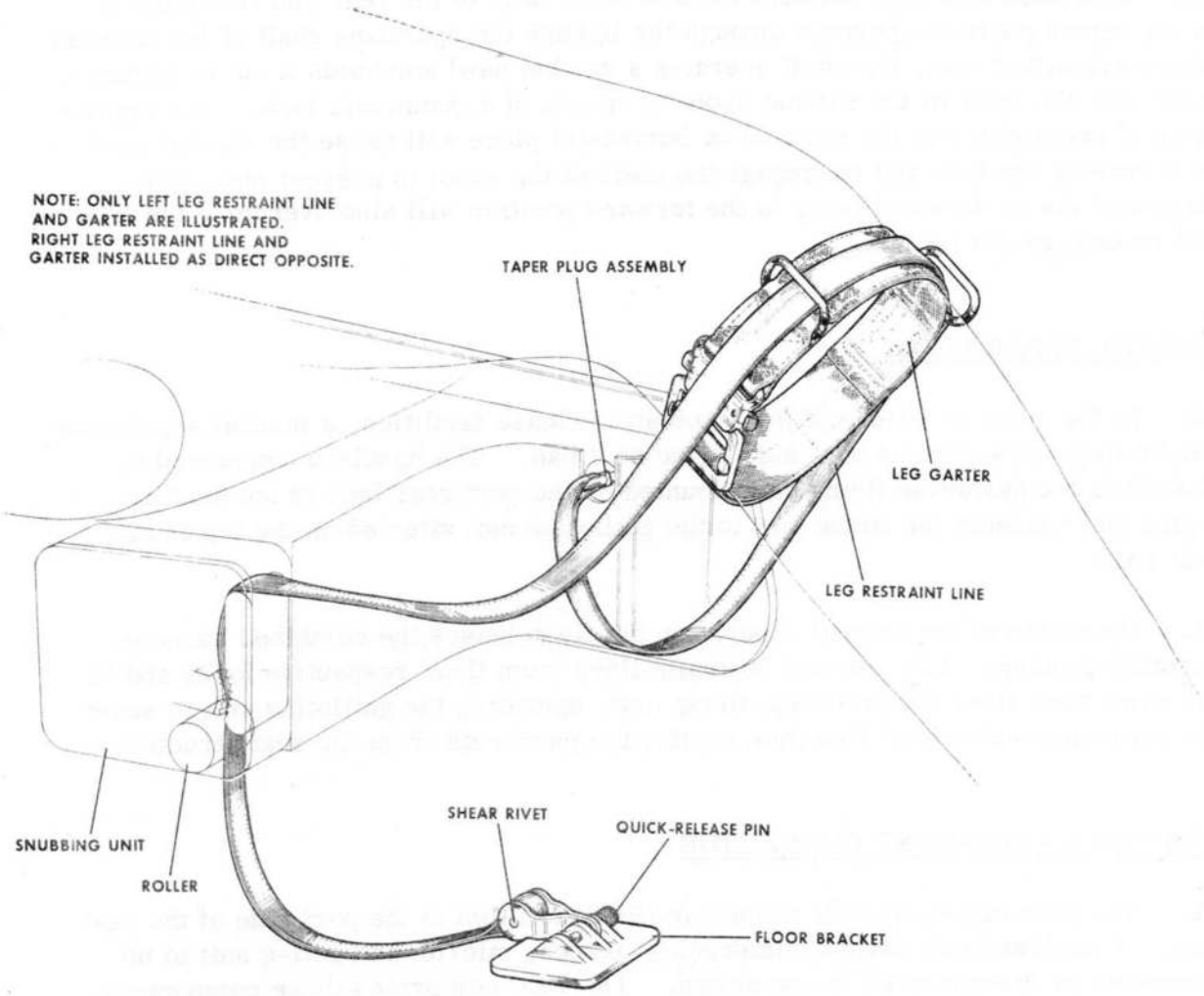

Fig 4 The leg restraint system

Leg garters

17. The leg garters are made from webbing having at one end a female quick-release connector. The other end passes through a slider bar buckle with an arrowhead fitting to mate with the quick-release connector. Two D-rings stitched into the webbing are positioned at the front of the legs and serve as locating guides for the leg restraint lines. The garters are fitted below the knees with the rings forward and with the quick-release connectors inboard. After tightening, the free ends of the webbing are secured by Velcro touch-and-close fastener.

GO-FORWARD MECHANISM

18. A go-forward mechanism is fitted to the seat to allow the occupant freedom to lean forward and backward, this movement is obtained by the operation of a go-forward control lever mounted on the starboard side of the seat pan, the lever is connected by a linkage to the operating shaft of the harness retraction unit.

19. Operation of the go-forward control lever fully to the rear and releasing it to the centre position operates through the linkage the operating shaft of the harness power retraction unit, the shaft operates a ratchet pawl and holds it out of engagement with the teeth of the ratchet spool by means of a geometric lock. Any application of excessive g in the vertical or horizontal plane will cause the ratchet pawl to overcome the lock and re-engage the teeth of the spool to prevent movement. Return of the go-forward lever to the forward position will also overcome the lock and re-engage the ratchet.

MANUAL SEPARATION

20. In the event of failure of the automatic release facilities, a manual separation handle is provided on the port side of the seat pan. The handle is connected by linkage to the guillotine firing unit mounted on the port rear face of the seat pan, a pipe run connects the firing unit to the guillotine unit situated on the top of the seat pan.

21. Operation of the manual separation handle releases the combined harness, negative-g straps, PEC and leg restraint lines from their respective locks and at the same time fires the guillotine firing unit, operating the guillotine unit to sever the parachute withdrawal line thus freeing the parachute from the seat structure.

PERSONAL EQUIPMENT CONNECTOR

22. The personal equipment connector (PEC) is fitted to the port side of the seat pan. It enables main oxygen, emergency oxygen, mic/tel and anti-g suit to be connected or disconnected in one action. The PEC comprises three components:

22.1 Aircraft portion. Connected by the main oxygen hose and oxygen flow sensor and pressure warning switch cables to the Intertechnique controller and including a mic/tel lead which is connected to a socket on the side of the seat pan. It makes the Intertechnique equipment compatible with standard British flying clothing.

22.2 Seat portion. Bolted to the seat pan and connected to the emergency oxygen supply. Fitted with valves on the oxygen connections to close when the man portion or aircraft portion are disconnected, and with latch plungers and springs to retain the aircraft and man portions. Connected by linkage to the harness release mechanism.

22.3 Man portion. Attached to the flying clothing by personal supply lines and released from the seat portion by operation of the harness release mechanism or by a pull on the handle lanyard.

22.4 On ejection personal supplies are disconnected at a quick disconnect and the aircraft portion remains attached to the seat portion. On operation of the harness release mechanism the man portion is released from the seat portion.

EMERGENCY OXYGEN SYSTEM

23. The emergency oxygen system consists of an oxygen cylinder fitted to an Intertechnique controller mounted on the port rear of the seat pan. The main oxygen supply and oxygen flow sensor and pressure warning switch cables also pass through the controller. From the bottom of the controller an emergency oxygen supply hose is connected to the seat portion of the PEC. Another hose, to supply main oxygen and anti-g requirements is connected to the aircraft portion of the PEC. Operation of the emergency supplies is accomplished by withdrawal of the operating cable from the controller.

24. When the assembly is installed on the seat the operating cable is connected to a trip lever on the rear of the seat pan. On ejection the main oxygen supply is broken at the quick disconnect and the emergency supply is tripped. Means are provided for the selection of emergency oxygen if the main oxygen should fail. A ring handle situated forward of the PEC is connected by flexible cable to the trip lever on the rear of the seat pan.

ROCKET PACK

25. A multi-tubed rocket pack is fitted under the seat pan to sustain the thrust of the ejection gun giving a higher trajectory enabling a safe ejection to be made from zero speed, zero altitude. It is also beneficial in cases of aircraft at low altitude with a high sink rate.

26. Either one of two rocket packs may be fitted depending on the aircraft and crew position in which the ejection seat is to be fitted. The packs differ only in that one outer efflux nozzle is enlarged to provide divergent trajectories.

27. An extension arm from the centre body is attached by a link to the pitch control unit fitted to the starboard side of the seat pan. Rotation of the handwheel on top of the unit rotates the rocket pack about its axis thereby altering the angle of incidence between the rocket pack and the seat pan, thus varying the direction of thrust of the efflux nozzles to compensate for the effects of the occupant's weight upon the seat centre of gravity. A system of pinions connects an indicator drum to the handwheel. The seat occupant must set the pitch control unit so that the number visible through the window in the unit agrees with his boarding weight. Rotation clockwise raises the rocket motor decreasing the weight compensation and vice versa.

SEAT PAN HEIGHT ADJUSTMENT

CAUTION...

Operation of the seat pan actuator is limited to one minute in any five minute period due to the danger of overheating.

28. The seat pan is adjusted for height by means of an electrically operated actuator located to the rear of the seat pan and attached to the fixed centre cross beam and the bottom runner of the main beams. The seat actuator is controlled

by a three position switch, biased to the centre 'OFF' position and mounted on the aircraft console. The seat pan may be adjusted to any position within a range of 5 inches, thus catering for different aircrew heights and enabling the seat occupant's head to be correctly positioned in relation to the headrest.

SEQUENCE OF EVENTS DURING EJECTION

29. On pulling the seat pan firing handle the sear is withdrawn from the firing unit in the port horn of the seat pan; this action fires a cartridge, the gas from which is piped to the harness retraction unit to ensure that the occupant is pulled back to the correct ejection position. The gas pressure then passes to the sear withdrawal plunger unit which operates a cross-shaft to remove the sears from the canopy jettison firing unit and the ejection gun breech time-delayed firing unit, thereby initiating canopy jettison and seat ejection. As the seat ascends the guide rails the following sequence occurs:

29.1 The harness retraction unit is locked.

29.2 The leg restraint lines tighten until the rivets shear.

29.3 The drogue gun sear is withdrawn by the trip rod actuating the drogue gun mechanism.

29.4 The barostatic time-release unit trip rod withdraws the firing pin.

29.5 The seat actuator electrical lead and personal supplies from the aircraft systems are disconnected.

29.6 The emergency oxygen supply is turned on.

29.7 As the seat leaves the aircraft the remote rocket firing unit static line becomes taut withdrawing the sear to fire the cartridge, gas pressure operates the rocket motor firing unit, heat and pressure from the fired cartridge ignites the rocket motor to sustain the thrust of the ejection gun.

29.8 Approximately 0.55 seconds after ejection, the drogue gun fires ejecting the piston and deploying the drogues which stabilize and retard the seat. If the ejection occurs at high altitude the seat will eventually fall in a near vertical attitude with the occupant restrained from falling forward by the lap straps and shoulder straps. At low altitudes there may not be time for the seat to attain the near vertical position. During this phase the occupant will be breathing emergency oxygen from the system fitted to the seat.

29.9 When the conditions of height set on the barostat are met the barostatic time-release unit will commence to function; after a delay of approximately 2 secs. the unit will operate, the occupant's harness will be released from the seat locks and the only restraint will then be provided by the sticker strap clips. The scissor shackle will be released, releasing the drogues and commencing parachute deployment. The parachute, when deployed, lifts the occupant from the seat pulling the sticker straps and lowering line lugs

from their clips and activating the PLB; a normal parachute descent now follows This arrangement ensures that there is no possibility of collision between the seat and occupant after separation.

30. On twin seat aircraft the seats are ejected on diverging trajectories - ensuring that each seat has a clear trajectory path.

CONNECTIONS TO THE AIRCRAFT

31. On an installed seat the following items are connected to the airframe or fixed portion of the seat:

31.1 Port side of the seat

31.1.1 Trip rod from the drogue gun to the cross beam

31.1.2 Personal supplies quick disconnect

31.2 Starboard side of the seat

31.2.1 Trip rod from the time-release unit to the cross beam.

31.2.2 Rocket motor remote firing unit static cable to the bracket on the time-release trip rod.

31.2.3 I.F.F. switch operating cable.

31.3 Under the seat

31.3.1 Leg restraint lines to the aircraft floor.

EQUIPPING THE SEAT

PREPARATION

32. Prepare the seat as follows:

32.1 Ensure that the seat has been made Safe for Servicing in accordance with current instructions and the Lethal Warning page.

32.2 The emergency oxygen system must be fitted before the ejection seat is equipped. AP 109B-0139-13A refers.

32.3 Ensure that the seat pan is clean and that the leg restraint lines are clear of the seat pan.

32.4 Ensure that the manual separation handle is in the locked position and that the time-release unit is correctly cocked.

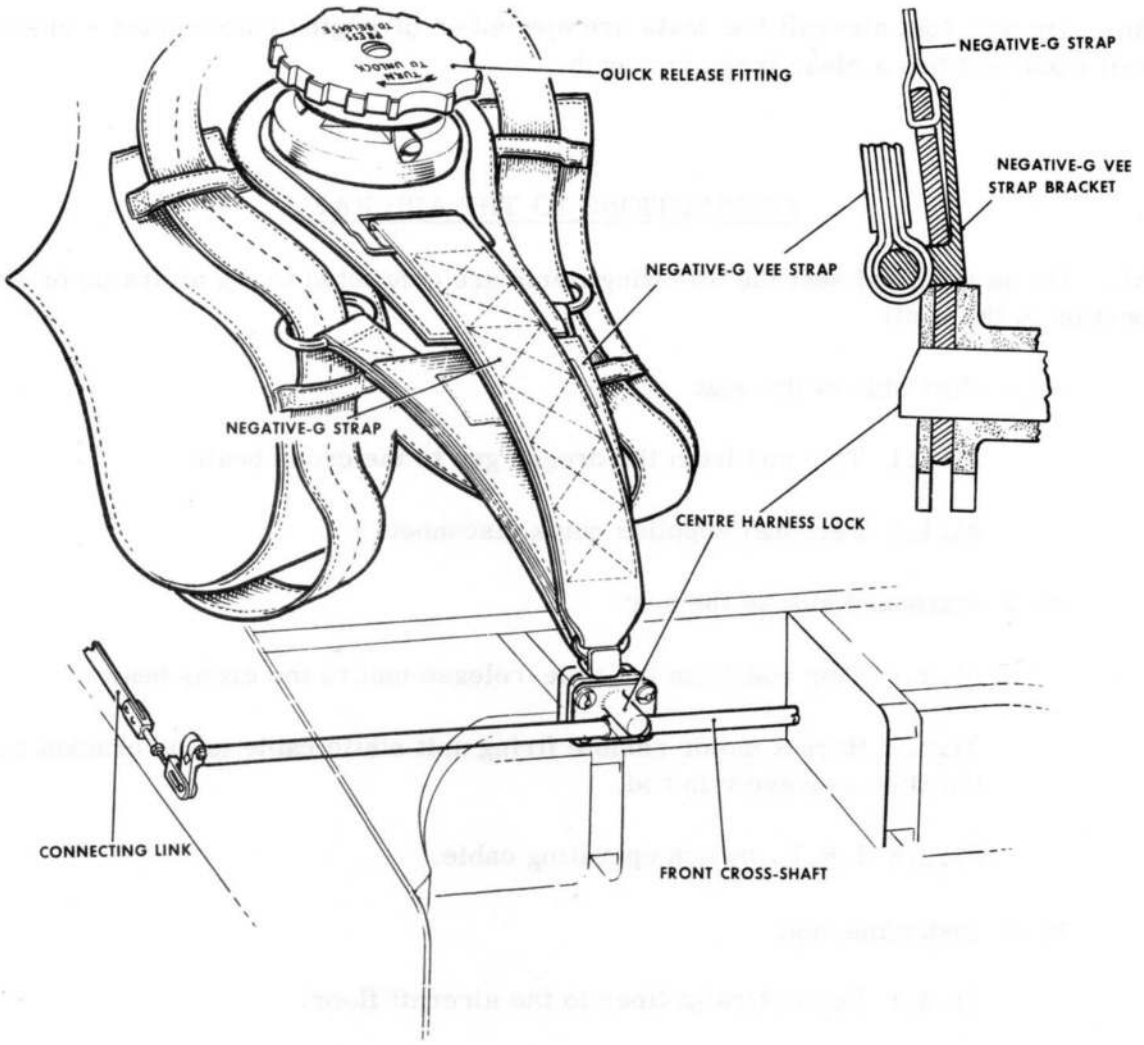

Fig 5 Installation of the negative-g strap and VEE strap

EQUIPPING

33 The following procedure shall be used when installing the equipment in the seat, refer to fig 1 to 11 for detail as necessary. The seat may be equipped before installation if this is advantageous.

33.1 Pass the lug of the negative-g restraint strap through the bracket of the VEE strap so that the VEE strap lays behind the negative-g strap and the QRF is facing forward. Engage the lug of the negative-g strap in the lock on the front face of the seat pan (fig 5), pull on the strap to ensure correct engagement and lay the negative-g strap with QRF over the front edge of the seat pan. Route the VEE strap up behind the negative-g strap.

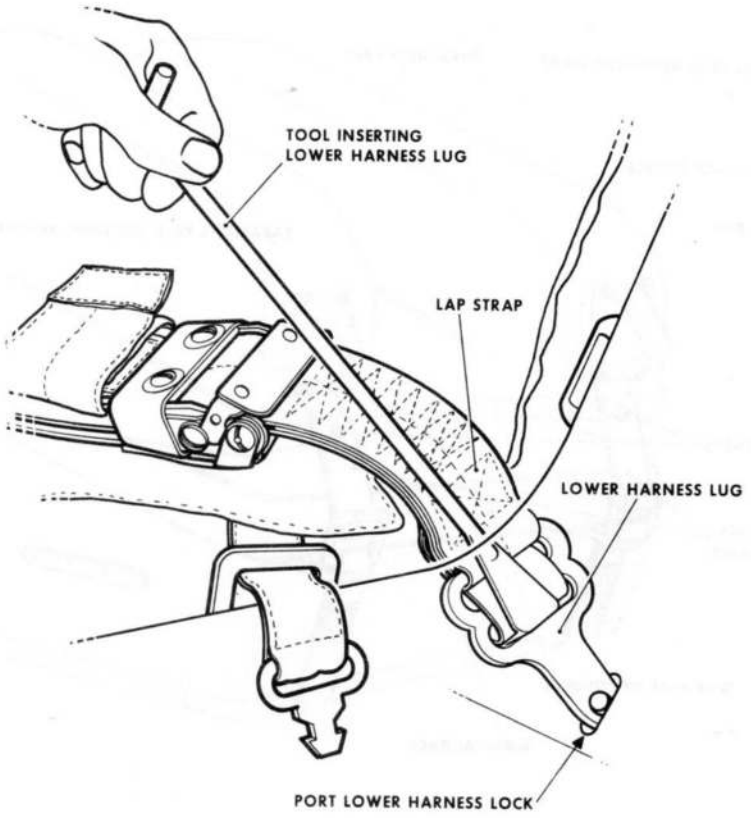

Fig 6 Fitting the port lower harness lug (starboard similar)

33.2 Lay the single-handed release line on top of the PSP cushion and route the arrowhead connectors through the D-rings on the side attachment straps of the PSP (fig 8).

33.3 Place the personal survival pack (PSP) in the seat pan taking care that the lowering line stowage is not disturbed and that the negative-g VEE strap is not trapped under the survival pack. Fit the lowering line arrowhead connector lug into the seat pan sticker clip.

33.4 Fit the parachute pack into the back of the seat pan locating the brackets on the bottom of the pack into the recesses on the rear of the seat pan.

Note...

If the nylon blocks do not retain the parachute pack in position place shims, Part No MBEU 40882, between the blocks and the inner faces of the seat pan.

33.5 Ensure that the pack is retained by the nylon blocks.

33.6 Position the lower part of the harness on the survival pack. Insert the lower harness lugs into the lower harness locks and pull on the straps to ensure that the lugs are correctly engaged (fig 6).

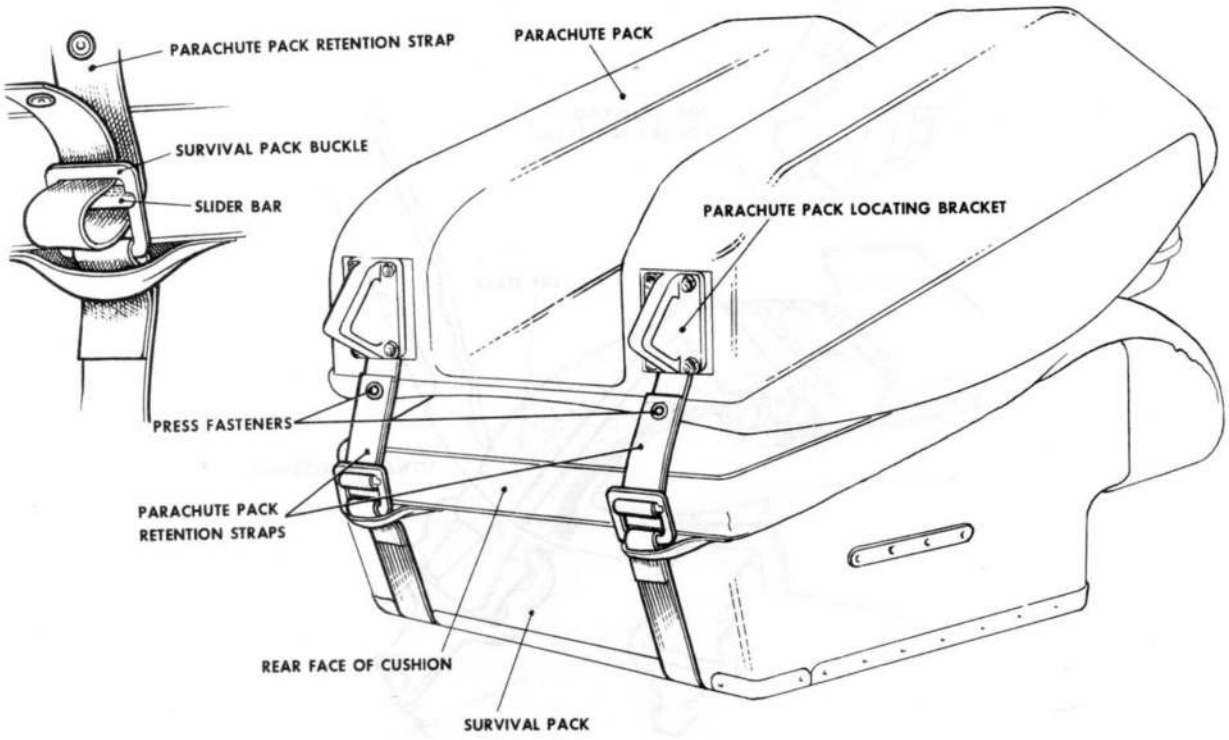

Fig 7 Attachment of parachute pack retention straps to survival pack

33.7 Lay the parachute pack face down on top of the survival pack. Attach the parachute pack retention straps to the buckles on the rear of the survival pack. The straps are to be routed down the rear face of the survival pack cushion rearwards through the buckle under the slider bar, up around the bar and forward through the buckle again above the slider bar and secured by the press stud fasteners (fig 7).

33.8 Refit the parachute pack into the back of the seat pan. Lay the lap straps and sticker straps inboard on the PSP. Route the PSP single-handed release line outboard of the harness lap straps and engage the arrowhead lugs in the quick-release connectors of the parachute harness (fig 8).

33.9 Pass the sticker straps around and outside the harness lap straps and PSP single-handed release line and insert the lugs into the spring clips on the inside faces of the seat pan sides (fig 8).

33.10 Operate the go-forward control lever to the free position. Take up the roller shackle attached to the port shoulder strap of the parachute harness, pull out the port strap from the power retraction unit, pass it up through the roller shackle and insert the taper plug into the port side top harness lock on the upper front face of the seat pan.

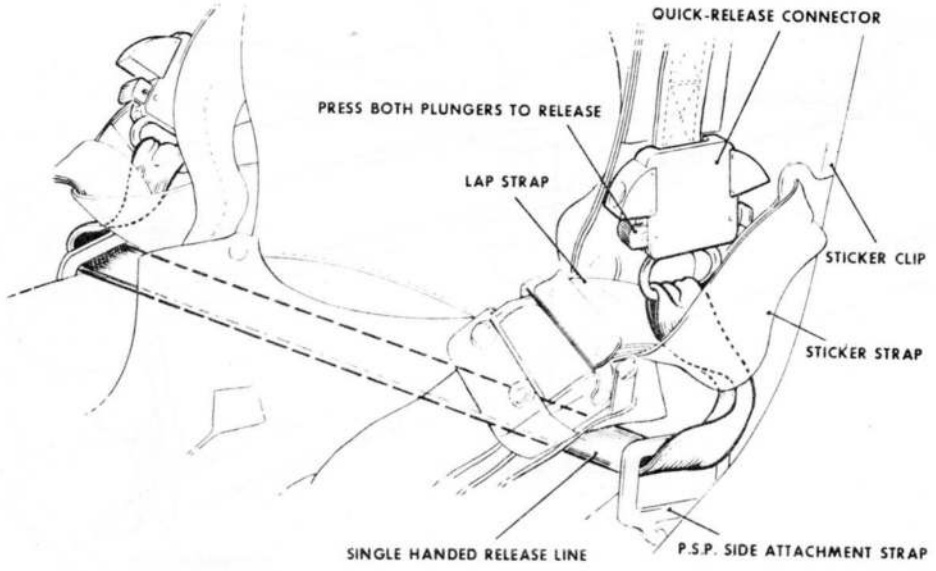

Fig 8 Arrangement of the single-handed release line and sticker straps

33.11 Similarly route and attach the starboard strap of the harness power retraction unit.

33.12 Pull outwards on the shoulder straps and ensure that the lift webs and harness retraction unit straps are not twisted. Return the go-forward control lever to the locked position.

33.13 Withdraw the crotch straps from the first becket each side of the padded apron. Pass each strap through one ring of the negative-g VEE strap and back through the beckets of the padded apron again. The VEE strap is now located over the crotch straps between the two beckets.

33.14 Carefully open the outer flap of the parachute pack and check that the rip pins are correctly positioned through the cones and that the safe ties securing the starboard rip pin and the alignment ring are intact (fig 9).

33.15 Route the parachute withdrawal line out through the centre of the outer flap, up between the harness reel straps and attach it to the top face of the seat pan with the touch-and-close fastener. Close the parachute pack outer flap, pressing it down to make the touch-and-close fastener.

33.16 Connect the parachute portion of the withdrawal line to the seat portion in the centre channel of the headrest with the screwed coupling. Open the guillotine guard and route the parachute withdrawal line through the guillotine locating the PVC covered portion in the guillotine gate. Close the guard and ensure it correctly retains the withdrawal line. Tie the parachute portion of the withdrawal line to the lower tie plate in the central channel of the headrest using No 12 linen thread (fig 10).

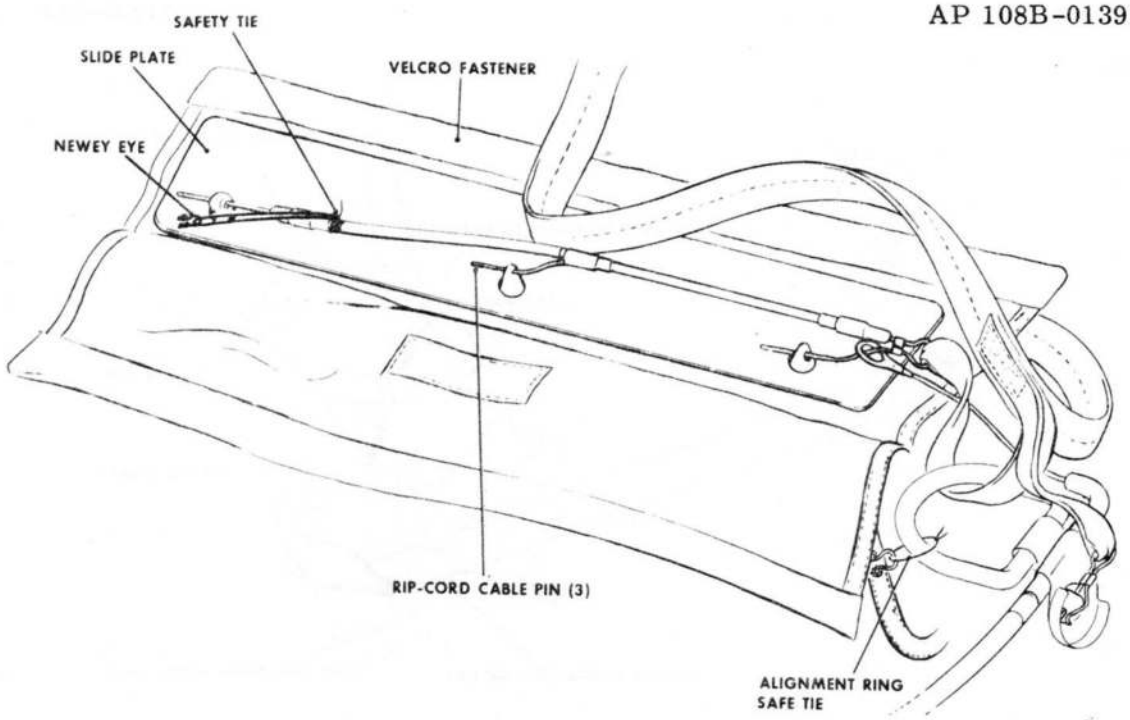

Fig 9 Parachute and alignment ring safe ties
(SI/SE 101C incorporated)

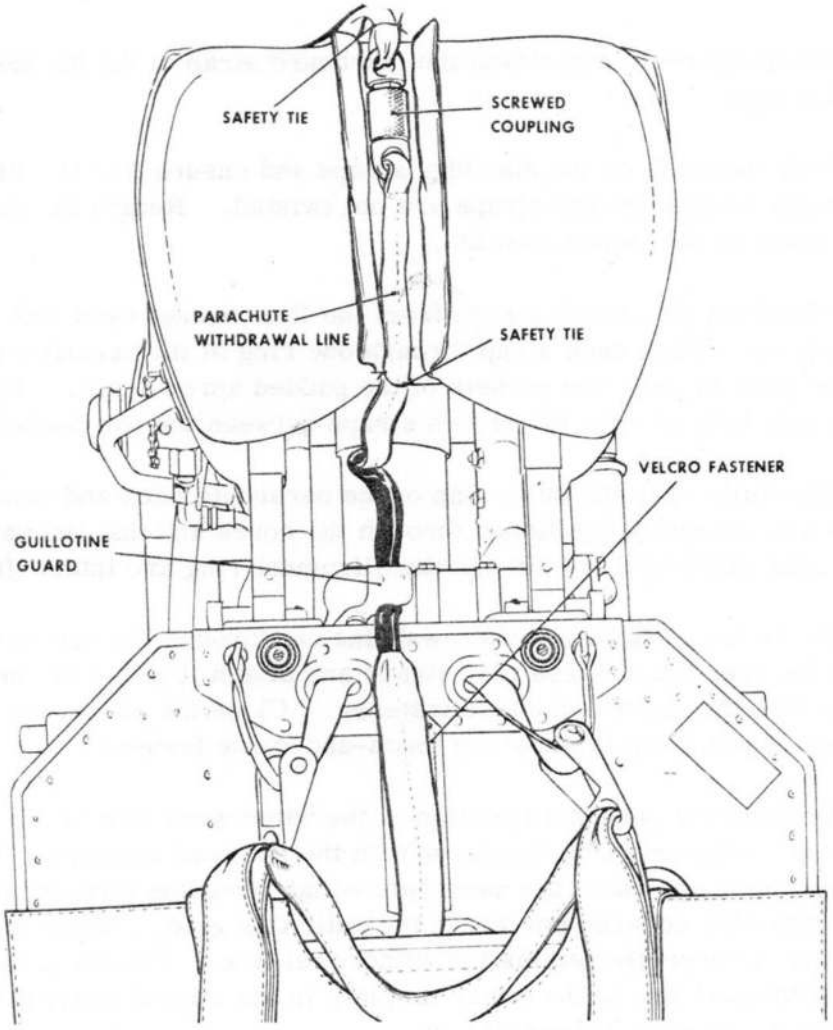

Fig 10 Routeing of parachute withdrawal line

33.17 Stow the excess lift webs using the lift web restraint straps on the rear of the harness back pad. The lift webs are stowed in a U-shape between the parachute pack and the harness back pad and the forward lift webs of the U are retained by the restraint straps. Ensure that on the port lift web the parachute rip-cord cable is also retained by the restraint strap (fig 11).

33.18 Extend all harness straps to their full extent, centralise the padded apron on the seat cushion, lay the QRF between the crotch straps of the padded apron, ensure that the lowering line arrowhead connector is over the port side of the seat pan and that the safe tie is intact, secure the lugs of the shoulder straps in the spring clips on the sides of the drogue container ready for strapping-in.

STRAPPING-IN PROCEDURE

34 The procedure for strapping-in is as follows, refer to fig 3, 4 and 11 to 14 as necessary.

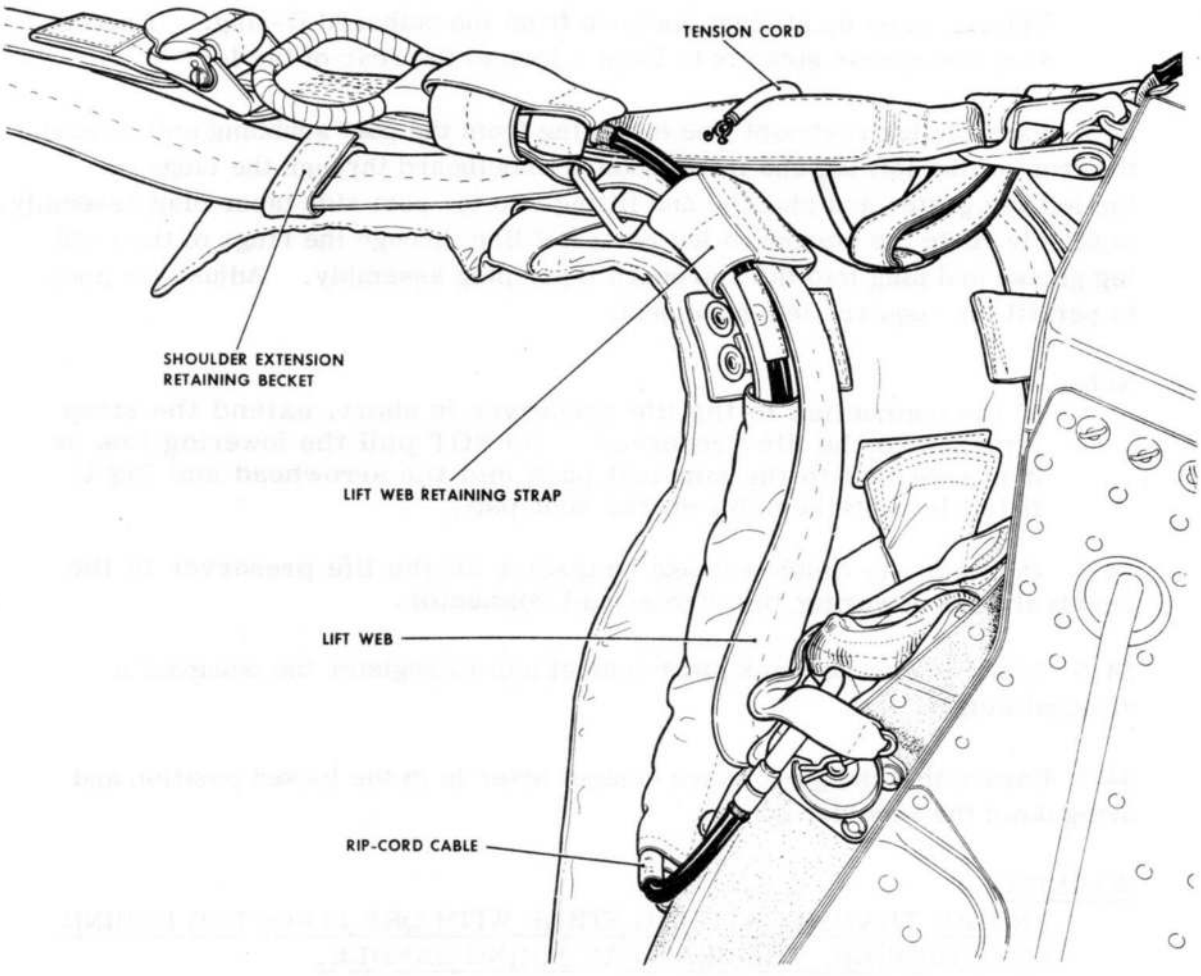

Fig 11 Securing the excess lift webs - port view (starboard similar)
(Post-mod PA 605 or STI/SE/370)
(Ripcord handle cover corrected)

WARNING...

ENSURE SEAT SAFETY PINS ARE FITTED IN SAFE FOR PARKING CONDITION

34.1 Sit in the seat. Ensure that the oxygen and anti-g are turned off at the PEC. Remove and stow the PEC dust cover.

34.2 Remove the cover from the man portion of the PEC., insert the forward end first in an inclined attitude and press down with a hingeing motion until it locks into place. Test for correct fitment by checking the tel/mic systems.

34.3 Adjust the height of the seat pan to a satisfactory position.

Note...

The leg restraint garters are to be fitted before entering the aircraft. Ensure that the crank in the male portion of the quick-release connector follows the curvature of the leg. They are to be fitted around the legs below the knee with the D-rings to the front of the legs equal distance each side of the shin bone and the quick-release connectors to the inside of the legs. The free end of the garter strap, when secured by the Velcro must be at least one inch from the outboard D-ring. If necessary the excess strap is to form a loop to the rear of the leg.

34.4 Pass the leg restraint line emerging from the port snubbing unit around the front of the left leg and from inboard to outboard through the rings on the left leg garter and plug the end fitting into the port side taper plug assembly. Similarly route the starboard leg restraint line through the rings of the right leg garter and plug into the starboard taper plug assembly. Adjust the lines to permit the required leg movement.

Note...

If the connection to the life preserver is short, extend the strap attached to the life preserver. Do NOT pull the lowering line as it is safe tied to the survival pack and the arrowhead and lug is fitted in a sticker clip on the seat pan.

34.5 Connect the quick-release connector on the life preserver to the survival pack lowering line arrowhead connector.

34.6 Adjust the rocket pack pitch control unit to register the occupant's dressed weight.

34.7 Ensure that the go-forward control lever is in the locked position and bring down the shoulder straps.

WARNING...

ENSURE THAT NEGATIVE-G STRAP WITH QRF IS ROUTED BEHIND, NOT THROUGH, THE SEAT PAN FIRING HANDLE.

34.8 Bring the harness QRF mounted on the negative-g strap up between the legs,ensuring it is behind and not through the seat pan firing handle.

34.9 Place the lap straps to lay over the thighs routeing the left lap strap OVER the PSP lowering line and under the personal supplies.

WARNING...

ENSURE THAT CROTCH STRAPS ARE ROUTED BEHIND, NOT THROUGH, THE SEAT PAN FIRING HANDLE.

Note...

To fit a lug into the QRF, turn the face plate until the yellow line passes the dots on the body, hold and insert lug. Repeat for the other lug.

34.10 Draw the left crotch strap forward and upward between the legs, ensuring that it is not crossed or twisted and laying the padded apron against the left thigh. Route the strap up (inboard to outboard) through the D-ring on the end of the left lap strap, fold the strap over to the right using a forward 90° twist, pass the lug of the left shoulder strap down through the end loop of the crotch strap and secure the lug in the QRF. Carry out a similar operation for the right hand harness straps. Re-check that the left lap strap is over the PSP lowering line and under the personal supplies.

34.11 Fully tighten the lap straps ensuring that the QRF remains central. Roll up the free ends of the lap straps and secure with the touch-and-close fastener.

▶ 34.12 Fully tighten the shoulder straps positioning the QRF centrally. Operate the go-forward lever to the free position and lean fully forward. Return the go-forward lever to the forward locked position, sit hard back in the seat and retighten the shoulder straps. ◀

34.13 Obtain groundcrew assistance, pull the excess lift webs to the rear, ensure they are stowed in the lift web restraint straps on the rear of the harness back pad and secured by the touch-and-close fastener, noting that the port lift web restraint strap also encloses the parachute rip-cord cable (fig 11).

34.14 Don the flying helmet and fasten the chin straps. Connect the oxygen mask hose. Connect the mic/tel lead locating the lead outside the left hand stole and with the connector tucked behind the left hand edge of the mini regulator.

34.15 Carry out the following functional checks:

CAUTION...

Operation of the seat pan actuator is limited to one minute in any 5 minute period

34.15.1 Raise and lower the seat pan to its full extent. Re-position to the desired height.

34.15.2 Carry out oxygen flow checks and test the mic/tel circuit.

34.15.3 Ensure that the leg restraint lines are securely locked in their sockets.

34.15.4 Move the go-forward control lever to the rear position, release it to the central position and check that forward movement is free. Lean fully forward, return the lever to the forward position and sit back checking at intervals that all forward movement is restricted.

34.16 With assistance remove and stow the safety pins. Ensure that a full complement of safety pins are present in their stowages.

EMERGENCY PROCEDURE

35. Instructions for dealing with emergencies are contained in Aircrew Manual AP 101B-3101-15.

LEAVING THE AIRCRAFT AFTER LANDING

36. The following procedure is to be adhered to when leaving the aircraft after landing:

36.1 With the assistance of a ground crew member remove the safety pins from their stowages and place in the "Safe for Parking" positions.

36.2 Remove oxygen mask, turn off oxygen supply at PEC.

36.3 With right hand rotate the harness quick-release fitting through 90 degrees and press to release the parachute harness. At the same time using left hand operate the leg restraint lines release lever to free the lines.

36.4 Using the left hand press the plungers of the PSP lowering line connector to release the lowering line.

36.5 With the left hand release the man portion of the PEC from the seat portion.

36.6 Fit dust cover to seat portion of PEC and rubber protective cover to man portion of PEC.

36.7 Vacate the aircraft.

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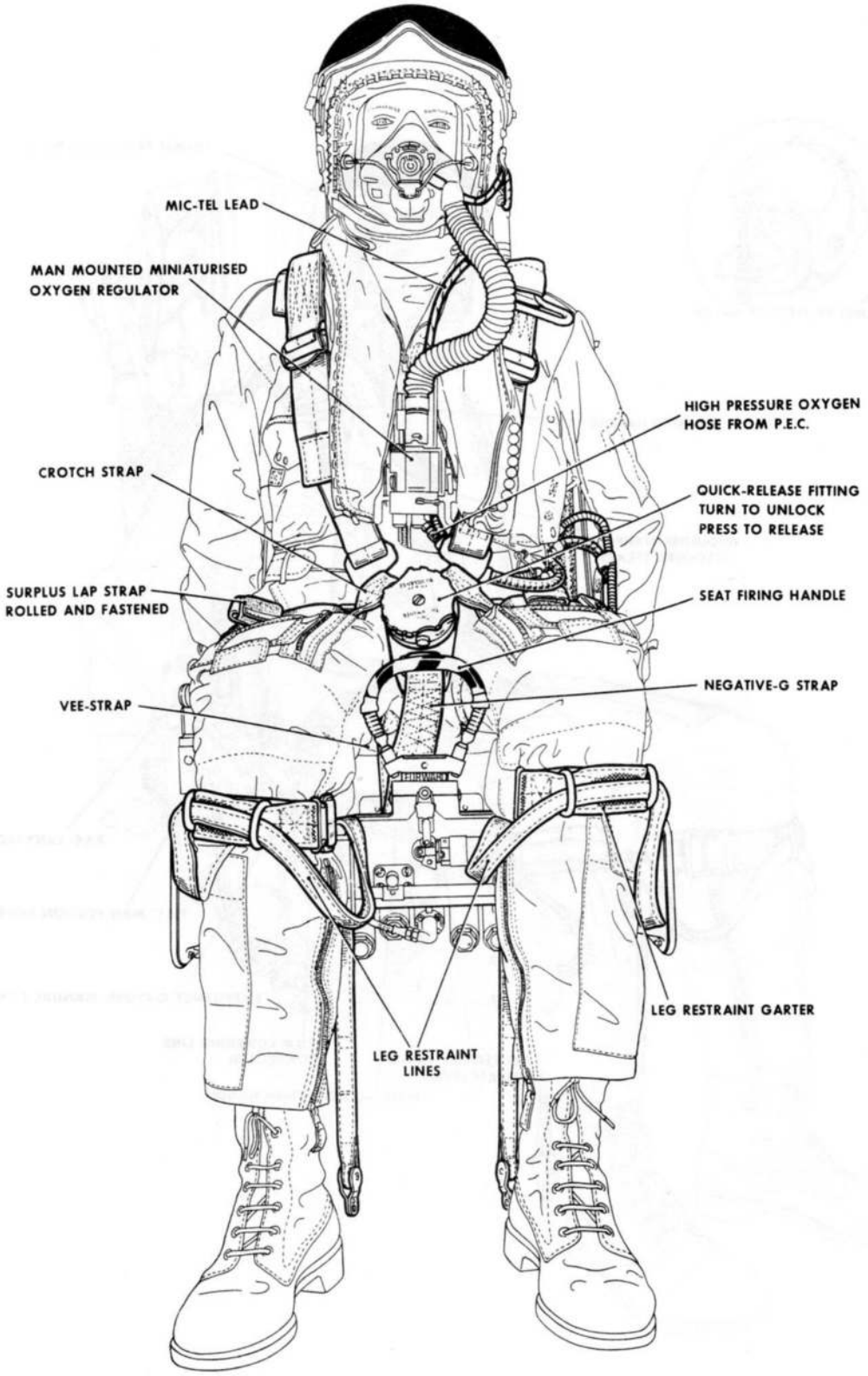

Fig 12 The seat occupied - front view
(Post-mod PA 605 or STI/SE/370)

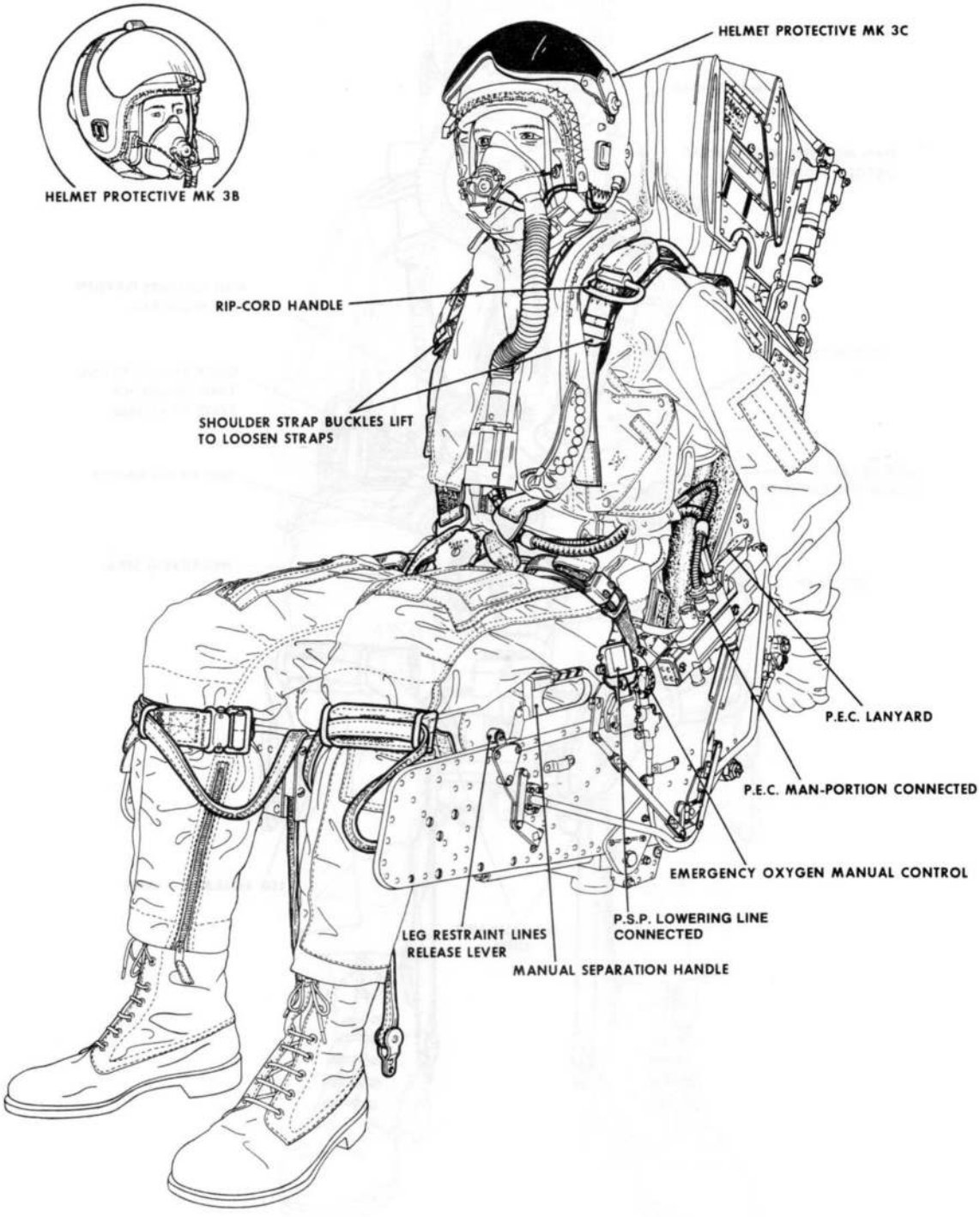

Fig 13 The seat occupied - port view
(Mod SE 124 and ES 3826 incorporated)

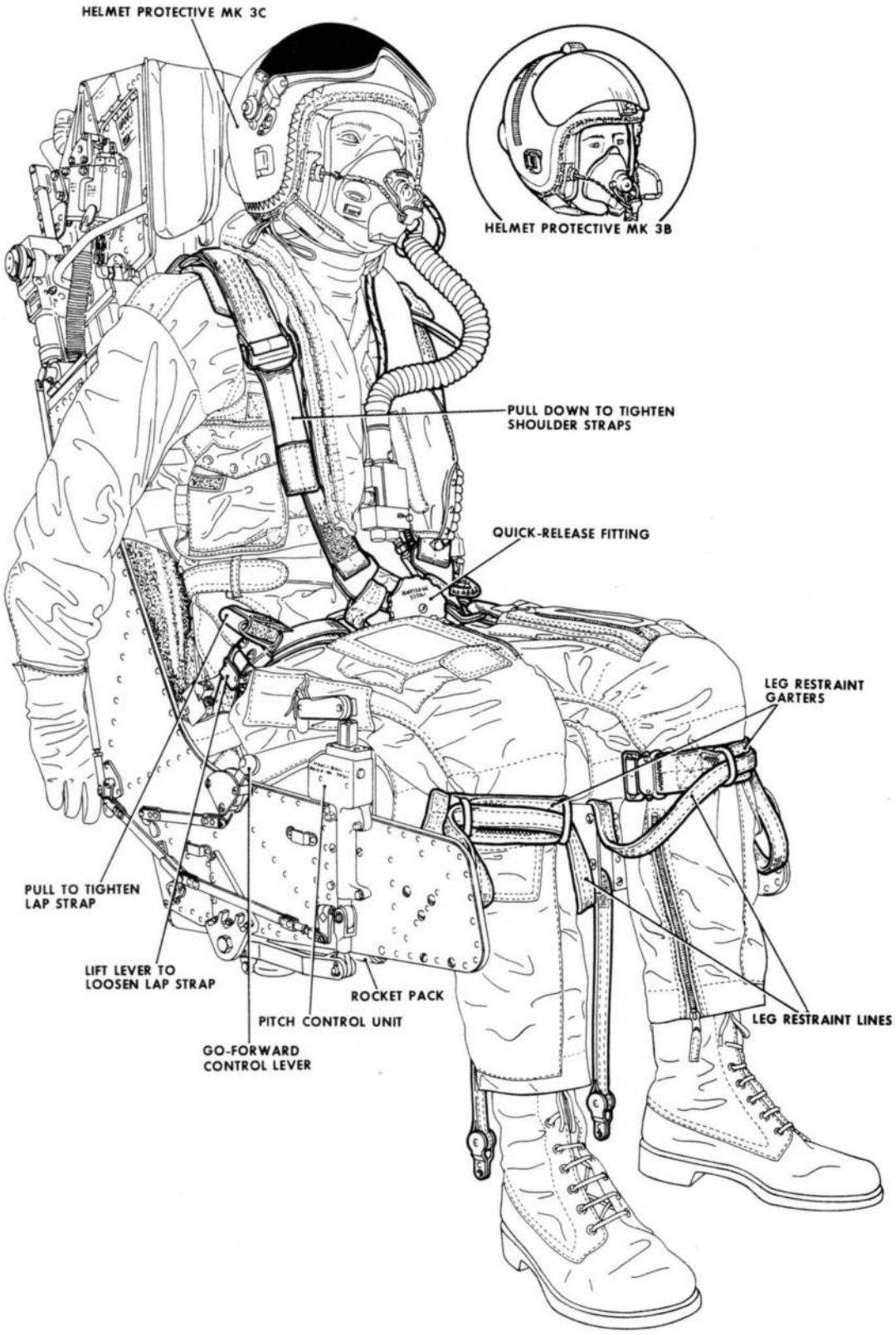

Fig 14 The seat occupied - starboard view
(Helmet protective Mk 2A deleted)