

## Chapter 18

## PRESSURE JERKIN, Mk. 3

## LIST OF CONTENTS

	Para.		Para.
<i>Introduction</i> .. .. .	1	<i>Fitting the CO<sub>2</sub> cylinder and operating head</i> .. .. .	14
<i>Description</i> .. .. .	2	<i>Stowage of S.A.R.A.H.</i> .. .. .	15
<i>Sizes</i> .. .. .	11	<i>Stowing the sea activated battery and lamp</i> .. .. .	16
<i>Servicing</i> .. .. .	12	<i>Stowage of remaining items</i> .. .. .	18
<i>Inserting the stole</i> .. .. .	13		

## LIST OF ILLUSTRATIONS

	Fig.		Fig.
<i>Jerkin Mk. 3 showing main features</i> .. .. .	1	<i>Connecting the beacon to the battery switch pin: third stage</i> .. .. .	6
<i>Jerkin Mk. 3 showing girth adjustment</i> .. .. .	2	<i>Connecting the beacon to the battery switch pin: fourth stage</i> .. .. .	7
<i>S.A.R.A.H. equipment</i> .. .. .	3	<i>Connecting the beacon to the battery switch pin: fifth stage</i> .. .. .	8
<i>Connecting the beacon to the battery switch pin: first stage</i> .. .. .	4	<i>Automatic extraction of battery switch pin as beacon is withdrawn</i> .. .. .	9
<i>Connecting the beacon to the battery switch pin: second stage</i> .. .. .	5		

## Introduction

1. The Pressure Jerkin Mk. 3 is provided for the use of aircrew who are normally accommodated in static seats but who move from one position to another in the performance of their duties. The jerkin consists of an inflatable bladder which provides counter-pressure over the body and upper thighs when the wearer is breathing oxygen at a pressure above that of the surrounding atmosphere, contained between an outer garment made from terylene and a lining made from nylon. The outer garment is fitted with pockets for the carriage upon the person of Search and Rescue Homing apparatus and other aids to survival. It also acts as a foundation upon which are mounted the covers for an inflatable stole of the same capacity as that fitted to life jackets. The jerkin is worn over an air ventilated suit and an anti-g suit and used with an appropriate type of oxygen mask.

## DESCRIPTION

2. The jerkin is a sleeveless garment which covers the trunk and upper thighs. It is open from throat to the centre of the left thigh and is fitted with a sliding fastener. Inside and to the left of the opening is a second sliding fastener providing access to the bladder so that it can be examined. A transverse opening across the back is also fitted with a sliding fastener. This opening gives access to lace adjustments provided at each side and the back to enable the jerkin to be adjusted to the wearer's girth.

3. A rectangular aperture is cut in the lower part of the right front to afford passage for the hoses leading to the anti-g and air ventilated suits and above this another aperture, fitted with a flanged connector, enables the jerkin valve to be connected. Beside this aperture is a pair of matching flaps eyeleted at their edges so that they can

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be laced together. They are provided to form a keeper for the oxygen mask hose. Fig. 1 and 2 show the features described and also the stole covers and pockets for the stowage of the survival aids.

#### Note . . .

*The flanged connector is fitted with a flexible cap. This must be removed before the jerkin valve can be connected, but should be replaced at all times when the hose is disconnected.*

4. The stole cover is very similar to those fitted to life jackets, having a lobe cover on each side and a back cover in which there is an opening for the insertion of the stole. Inside, at the bottom of each lobe cover, are press studs which mate with the male portions on the lobes of the stole. A large becket is secured to each side of the jerkin and the two are fitted with press studs so that they can be fastened together to provide a means of lifting the wearer from the water when necessary. A rubber button on the left-hand cover acts as a mounting for the sea lamp and a stiffened mounting on the right cover provides an anchorage for S.A.R.A.H. beacon.

5. Later production garments will incorporate a redesigned stole and stole covers of smaller bulk in the deflated condition and on these the inflation equipment will be mounted on the outer edge of the left-hand stole cover. The stole cover will also be treated with a fluorescent dye to provide increased conspicuity.

6. The S.A.R.A.H. battery pocket is fitted with straps and buckles to secure the battery in position. Above the pocket but under the cover flap are two smaller flaps fitted with beckets along their edges. These are fastened together by a nylon draw rod which is passed through the beckets from front to rear. They provide a stowage for the S.A.R.A.H. Beacon Unit.

7. The pocket for the S.A.R.A.H. speech unit, located on the left side of the garment, is also fitted with beckets secured by a draw rod, the ring of which is held in position by a snap fastener.

8. The lamp, battery and whistle stowage is a single pocket made into two compartments covered by a single flap. Two eyelets, one located on the top edge of each

compartment are provided to enable whistle and battery retaining lanyards and the stud extractor cord to be secured to the garment.

9. The two flaps, which form the keeper for the oxygen mask hose, are fitted with eyelets so that they can be laced together as shown in fig. 1. They should be overlapped to reduce the risk of snagging as the wearer moves about the aircraft.

10. The personal survival pack attachment web is formed into three beckets. The lower becket is used for the attachment of the P.S.P. lanyard; the others are not used at present.

#### Sizes

11. Jerkins are issued in sizes as follows under the Ref. No. shown:—

Size	Ref. No.
0 (special small)	22C/2007
1 to 6	22C/2008 to 2014

They are complete with the life line and toggle and the nylon draw rods. Accessories are issued separately and must be assembled before the jerkin is used.

#### SERVICING

12. Servicing is to be in accordance with the instructions of Vol. 4. When all items have been found or made serviceable, assemble them in accordance with the following instructions. The order in which the operations are completed need not be in strict compliance with that given, but it will be found to be of advantage if the stole is inserted before proceeding to fit the other items.

#### Inserting the stole

13. Insert the stole through the opening in the back stole cover and into the lobe covers. Inflate the stole slightly to ensure the lobes are not twisted. Secure the bottom of the lobes with the snap fasteners. Pass the schrader valve and oral inflation tube through their respective apertures, deflate the stole, ensure that the oral inflation valve is locked in the closed position by turning the mouth-piece and insert the tube into the keeper. Close the aperture in the back stole cover.

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Fig. 1. Jerkin Mk. 3 showing main features

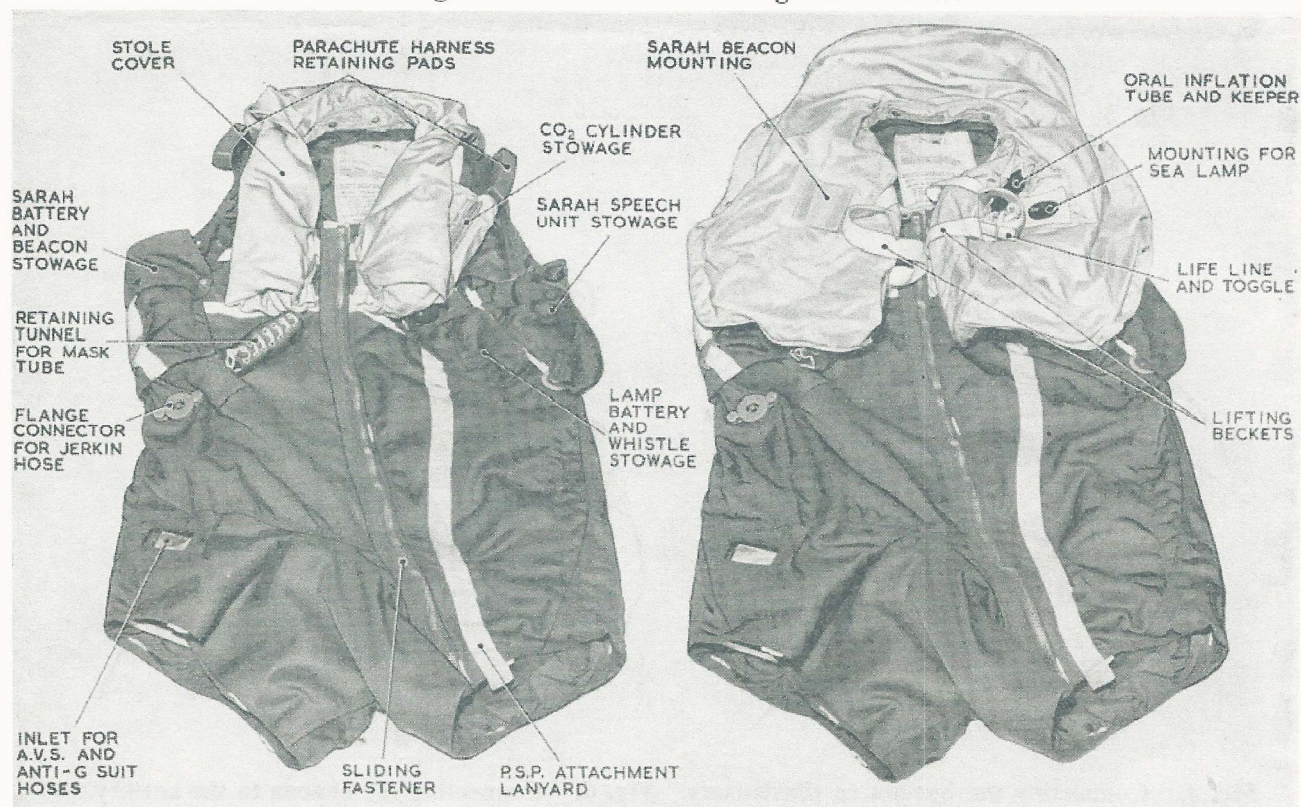


Fig. 2. Jerkin Mk. 3 showing girth adjustment

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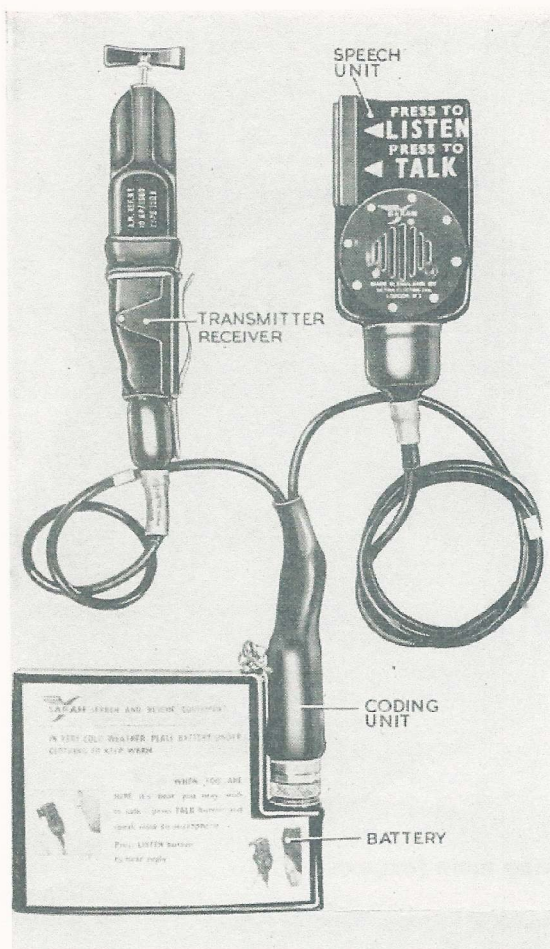


Fig. 3. S.A.R.A.H. equipment

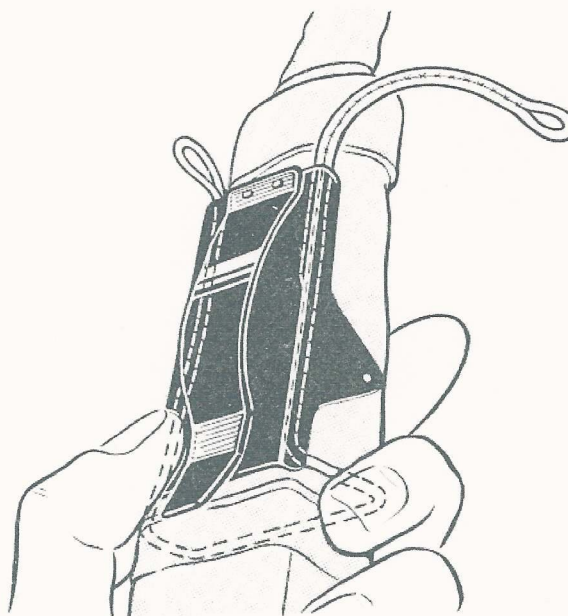


Fig. 5. Connecting the beacon to the battery switch pin: second stage

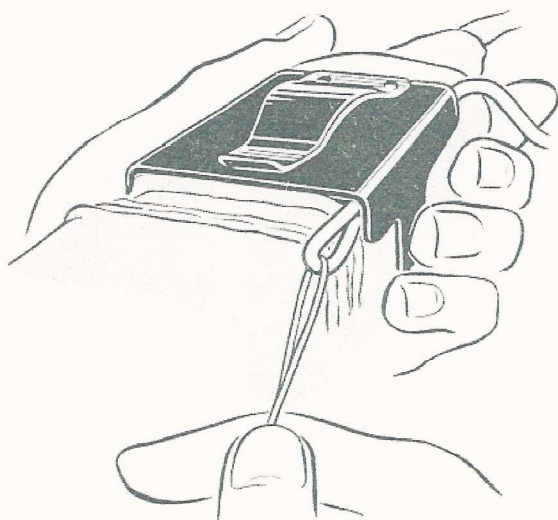


Fig. 4. Connecting the beacon to the battery switch pin: first stage

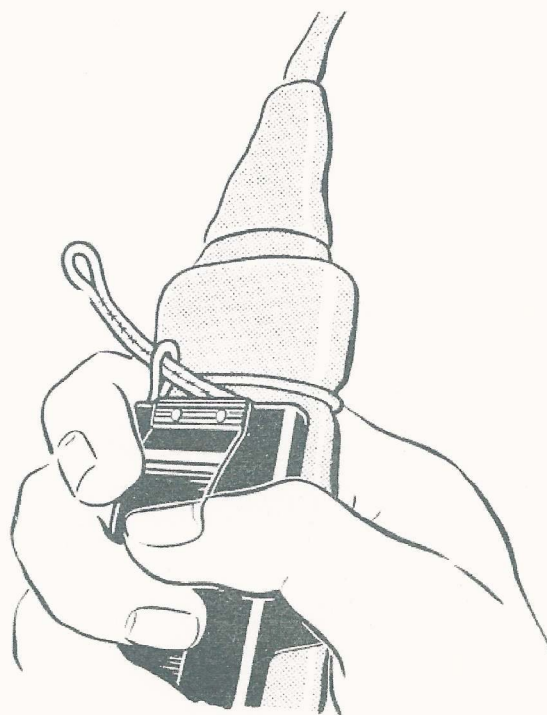


Fig. 6. Connecting the beacon to the battery switch pin: third stage

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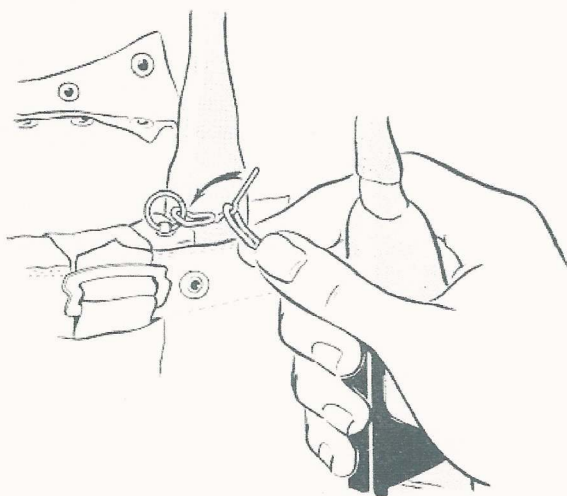


Fig. 7. Connecting the beacon to the battery switch pin: fourth stage

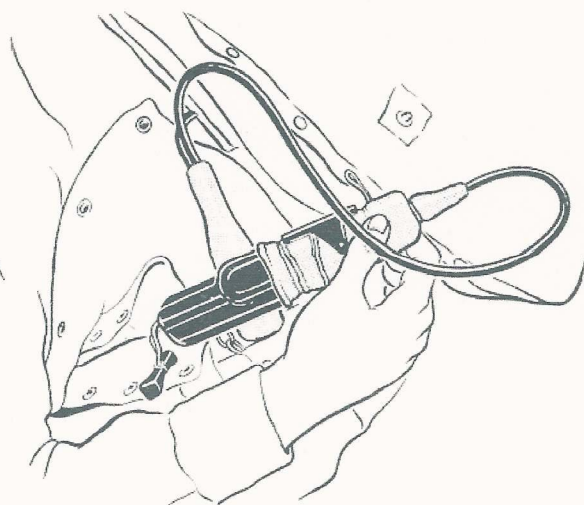


Fig. 9. Automatic extraction of battery switch pin as beacon is withdrawn

#### Fitting the CO<sub>2</sub> cylinder and operating head

14. (1) Screw the cylinder into the operating head hand tight and fasten down the locking screw.
- (2) Release the tape attached to the retaining clip in the coupling nut of the operating head and remove the clip.
- (3) Remove the coupling nut.

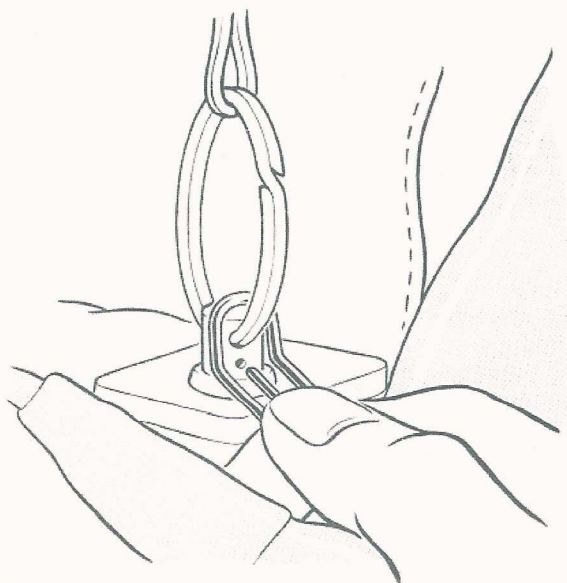


Fig. 8. Connecting the beacon to the battery switch pin: fifth stage

- (4) Check to ensure that the lip and threads of the schrader block stem and the threads and internal seating of the coupling nut are clean and undamaged.

- (5) Screw the coupling nut, finger tight, on the schrader block stem until the end of the stem meets the seating inside the nut and then, using two spanners, tighten the nut another quarter turn.

- (6) Push the gas outlet boss on the operating head into the nut with a slight twisting movement.

- (7) Check that the alignment of the assembly is correct by feeling to ensure that the flat surface of the schrader block is in the same plane as the long axis of the gas cylinder and that the stole is not twisted.

- (8) Insert the coupling nut retaining clip and wrap the tape round both the nut and clip several times, leaving the ends just long enough to be securely knotted together.

- (9) Check the operating head to ensure that the sealing thread on the cap is intact.

- (10) Place the cylinder into its stowage, tie the tapes round the neck of the gas outlet union and close the sliding fastener.

#### Stowage of S.A.R.A.H.

15. (1) Place the battery in its pocket with the coding unit facing the front of the suit and secure it in position with the strap and buckles.

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(2) Holding the beacon as shown in fig. 4, loop a length of suitable wire or cord through the length of cord on the beacon thread it between the clip and the beacon and pull it through.

(3) Pass the cord round the beacon and again thread it under the clip. Position it as shown in fig. 5.

(4) Pass the longer end through the loop at the other end (fig. 6).

(5) Place the loop at the end of the cord over the beacon switch release pin as shown in fig. 7 and position the pin as shown by the arrow so that it retains the loop of cord.

(6) Raise the switch plunger (fig. 8) by lifting the ring with a loop of cord and insert the switch pin into the hole which becomes exposed when the plunger is lifted. Fig. 9 shows how the switch pin is extracted when the beacon is withdrawn.

(7) Place the beacon in its stowage over the battery pocket, draw the edges of the flaps together and secure them by passing the draw rod through the beackets from front to rear using alternate beackets.

(8) Pull over the outer flap and secure it with studs.

(9) Stow the loop of cable running between the battery and the beacon under the retaining flap beside the armhole in the suit.

(10) Pass the battery cable through the retaining flaps beside the armhole and behind the neck.

(11) Stow the speech unit and any surplus cable in the speech unit pocket on the left front of the suit and close the pocket by passing the draw rod upwards through the beackets.

(12) Secure the finger ring on the draw rod with the snap fastener at the bottom of the pocket.

#### Stowing the sea activated battery and lamp

16. Before putting the battery in its pocket ensure that there is a length of cord between the studs on the battery case and the eyelet in the corner of the pocket. This cord should be  $3\frac{1}{2}$  in. long which is sufficient to permit the battery to be pulled out of the pocket before the studs are torn out to allow the water to enter. A second length of cord should be knotted to the same eyelet in the corner of the pocket and through the hole in the battery case to act

as a retaining lanyard. This cord should be 33 in. long. Both cords should be tied with three half-hitches and have the ends sewn down with No. 40 thread.

17. Stow the battery in the pocket, studded side forward, with the longer cord looped across the bottom of the case so that it will not snag up when it is withdrawn. Hank the cable and stow it beside the battery and the wall of the pocket and then place the lamp, flat side upwards, on top of the flex.

#### Stowage of remaining items

18. *Life line and toggle.* If the life line needs to be renewed or has broken away, first ensure that the loop lying in the groove in the toggle is tight and then pass the free end of the cord round the left-hand lifting becket. Tie the end to the standing part with three half-hitches and sew the end of the cord to the standing part with several stitches of No. 40 linen thread. Locate the loop about 1 in. below the press stud on the lifting becket and stitch it to the reinforcing tape on the becket. Hank the life line neatly in turns of about  $2\frac{1}{2}$  in. and secure it to the reinforcing tape sewn to the lifting becket. Place one stitch of doubled scarlet locking thread round each end of the hank and through the tape. Tie the ends of the thread together securely and cut off. Pass one other stitch round the hank close to the toggle and through both the cord, just clear of the toggle, and the reinforcing tape so that the toggle is held secure. Tie off the ends of the thread. Fold up the bottoms of the lobe covers and secure them with the press studs and then repeat the operation with the sides.

19. *Whistle.* Pass the end of the lanyard through the eyelet in the hem at the top of the pocket, tie the free end to the standing part with three half-hitches and sew the loose end to the standing part with three stitches of No. 40 linen thread. Hank the lanyard and place it beside the whistle in the pocket.

20. *Heliograph and ground/air, emergency code.* Place these in the small pocket on the front of the S.A.R.A.H. battery stowage and close the snap fastener.

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