

Chapter 6

**EJECTION SEAT, Mk. 2CB
(Canberra B(I) 8 aircraft)**

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Servicing the seat structure

To remove the seat pan

1. (1) Adjust the pan to its top position whilst sitting in the seat to counteract the load of the seat reaction springs.
- (2) Remove the harness control cable from the bracket on the side beam by unscrewing the two 2 B.A. bolts; detach the cable from the harness release mechanism.
- (3) Press the seat pan back to relieve the reaction spring load on the sliding blocks and slide outwards simultaneously the two spring-loaded plungers. Allow the seat pan to hinge forward under the reaction spring load until the springs are relaxed. Release the plunger and lift out the springs.

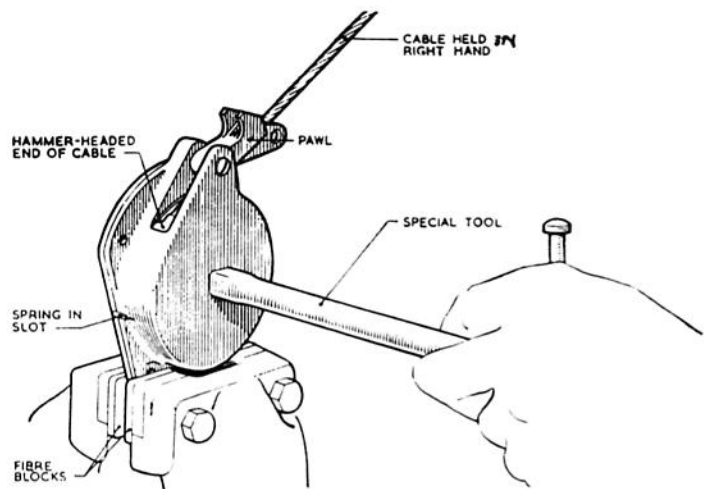


Fig. 1. Dismantling harness release unit

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(4) Remove the bolts from the ends of the seat raising levers and remove the seat pan.

Note . . .

These bolts must not be removed until the seat reaction springs have been removed.

To remove and dismantle the manual harness release units

2. (1) First remove the starboard unit. Remove the bolts holding the fairlead and the pin attaching the cross-shaft arm to the pawl and pawl spring; remove the harness from the cables.
- (2) Remove the five 2 B.A. bolts from the flange of the unit and lift off the unit without allowing the halves of the casing to separate.
- (3) Lightly grip the casing flange between fibre blocks in the vice jaws (fig. 1). Pull out the cable to its full extent against the spring and prevent the spring from unwinding by holding the squared end of the wheel axle with the special box spanner (Ref. No. 27L/97). The hammer-headed end of the cable can now be lifted out of engagement with the slot in the pulley wheel and the cable withdrawn. Relieve the spring tension gradually by use of the box spanner.
- (4) Separate the two halves of the casing, remove the wheel and separator plate and disengage the spring from the slot in the casing.
- (5) Dismantle the pawl return spring by unscrewing the lower eye end whilst holding the top fork end.
- (6) The port unit has no return spring; otherwise dismantle it in a similar manner.

To examine the harness release units

3. (1) Examine each harness cable for damage and fraying; if they are not serviceable, renew them.
- (2) Examine the pulley wheel for damage to ratchet teeth or spring locking slot in the axle.
- (3) Examine the spring for general condition. The precise resilience is not important, provided that the spring functions satisfactorily.
- (4) Examine the pawl teeth and check that the return spring (starboard unit only) is free from corrosion and is working freely.

To assemble the harness release units

Note . . .

Lubricate all parts during assembly with grease XG-275 (Ref. No. 34B/9100512 or 3)

4. (1) Insert each pulley wheel into its respective outer casing (both handed), followed by the separator plate.
- (2) Insert the spring (not handed) with its outer hooked end on the same side as the pawl pivot; engage the hooked end of the spring with the slot in the casing and the inner coil end with the slot in the wheel axle.
- (3) Place the back plate in position but do not insert the bolts.
- (4) Grip the flange of the casing lightly between fibre blocks in the vice then, using the special box spanner, rotate the wheel axle three complete revolutions; this gives an approximate initial poundage of 3½ lb. building up to 6½ lb. when extended. Turn anti-clockwise for the starboard unit and clockwise for the port unit.

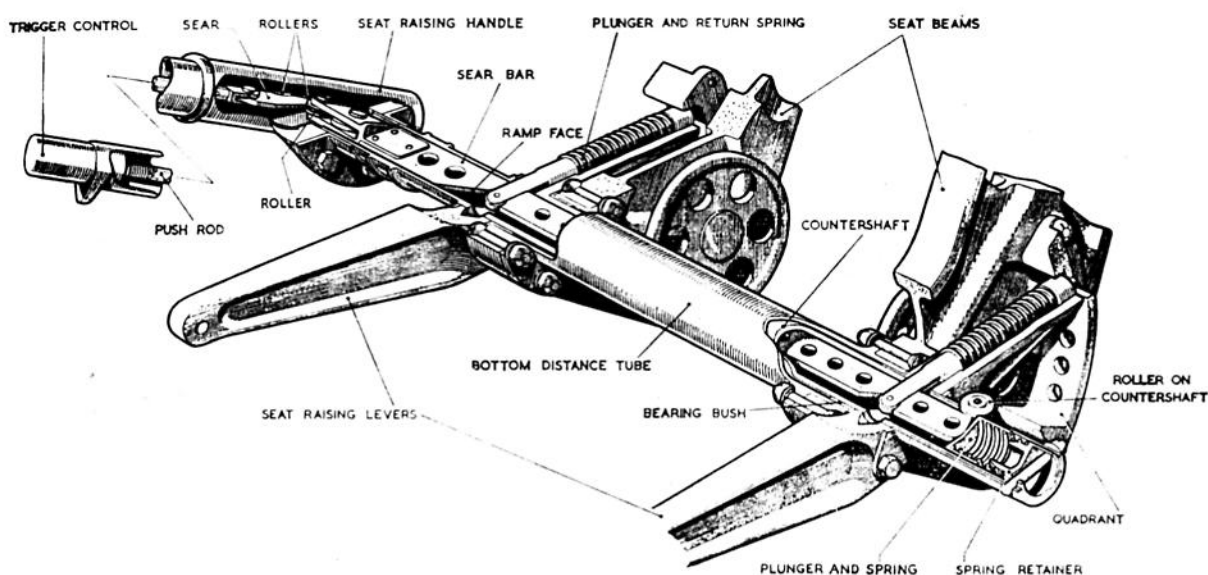


Fig. 2. Dismantling seat raising mechanism

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(5) Thread the harness cable between the pawl and the casing and engage the hammer-headed end of the cable in the slot in the pulley wheel.

(6) Allow the cable to be drawn slowly into the casing by the spring, until the hammer-headed end engages with the slot in the pawl and press into full engagement with the fingers.

(7) Secure the unit to the side beams by the five 2 B.A. bolts. Replace the pins connecting the cross-shaft arm to the pawl and pawl spring and lock with a new split pin. Connect the safety harness to the cables.

To dismantle the seat raising mechanism

5. (1) Remove the 2 B.A. lock-nut and tap out the taper pin from the port end of the countershaft. Remove the roller from the countershaft fitting (fig. 2). Do not remove the $\frac{1}{4}$ in. B.S.F. bolts from the faces of the seat raising lever bosses.

(2) Remove the two quadrants by removing the four lock-nuts on each quadrant and depressing the trigger control on the seat raising handle to free the plungers as the quadrant is withdrawn; the four bolts remain in position.

(3) Remove the seat raising handle by removing the four $\frac{1}{4}$ in. bolts securing it to the flange.

(4) Push up both plungers simultaneously and pull out the sear bar.

(5) Withdraw both plungers and springs and withdraw the countershaft out from the port seat raising lever and frame bearings. Remove the spring retainer, spring and plunger from the countershaft.

To examine the seat raising mechanism

6. (1) Check that all components are free from corrosion and that all rollers rotate freely but without excessive slackness on their pins.

(2) Check that the sear bar is straight in both planes and free from wear on the ramp faces.

(3) Check that the locking plungers and springs move freely in their housings in the seat raising levers.

To assemble the seat raising mechanism

Note . . .

Lubricate all parts during assembly with grease XG-275.

7. (1) Pass the shaft with the starboard seat raising lever attached through the bearings in the side beams, and pass the port seat raising lever with the countershaft end fitting attached on to the shaft. Assemble the roller and secure with a split pin.

(2) Insert the locking plungers and springs into the seat raising levers and, while depressing each plunger in turn, insert the sear bar into the countershaft, passing it through the slots in the locking plungers.

(3) Replace the cap, spring and plunger into the end of the countershaft and insert the taper pin and lock-nut.

(4) Replace the quadrants and seat raising handle.

To assemble the seat pan

8. (1) Place the seat pan on the seat raising levers (which must be in the top position) and insert the bolts.

(2) Lean the pan back against the seat frame. Insert the two seat reaction springs, slide back the two spring-loaded plungers and press the pan back against the spring load to allow the blocks to engage in the slots in the side beams. Release the plungers and ensure that the blocks have engaged correctly.

(3) Connect the harness release control cables.

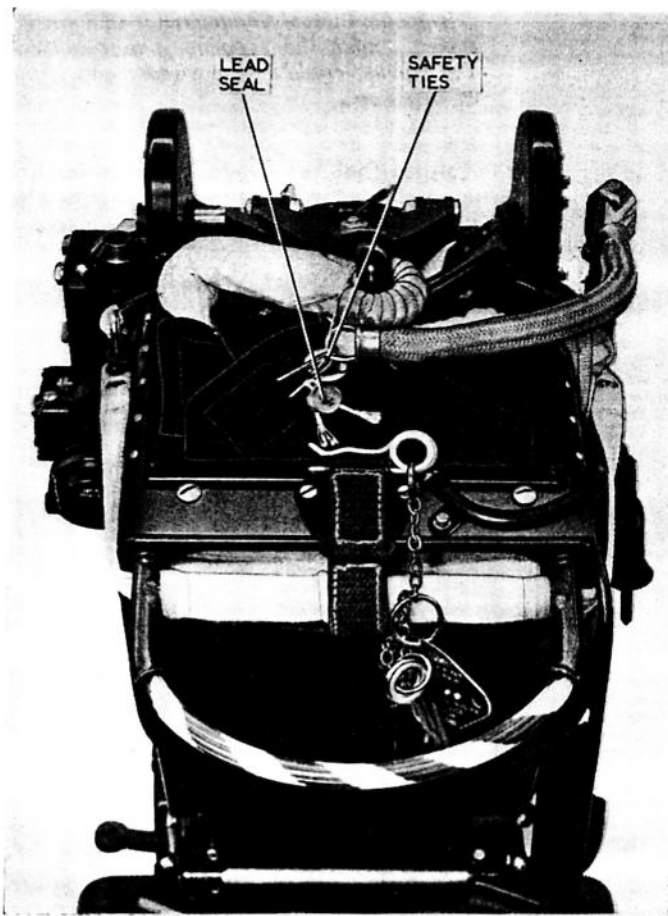


Fig. 3. Safety ties

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Servicing the face screen

To examine the face screen

9. (1) Pull out the firing handle and withdraw the face screen to its fullest extent.
- (2) Examine the fabric for damage and deterioration. Check the security of the front edge to the firing handle and of the rear edge to the drogue container.
- (3) Examine the attachment of the firing cable to the face screen for security and damage.

To pack the face screen

10. (1) Stretch the face screen to its full extent.
- (2) Push the fullness up into convex form.
- (3) Form a longitudinal crease just right of the centre line. Fold the centre bulk to lie on the right edge of the screen so that the edges are roughly parallel and the cable anchorage is proud. The face screen is now in three thicknesses on the right and one on the left.
- (3) Carefully retaining this fold, roll the face screen over the lower edge of the slot in the container and press it down into its compartment.

WARNING . . .

Whenever a face screen is re-packed (or the firing cable is connected to the sear) ensure that the exposed firing cable is kept as short as possible between the sear and the drogue container, i.e., only leave sufficient cable to reach the sear. If not, there is a serious danger of snagging of the cable when the firing handle is pulled, possibly resulting in non-firing of the ejection gun.

- (5) Insert the firing handle into its socket and press it home into the spring clips. The firing handle should emerge from the compartment behind the firing handle cross-bar and pass through the conduit to the firing mechanism.

Servicing the leg restraining device

11. (1) Examine the cords for fraying or deterioration, particularly at the ends.
- (2) Check the cords for freedom of movement through the snubbing units in a downward direction but complete restraint in the upward direction.
- (3) Check the release buttons for correct operation.

Safety ties

12. After the drogues have been packed (Sect. 5, Chap. 4) and the retaining pin tie has been made, proceed as follows:—

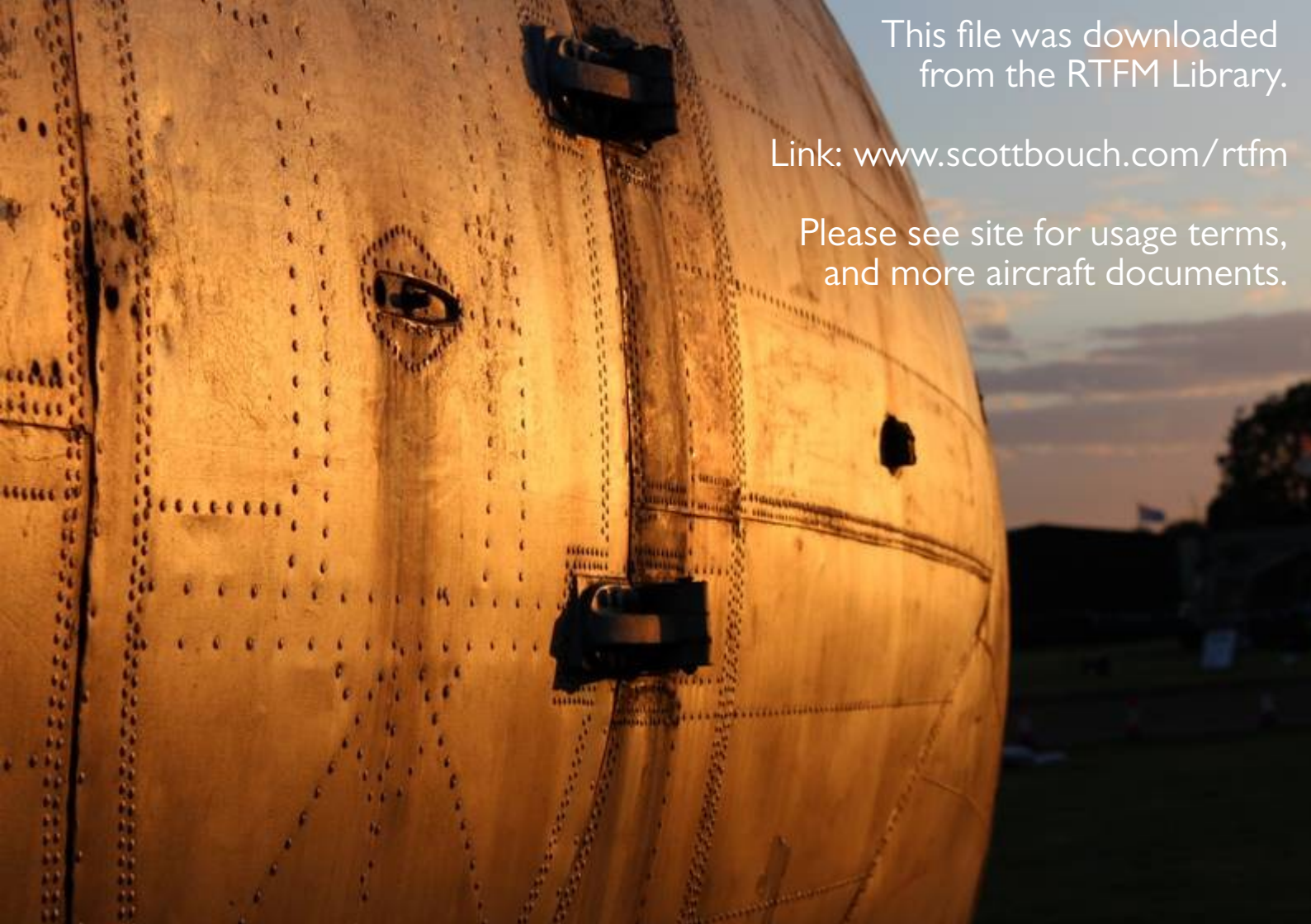
- (1) Lower the scissor shackle and secure the drogue shackle by a length of No. 8 cord passed through the drogue shackle and under the securing pin (fig. 3); tie off with a reef knot and one or two half-hitches.

Caution . . .

It is of the utmost importance that the cord passes under the securing pin, otherwise the drogues could not be withdrawn without obstruction.

- (2) Ensure that the drogue withdrawal line is routed *above* the link lines and is thus able to withdraw the drogues without entanglement.

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