

'HAZARD AND MAINTENANCE INFORMATION' (AP 101B-4104-5A2) is to be complied with
throughout the work detailed on this card

29-10 EJECTION SEATS MAINTENANCE PROCEDURE 29-10/3 (44 work blocks) 04/18

EJECTION SEAT AND CARTRIDGES INSTALLATION (** MANDATORY ***)

MANDATORY MAINTENANCE PROCEDURE

ASSOCIATED CARDS	POWER
DAP 101B-4100-6A	
DAP 101B-4104-1EL	
DAP 101B-4104-1EP	
DAP 101B-4104-1HA	
DAP 101B-4104-1LA2	
MP 07-40/1	
MP 15-13/2	YES
MP 24-40/1	
MP 25-11/1	
MP 29-10/6	
MP 29-30/2	
MP 80-10/18A	

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Note . . .

This procedure is **not** applicable if the canopy is in situ and is to remain in situ, during installation of the ejection seat. For installation of the ejection seat with the canopy in situ, refer to MP 29-10/8.

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Equipment

Item	Reference	Application
Ejection seat servicing stand (MAGERD 7501)	MBSS 1 1730-99-4527666 or 1730-99-7922567 or 1730-99-7922568 or 4920-99-7304955 or 4920-99-7669635 or 4920-99-7757632	Holding the seat
Ejection seat servicing stand adaptor (MAGERD 7503)	27L/6176141	Attaching seat to stand
Sling (MAGERD 2628)	P-890624-403 3940-99-6551831	Lifting the seat
Container (MAGERD 7555)	MBEU 63162 8140-99-6640158	Storing cartridges
Container	-	Storing rocket pack
First line tool kit (MAGERD 2549)	MBEU 56400-403 4920-99-6596649	Refitting the seat
Vacuum cleaner	As available	Cleaning the cockpit
Torque wrench (2,5 N.m to 11 N.m)	As available	Torque tightening rocket pack bolts
Torque wrench (12 N.m to 68 N.m)	As available	Torque tightening firing units
Feeler gauge	As available	Clearance check between ejection gun mounting brackets and ejection gun mounting bolt locking devices
Mobile servicing platform: - height 2 m	As available	Access to aircraft

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Item	Reference	Application
External electrical power supply source 200 V, 400 Hz, 3-phase a.c. (MAGERD 5301)	4FE/9722 or 4FE/2141397	Electrical power supplies to aircraft
ADU safety pin	MBEU 77362 5340-99-2527727	Make the ADU safe on installation
ADU mode selector tool (MAGERD 5543)	MBEU 58633-403 4920-99-2558783	ADU mode selection - MAN or AUTO
Test set IFF/SSR, Type IFF-701 (MAGERD TBD)	10S/3925249	Testing the IFF
Type C-to-TNC adaptor	-	Adapting test IFF/SSR to the antenna switching unit
Splitter box (MAGERD 5358)	P-891350-403	Routeing 115 V, 400 Hz, single phase a.c. power from aircraft ground test socket to pressure controller

Materials

Description	Specification		Application
	NATO	UK	
Loctite 222 8030-99-2251687	-	DTD 900/6003/A	The ejection gun mounting bolt locking devices
Grease (XG 293) 34B/2241797	G-395	DEF STAN 91-52	(i) Lubricating O-seals (ii) Command ejection quick disconnect

Replacements

Item	Reference	Application
O-seal	MBEU 35487	Ejection gun primary cartridge

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Item	Reference	Application
	5330-99-1482268	
O-seal	MBEU 91799	Drogue gun primary cartridge
Water seal	MBEU 15869 5330-99-1057100	Ejection gun housings
Water seal	MBEU 70334 5330-99-6172576	Drogue gun barrel
Split pin	5315-12-1220984	ALIU and ADU static cables clevis pin
Split pin	5315-12-1221623	MDC trip rod clevis pin
Split pin	5315-99-9710567	Rocket pack fixed link arm clevis pin
Chromium-nickel locking wire, dia. 0,5 mm	DTD 189A 30A/6363056	Wire-locking ejection seat components

WARNINGS . . .

- (1) **IMPACT DAMAGE TO THE BREECH TIME DELAY FIRING UNIT (BTDFU). EXTREME CARE MUST BE TAKEN TO ENSURE THE BTDFU IS NOT DAMAGED DURING HANDLING OR MAINTENANCE. IMPACT DAMAGE TO THE BTDFU COULD CAUSE A CATASTROPHIC MALFUNCTION OF THE UNIT AND FAILURE OF THE ESCAPE SYSTEM.**
- (2) **DURING TRANSIT AND MAINTENANCE, THE FIRING UNIT MUST BE STORED IN A SUITABLE CONTAINER TO PREVENT ANY POSSIBILITY OF IMPACT DAMAGE.**
- (3) **WHEN FITTED TO THE EJECTION GUN, THE FIRING UNIT MUST BE SUITABLY PROTECTED AGAINST POSSIBLE IMPACT DAMAGE. IF THERE IS ANY SUSPICION THAT THE BTDFU HAS SUFFERED IMPACT DAMAGE, THE UNIT IS TO BE RETURNED TO THE APPROPRIATE MAINTENANCE BAY FOR INVESTIGATION.**

CAUTION . . .

Post Mod. 02555B aircraft only: Care must be taken when working in the cockpit to ensure HMCS equipment and cables are not damaged.

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Note . . .

During the ejection seat and cartridges installation, all O-seals must be examined, replaced if unserviceable and are to be lubricated with grease prior to fitting.

AIRFRAME

1. PREPARATION

WARNING . . .

THE PEC MICROPHONE/TELEPHONE (MIC/TEL) CONNECTOR CONTAINS BERYLLIUM/COPPER. REFER TO THE BERYLLIUM WARNING IN THE PRELIMINARY PAGES OF THIS PUBLICATION.

1.1 PEC aircraft portion

- | | |
|------------------|---------|
| (a) Supply hoses | Examine |
| (b) MIC/TEL lead | Examine |

Note . . .

Item 1.2 is only applicable if the ejection seat/personal equipment connector (PEC) is being refitted after scheduled maintenance or replacement.

1.2 PEC aircraft portion

Refit (Chap.25-11) excluding Anti-g and Main Oxygen System functional checks (see Item 32.1 and 32.2)

1.3 Canopy jettison pipeline

Look for damage

1.4 Aircraft ejection gun mounting brackets

Examine

1.5 Footspray nozzles or blanking plates (4 off)

Ensure secure

1.6 Headspray nozzles or blanking plates (4 off)

Ensure secure

Note . . .

Item 1.7 is applicable to post Mod. 02555B aircraft only.

1.7 HMCS cockpit floor cable

- | | |
|------|------------------------------------|
| (i) | Ensure connector fitted to stowage |
| (ii) | Ensure lanyard secured to floor |

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- (iii) Ensure HMCS cable and lanyard routed
outboard of seat actuator/IFF lanyard and
underneath seat actuator/IFF cable (Fig. 1)

1.8

Cockpit floor

Clean with vacuum cleaner

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~~NATO RESTRICTED~~

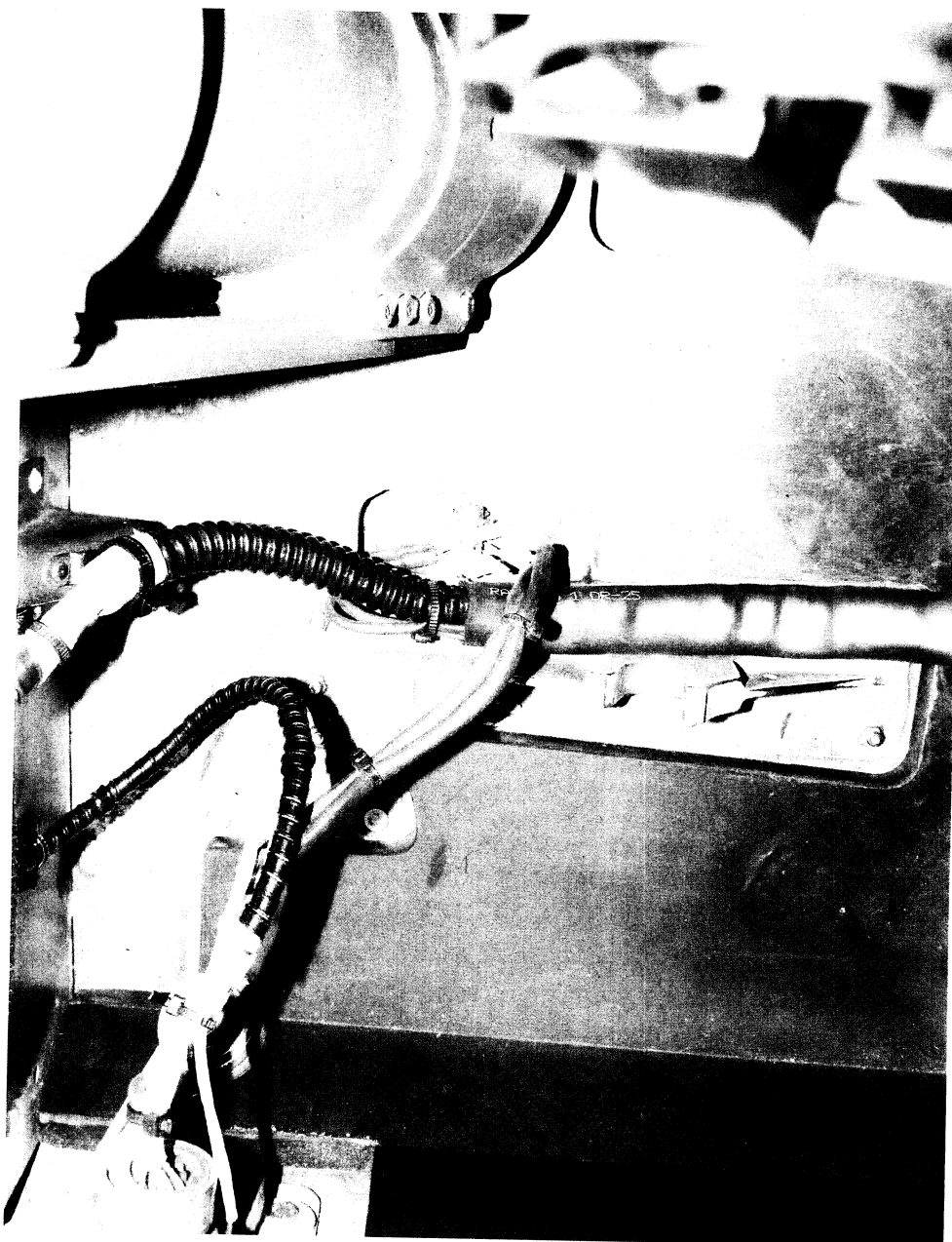


Fig. 1. Lanyard routing
(New illustration)

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(end of work block)

AIRFRAME

2. EXAMINATION

Note . . .

Item 2.1 is a structural integrity item (Y coded) and is to be carried out by an Engineering Technician, Airframe tradesperson.

- | | | |
|------------|---|---------|
| 2.1 | Cockpit ejection seat
attachments and surrounding
structure | Examine |
|------------|---|---------|

(end of work block)

WEAPONS

WARNINGS . . .

- (1) **EXTREME CARE MUST BE EXERCISED WHEN MOVING EJECTION SEATS FITTED TO EJECTION SEAT MAINTENANCE STANDS. THE SEAT MUST BE IN THE VERTICAL POSITION WHEN THE SEAT STAND IS TO BE MOVED, REGARDLESS OF THE DISTANCES INVOLVED. WHEN THE EJECTION SEAT STAND IS STATIONARY, THE BRAKE MUST BE APPLIED. FULLY EQUIPPED SEATS (I.E. SAFETY EQUIPMENT FITTED) ARE NOT TO BE TILTED AND/OR ROTATED AS THE SEAT STAND MAY BECOME UNSTABLE AND TOPPLE. IF THERE IS A REQUIREMENT TO TILT AND/OR ROTATE THE SEAT, THE SAFETY EQUIPMENT (IF FITTED) IS TO BE REMOVED IAW MP 29-30/1.**
- (2) **ONLY POST Mod. 02197 CARTRIDGE SETS (CARTRIDGE SET, EJECTION SEAT NO.16 MK.2, PART NO. MBEU 115904) ARE TO BE USED.**

Note . . .

During this procedure, before cartridges are refitted, the mating threads of all firing units/breeches are to be examined and the firing units screwed fully in to ensure there is no obstruction.

3. PREPARATION

- | | | |
|------------|--------------------------|--|
| 3.1 | Ejection seat cartridges | |
| | | (i) Examine |
| | | (ii) Ensure correct modification state for seat
being installed |
| | | (iii) Ensure correct number and items for seat |

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- (iv) Ensure marked with the aircraft number, installed position, installed life expiry date and lot number

CAUTION . . .

Fracture of a propellant charge, inside a motor, could be caused by impact such as that due to falling from bench height or greater. If a rocket motor has suffered accidental impact it should be quarantined and the Engineering Authority informed, who may arrange for a detailed examination, including x-ray, before being considered for flight use.

Note . . .

The propellant loaded into rocket motors is a clearance fit at ambient temperature. This ensures it is not subjected to high stresses when it expands at elevated temperature. It must also be noted that the propellant will contract at low temperature. Consequently, the propellant and metallic grids can be heard to move when the rocket motor is handled. The 'rattle' which will vary between motors, is normal and is no cause for concern.

- | | | |
|------------|---|---|
| 3.2 | Rocket pack | <ul style="list-style-type: none">(i) Ensure serial number on identity plate is correct item for the seat and corresponds to its F6581 and LITS record(ii) Ensure marked with the installed life expiry date(iii) Examine as far as possible(iv) Ensure the firing unit screws in hand-tight without restriction(v) Remove the rocket efflux nozzle protection caps (4 off), if fitted(vi) Inspect the efflux nozzle blow-out discs to ensure they are not broken or damaged |
| 3.3 | Ejection gun and time-delay firing unit | Ensure the correct items for the seat |
| 3.4 | Emergency oxygen gauge | Ensure indicates FULL |
| 3.5 | Leg and arm restraint snubbing units | Operate |
| 3.6 | Leg restraint line taper plugs | <ul style="list-style-type: none">(i) Insert into their housings(ii) Ensure held securely |
| 3.7 | Man portion dust cover | <ul style="list-style-type: none">(i) Remove, ensuring the leg lines release(ii) Attempt to refit leg lines ensuring they do not lock in housing(iii) Refit man portion dust cover |

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- | | | |
|-------------|--|---|
| 3.8 | Go-forward mechanism | Operate |
| 3.9 | Seat linkages | Examine |
| 3.10 | Upper harness locking plungers (LH and RH) | Ensure locking plungers are fully extended with the top of the plunger touching the top surface of the recess |

WARNING . . .

DURING Item 3.11, LUBRICATION OF THE COMMAND FIRING CONNECTOR BALL BEARINGS IS CARRIED OUT BY USING GREASE (XG-293). REFER TO THE OILS AND LUBRICANTS WARNING IN THE PRELIMINARY PAGES OF THIS PUBLICATION.

- | | | |
|-------------|---|--|
| 3.11 | Command firing connector ball bearing (3 off) | (i) Examine
(ii) Ensure lubricated with grease (XG-293) |
|-------------|---|--|

Note . . .

Item 3.12 is applicable to post Mod. 02556 installations only.

- | | | |
|-------------|-----------------|---|
| 3.12 | HMCS seat cable | (i) Ensure aircraft/seat connector lanyard is connected to ejection seat lanyard P-clip (<u>Fig. 2</u>)
(ii) Ensure cable P-clips correctly attached to seat and the rubber grommets are correctly positioned
(iii) Ensure seat/man connector correctly fitted to retention clip with alignment indicator outboard and lanyard attached to ejection seat lanyard P-clip (<u>Fig. 3</u>)
(iv) Ensure seat/man connector dust cap fitted
(v) Ensure aircraft/seat connector correctly fitted in rear P-clip with alignment indicator positioned aft (<u>Fig. 2</u>) |
|-------------|-----------------|---|

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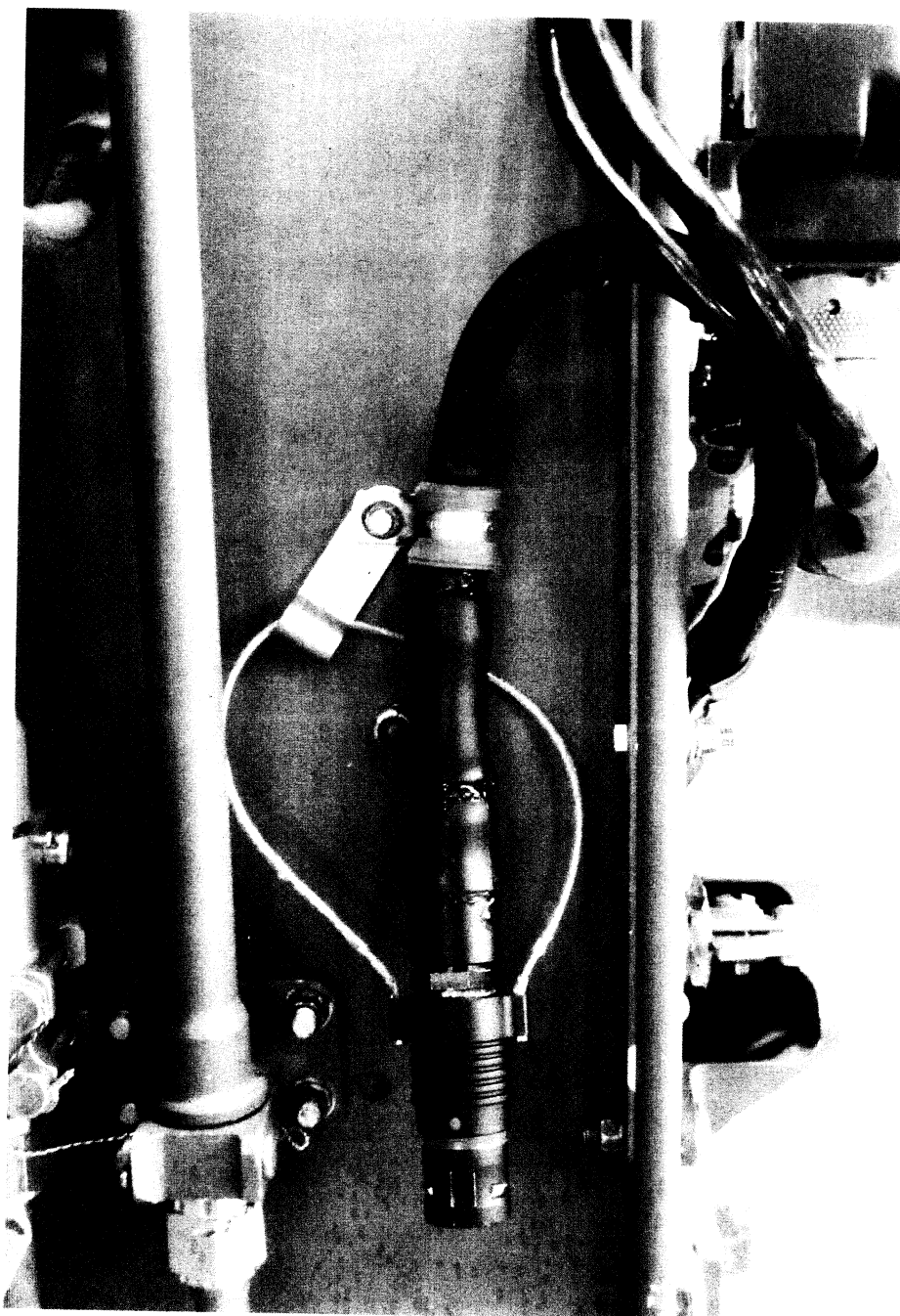


Fig. 2. Aircraft cable routeing
(New illustration)

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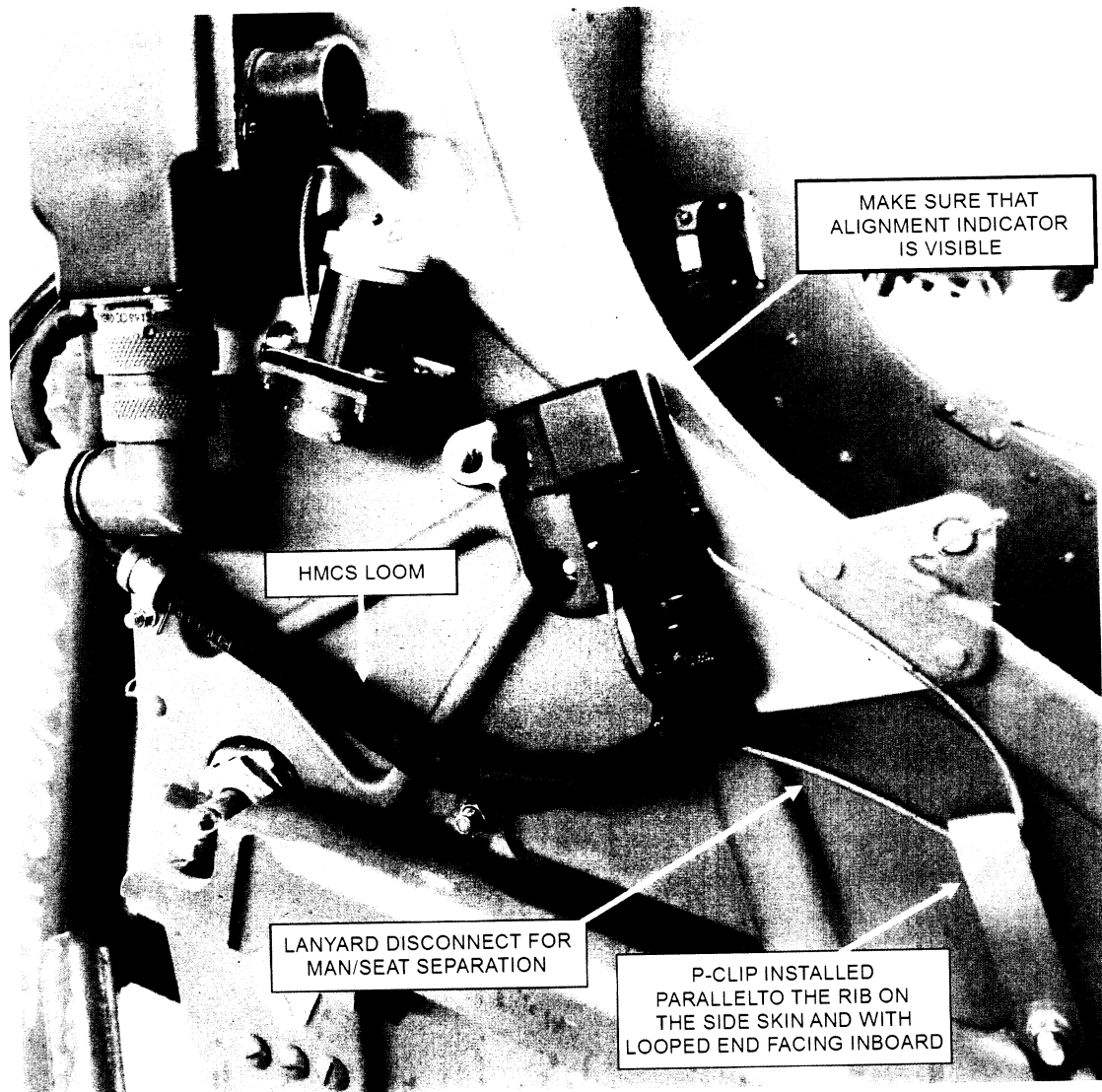


Fig. 3. Man/seat connection
(New illustration)

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(end of work block)

WEAPONS

4. ROCKET PACK

4.1 Firing unit

- (i) Ensure bay maintained
- (ii) Ensure firing pin not protruding

4.2 Cartridge

- (i) Ensure the correct modification state for the seat being installed
- (ii) Fit to firing unit

4.3 Firing unit

- (i) Fit
- (ii) Torque tighten to 55 N.m
- (iii) Lock with wire to the propellant tube

Note . . .

During Item 4.4, ensure the correct bolts are used when securing the rocket pack RH MBEU 60566 and LH MBEU 60565.

4.4 Rocket pack

- (i) Position under the seat pan
- (ii) Loosely connect remote rocket initiator flexible hose
- (iii) Insert the mounting bolts and ensure flexible hose routed correctly (Fig. 4)

4.5 Rocket pack mounting bolts

- (i) Torque tighten to 10 N.m
- (ii) Lock with wire

4.6 Rocket pack fixed link arm

- (i) Align with the bracket eye end
- (ii) Refit the clevis pin and a new split pin, ensuring the split pin is positioned outboard of the seat pan attachment bracket (Fig. 5)

4.7 Remote rocket initiator flexible hose

- (i) Torque tighten to 21 N.m
- (ii) Lock with wire

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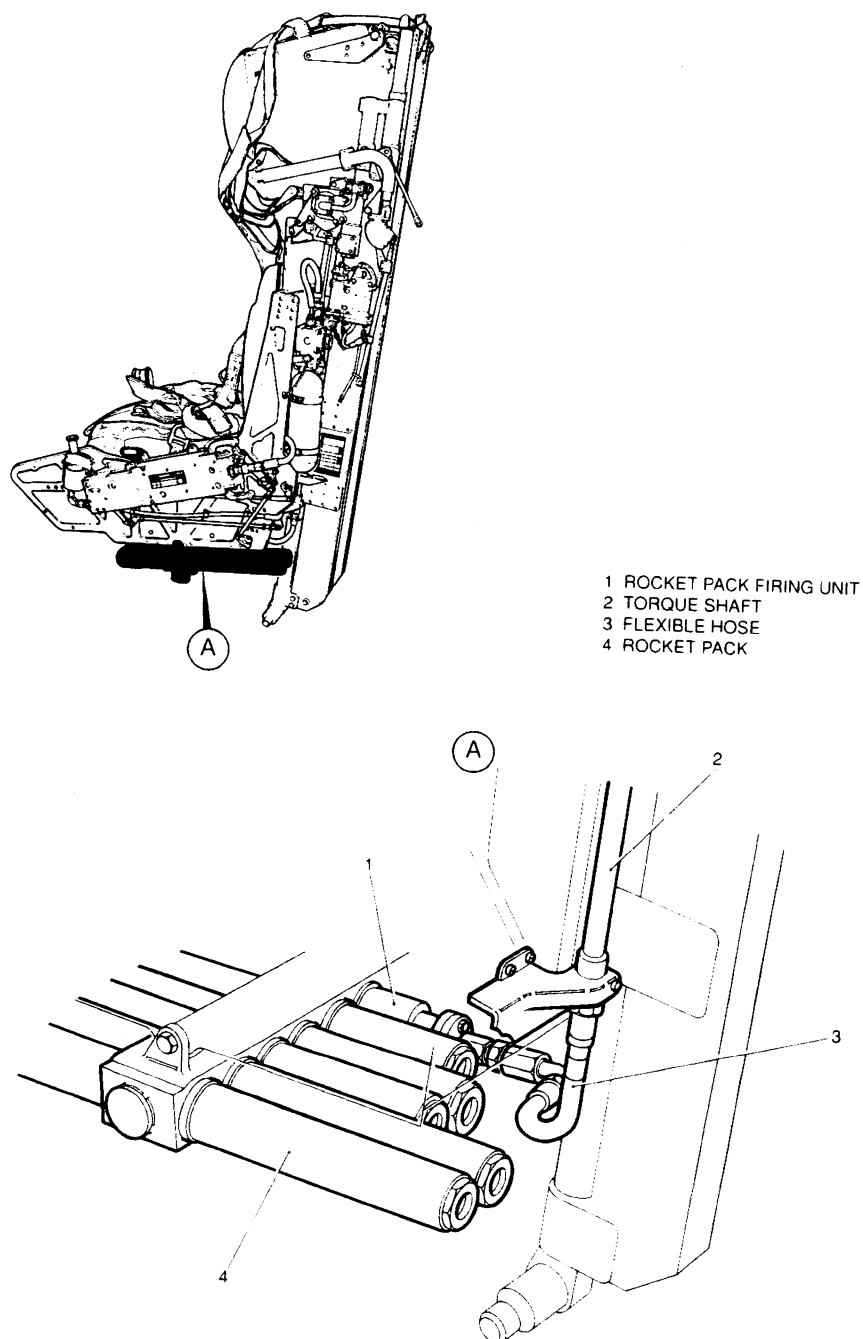


Fig. 4. Flexible hose route

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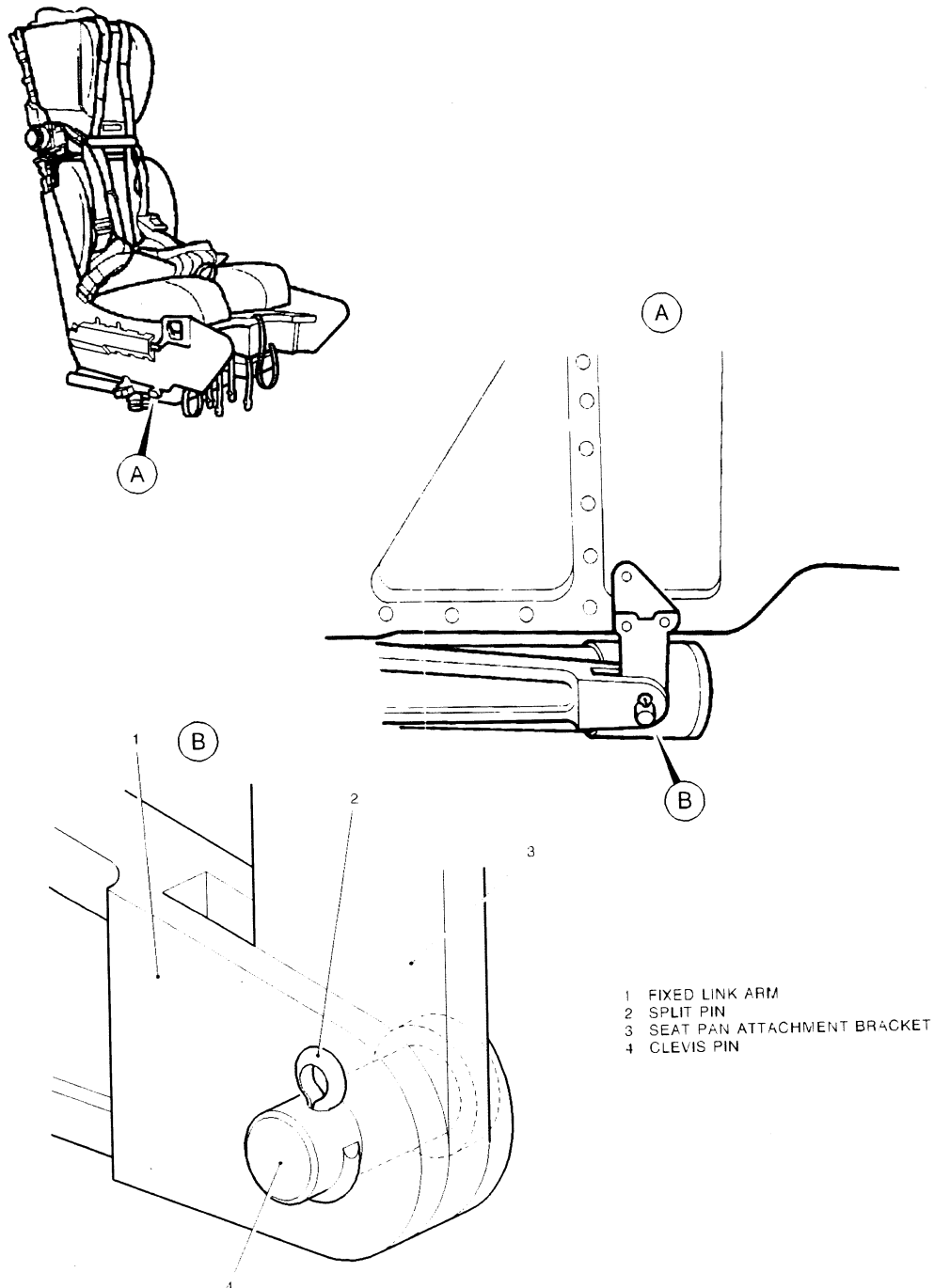


Fig. 5. Rocket pack fixed link arm attachment

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(end of work block)

WEAPONS

5. DROGUE GUN

- | | | |
|-----|-----------------------|--|
| 5.1 | Barrel | Remove (if fitted) |
| 5.2 | Secondary firing unit | Remove |
| 5.3 | Secondary cartridge | (i) Ensure the correct modification state for the seat being installed
(ii) Insert into breech |
| 5.4 | Secondary firing unit | (i) Ensure firing pin is not protruding
(ii) Ensure shear pin is intact
(iii) Refit to breech
(iv) Torque tighten to 28 N.m
(v) Lock with wire |

(end of work block)

WEAPONS

6. REMOTE ROCKET INITIATOR

WARNING . . .

PRIOR TO CARRYING OUT THE ACTIONS DETAILED AT Item 6.1 TO Item 6.4 INCLUSIVE, ENSURE THE TELESCOPIC PIPE ASSEMBLY IS DISCONNECTED IAW MP 29-10/2 ITEM 12.5(a).

- | | | |
|-----|-------------|---|
| 6.1 | Firing unit | Remove from the breech |
| 6.2 | Cartridge | (i) Ensure the correct modification state for the seat being installed
(ii) Insert into the breech |
| 6.3 | Firing unit | (i) Ensure the firing pin is not protruding |

- (ii) Ensure the firing pin roller is correctly centred on the sear and sitting within the inclined surface of the sear
- (iii) Refit to the breech
- (iv) Torque tighten to 28 N.m

- | | | |
|------------|--------------------------|----------------------------------|
| 6.4 | Firing unit | Lock with wire |
| 6.5 | Firing link | Ease the sear and reconnect |
| 6.6 | Telescopic pipe assembly | Connect and fit the securing pin |

WEAPONS

7.1	Firing unit	Remove from the breech
------------	-------------	------------------------

- | | | |
|------------|-------------|--|
| 7.2 | Cartridge | <ul style="list-style-type: none"> (i) Ensure the correct modification state for the seat being installed (ii) Insert into the breech |
| 7.3 | Firing unit | <ul style="list-style-type: none"> (i) Ensure the firing pin is not protruding (ii) Ensure the shear pin is intact (iii) Refit to the breech (iv) Torque tighten to 28 N.m (v) Lock with wire |

WEAPONS

8.1	Manual separation firing link guard	Remove (if applicable)
------------	-------------------------------------	------------------------

- | | | |
|------------|-------------|--|
| 8.2 | Firing link | <ul style="list-style-type: none"> (i) Disconnect and separate from the seat (ii) Secure to seat pan |
|------------|-------------|--|

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- 8.3** Firing unit Remove from the breech
- 8.4** Cartridge
- (i) Ensure the correct modification state for the seat being installed
 - (ii) Insert into the breech
- 8.5** Firing unit
- (i) Ensure the firing pin is not protruding
 - (ii) Ensure the firing pin roller is correctly centred on the sear and sitting within the inclined surface of the sear
 - (iii) Refit to the breech
 - (iv) Fit the spanner and torque tighten to 28 N.m
 - (v) Lock with wire
- 8.6** Manual separation firing linkage Reconnect to the sear using nut and bolt

(end of work block)

WEAPONS NCO

9. VITAL CHECKS

- 9.1** Manual separation unit firing unit Ensure refitted correctly and locked with wire
- 9.2** Manual separation firing linkage Ensure connected to the sear correctly

(end of work block)

WEAPONS

10. MANUAL SEPARATION FIRING LINK GUARD

Note ...

Sub-item Item 10.1(ii) is applicable to post Mod. 02556 installations only.

- 10.1** Manual separation firing link guard
- (i) Refit
 - (ii) Ensure P-clip is attached parallel to seat pan rib and that the looped end faces inboard (Fig. 3)

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Note . . .

Item 10.2 is applicable to post Mod. 02556 installations only.

- | | | |
|-------------|---------------------------------|---|
| 10.2 | HMCS man/seat connector lanyard | Ensure correctly attached to P-clip (<u>Fig. 3</u>) |
|-------------|---------------------------------|---|

(end of work block)

WEAPONS

11. SEAT PAN FIRING UNIT

- | | | |
|-------------|--------------------------|--------|
| 11.1 | Firing handle safety pin | Remove |
|-------------|--------------------------|--------|

CAUTION . . .

To avoid distorting the firing handle linkage, the firing handle is to be removed from its housing prior to fitting the seat pan firing unit.

- | | | |
|-------------|------------------------|--|
| 11.2 | Seat pan firing handle | Carefully remove from its housing |
| 11.3 | Safety pin | Refit to lock manual separation handle |
| 11.4 | Firing unit | Remove from breech |
| 11.5 | Cartridge | <ul style="list-style-type: none">(i) Ensure the correct modification state for the seat being installed(ii) Insert into breech |
| 11.6 | Firing unit | <ul style="list-style-type: none">(i) Ensure firing pin is not protruding(ii) Ensure the firing pin roller is correctly centred on the sear and sitting within the inclined surface of the sear(iii) Refit to breech(iv) Fit spanner with slot at the same side as sear and torque tighten to 28 N.m(v) Lock with wire |
| 11.7 | Seat pan firing handle | <ul style="list-style-type: none">(i) Remove safety pin(ii) Refit into its housing(iii) Refit safety pin and ensure fully inserted |

CAUTION . . .

During Item 11.8, care must be taken to ensure bolt passes through sear attachment hole.

11.8 Firing link Reconnect to sear using nut and bolt

(end of work block)

12. EJECTION GUN

- | | | |
|-------------|----------------------|--|
| 12.1 | Housing caps | Remove |
| 12.2 | Housings | Inspect water seal and replace if necessary |
| 12.3 | Secondary cartridges | <ul style="list-style-type: none"> (i) Ensure the correct modification state for the seat being installed (ii) Refit |
| 12.4 | Housing caps | <ul style="list-style-type: none"> (i) Refit (ii) Lock with wire |

(end of work block)

13. VITAL CHECKS

- | | | |
|-------------|---------------------------|--|
| 13.1 | Ejection gun housing caps | Ensure refitted correctly and locked with wire |
|-------------|---------------------------|--|

(end of work block)

CAUTION . . .

14. EJECTION GUN INSTALLATION

- | | | |
|-------------|--------------------------------|---------|
| 14.1 | Ejection gun mounting brackets | Examine |
|-------------|--------------------------------|---------|

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Note . . .

During Item 14.2, if difficulty is experienced in aligning the upper bracket, the bolts securing it may be loosened, the mounting bolts fitted and the bracket bolts retightened and torque tighten to 5 N.m.

14.2 Ejection gun

Locate in mounting brackets

14.3 Lower mounting bolt

- (i) Refit using self-locking nut
- (ii) Using a feeler gauge, check a clearance of 0,1 mm exists between outer face of lower bracket and self-locking nut

Note . . .

Sub-Item 14.3 (iii) and (iv) need only be carried out where the clearance is less than 0,1 mm.

- (iii) Remove self-locking nut and retain

WARNING . . .

**IN SUB-Item 14.3 (iv),
LOCTITE 222 IS APPLIED TO
THE LOWER MOUNTING
BOLT. REFER TO THE
ANAEROBIC ADHESIVES
WARNING IN THE
PRELIMINARY PAGES OF
THIS PUBLICATION.**

- (iv) Apply Loctite (DAP 101B-4100-6A Chap.14-72) to bolt thread and refit existing self-locking nut, ensure a minimum clearance of 0,1 mm

CAUTION . . .

During Item 14.4, ensure the correct bolts are used when securing the ejection gun upper mounting bracket. These are:

- long bolt Pt. No.P-720182-007 (front seat) stamped 'F'
- short bolt Pt. No.P-720182-009 (rear seat) stamped 'R'

These bolts are NOT interchangeable.

14.4 Upper mounting bolt

- (i) Refit using self-locking nut
- (ii) Using a feeler gauge, check a clearance of 0,1 mm exists between the outer face of the upper bracket and the self-locking

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nut

Note . . .

Sub-Item 14.4 (iii) and (iv) need only be carried out where the clearance is less than 0,1 mm.

- (iii) Remove the self-locking nut and retain

WARNING . . .

**IN SUB-Item 14.4 (iv),
LOCTITE 222 IS APPLIED TO
THE UPPER MOUNTING
BOLT. REFER TO THE
ANAEROBIC ADHESIVES
WARNING IN THE
PRELIMINARY PAGES OF
THIS PUBLICATION.**

- (iv) Apply Loctite (DAP 101B-4100-6A Chap.14-72) to the bolt thread and refit existing self-locking nut, ensure a minimum clearance of 0,1 mm

Note . . .

Item 14.5 is only applicable if the command ejection flexible pipe has not been removed for bay maintenance.

- 14.5** Command ejection flexible pipe Examine

Notes . . .

- (1) Operations 14.6 and 14.7 are only applicable if the command ejection flexible pipe has been removed for bay maintenance.
- (2) If pipe assemblies MBEU60035 (front cockpit) and MBEU60042 (rear cockpit) are of Aeroquip manufacture (Chap. 29-00), fit in accordance with Chap. 29-10, Para. 3.4.

- 14.6** Command ejection flexible pipe - front **CAUTION . . .**

Sub-Item 14.6(ii) is applicable to the trainer variant only and is carried out to prevent a potential fouling between the rear rudder bars and flexible hose assembly

- (i) Long pipe with 90-degree angled union fit to front cockpit bulkhead and lock with wire
- (ii) Front cockpit: ensure the angled fitting at the airframe connection is aligned 25

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degrees from the vertical towards the
ejection seat

- | | | |
|--------------|---|--|
| 14.7 | Command ejection flexible pipe - rear | Short pipe with 45-degree angled union fit to rear cockpit bulkhead and lock with wire |
| 14.8 | Command ejection quick-disconnect | <ul style="list-style-type: none">(i) Remove blank(ii) Examine(iii) Ensure freedom of movement of spring components |
| 14.9 | Command ejection quick-disconnect static line | Reconnect to the ejection gun cross-beam forward anchorage bracket. Ensure positive locking of the securing pin by attempting to withdraw the pin without depressing the plunger |
| 14.10 | Time-delay firing unit | Ensure removed |
| 14.11 | Inner piston | Ensure: <ul style="list-style-type: none">(i) The V shaped grooves, for locating upper cross member dowel pin, are aligned with the centre of the ejection gun guide rails (Fig. 6)(ii) The centre of the breech groove is aligned with the centre of the top latch window (Fig. 6) |

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~~NATO RESTRICTED~~

- 1 INNER PISTON 'V' SHAPED GROOVE
- 2 INNER PISTON BREECH GROOVE
- 3 TOP LATCH WINDOW

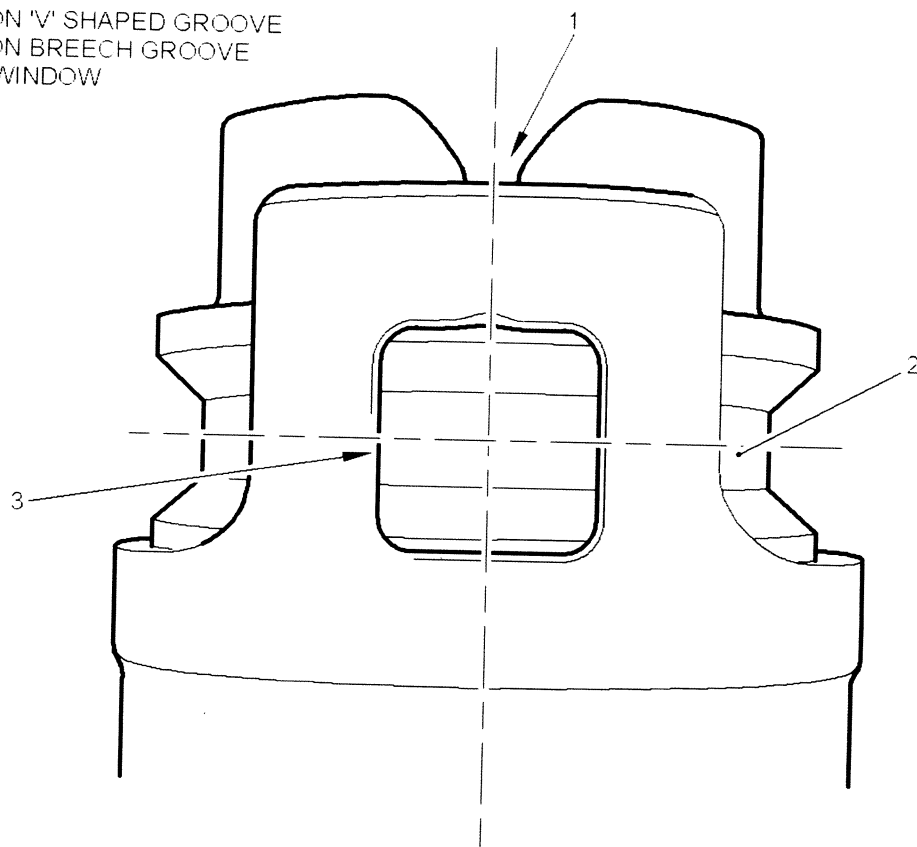


Fig. 6. Correct alignment of inner piston V shaped grooves, inner piston breech groove and outer cylinder top latch window

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(end of work block)

ELECTRICAL

Note . . . Item 15.1 is only applicable to rear seat installations and is to be completed regardless
of the relay box being disconnected or not.

15. RELAY BOX 318VE AND 319VE

- 15.1** Relay box 318VE and 319VE
- (i) Refit (Chap.80-10)
 - (ii) Carry out post installation test (MP 80-10/18A)

(end of work block)

WEAPONS NCO

16. VITAL CHECKS

- 16.1** Rocket pack
- (a) Pack Ensure fitted correctly and locked with wire
 - (b) Firing unit Ensure fitted correctly and locked with wire
 - (c) Remote rocket initiator flexible hose Ensure routed correctly (Fig. 4) and locked with wire
 - (d) Fixed link clevis pin
 - (i) Ensure fitted
 - (ii) Ensure split pin is located outboard of the seat pan attachment bracket
 - (e) Rocket efflux nozzle protective caps (4 off) Ensure caps have been removed
- 16.2** Drogue gun
- (a) Drogue gun body Ensure refitted correctly
 - (b) Inlet connector pipe Ensure reconnected correctly and locked with wire
 - (c) Secondary cartridge firing unit Ensure refitted correctly and locked with wire

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- | | | |
|-------------|---|--|
| | (d) Trip rod | Ensure reconnected correctly with the support roller |
| 16.3 | Remote rocket initiator | |
| | (a) Initiator unit | Ensure refitted correctly |
| | (b) Firing unit | Ensure refitted correctly and locked with wire |
| | (c) Firing link | Ensure refitted correctly |
| 16.4 | Harness power retraction unit firing unit | Ensure refitted correctly and locked with wire |
| 16.5 | Seat pan firing unit | |
| | (a) Safety pin | Ensure refitted and fully inserted |
| | (b) Firing unit | Ensure refitted correctly and locked with wire |

CAUTION . . .

During sub-Item 16.5 (c), care must be taken to ensure the seat pan firing unit sear is correctly oriented, and the firing link/sear attachment bolt has passed correctly through the sear bolt hole.

- | | | |
|-------------|---|--|
| | (c) Firing link | Ensure reconnected correctly. |
| 16.6 | Manual separation unit | |
| | (a) Deleted | |
| | (b) Deleted | |
| | (c) Manual separation handle | Ensure in the locked position |
| | (d) Manual separation firing link guard | Ensure fitted correctly |
| 16.7 | Emergency oxygen cylinder | |
| | (i) | Ensure refitted correctly |
| | (ii) | Ensure the contents gauge indicates FULL |

Note . . .

Item 16.8 is applicable to post Mod. 02556 installations only.

- | | | |
|-------------|-----------------|---|
| 16.8 | HMCS seat cable | |
| | (i) | Ensure rear connector lanyard is connected to ejection seat lanyard P-clip (Fig. 2) |

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- (ii) Ensure P-clips are correctly attached to seat and the rubber grommets are correctly positioned
- (iii) Ensure seat/man cable connector correctly fitted to retention clip with alignment indicator positioned outboard (Fig. 3)
- (iv) Ensure seat/man connector dust cap correctly fitted
- (v) Ensure aircraft/seat connector is correctly fitted in P-clip with alignment indicator positioned aft (Fig. 2)
- (vi) Ensure seat/man connector lanyard is correctly attached to P-clip and P-clip is attached parallel to seat pan rib looped end facing inboard (Fig. 3)

- | | | |
|--------------|--|---|
| 16.9 | Command ejection flexible pipe - front | Ensure the long pipe with a 90-degree angled union is fitted to the front cockpit bulkhead and locked with wire |
| 16.10 | Command ejection flexible pipe - rear | Ensure the short pipe with a 45-degree angled union is fitted to the rear cockpit bulkhead and locked with wire |
| 16.11 | Ejection gun | <p>Ensure:</p> <ul style="list-style-type: none">(i) Refitted correctly(ii) The V shaped grooves, for locating upper cross member dowel pin, are aligned with the centre of the ejection gun guide rails (Fig. 6)(iii) The centre of the breech groove is aligned with the centre of the top latch window (Fig. 6)(iv) Command ejection quick-disconnect static line. Ensure reconnected to the cross-beam forward anchorage bracket. Ensure positive locking of the securing pin by attempting to withdraw the pin without depressing the plunger |

(end of work block)

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WEAPONS

17. EJECTION SEAT INSTALLATION

Note . . .

Item 17.1 to 17.4 inclusive are applicable only if one ejection seat is already installed or if the canopy jettison or MDC systems are armed.

17.1	Ejection seat	Ensure a safety pin is fully inserted in seat pan firing handle
17.2	Canopy jettison system	Ensure a safety pin is fitted in canopy jettison initiator unit
17.3	Miniature detonating cord (MDC) system	Ensure a safety pin is fitted in each MDC cord initiator unit
17.4	Command ejection controller	Ensure set to REAR
17.5	MDC trip rod	Examine MDC cross-shaft trip rod lever (P721143-001) for signs of cracking using a suitable light source, mirror and x10 magnifier
17.6	Cockpit	Look for loose articles
17.7	Leg and arm restraint floor anchorage brackets	Examine
17.8	PEC static line anchorage bracket	Examine
17.9	Seat stabilizing brackets	Examine
17.10	Head spray connections	Examine
17.11	PEC	
	(a) Aircraft portion	Remove protective cover
	(b) Supply hoses	Examine
	(c) MIC/TEL lead	Examine
	(d) Static line	Examine
	(e) Oxygen valve	Operate and ensure freedom of movement
	(f) Static line	Reconnect to floor anchorage. Ensure routed correctly (Chap.25-11). Ensure quick release pin (QRP) is correctly locked (lock lever at nominal 90 degrees to axis of pin and anodised lock button protruding). Without touching anodised lock button, take up free play in lock lever and

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attempt to withdraw pin. The pin must be securely retained

CAUTION . . .

To prevent the possibility of damaging the front face of the top latch window housing it is essential the handwheel is fully screwed in.

17.12 Ejection seat

- (i) Fit the lifting sling
- (ii) Ensure the handwheel is screwed in fully

(end of work block)

WEAPONS NCO

18. VITAL CHECK

18.1 Handwheel

Ensure fully screwed in

(end of work block)

WEAPONS

19. EJECTION SEAT INSTALLATION

CAUTIONS . . .

- (1) **To prevent damage to the seat pan actuator/IFF socket connector (2MG front seat, 4MG rear seat) pull-off lanyard, ensure it will not be trapped when the ejection seat is lowered into position.**
- (2) **During lowering of seat, ensure the dowel pin, on the right hand inside face of the main beam upper cross member, locates in the V shaped groove of the inner piston of the ejection gun.**
- (3) **Post Mod. 02555B aircraft only: To prevent damage to the HMCS cockpit floor cable and pull-off lanyard, ensure the connector is fitted to the stowage and the cable and lanyard will not be trapped when the ejection seat is lowered into position.**

19.1 Ejection seat

- (i) Raise to position above the guide rails
- (ii) Examine seat actuator and ensure actuator cable is routed correctly

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- | | | |
|-------------|---------------------------|--|
| 19.2 | Lower slippers | Engage in the guide rails and lower seat, engaging each set of slippers in turn |
| 19.3 | Ejection gun inner piston | Ensure protruding through the upper cross member and the dowel pin on the right hand inside face of the upper cross member is located in the V shaped groove of the inner piston (<u>Fig. 7</u>) |
| 19.4 | Handwheel | Remove from the top latch plunger |

WARNING . . .

FAILURE TO ENSURE CORRECT ENGAGEMENT OF THE TOP LATCH PLUNGER COULD, DURING CERTAIN MANOEUVRES, RESULT IN THE SEAT AND OCCUPANT MOVING UP THE GUIDE RAILS WITH POSSIBLE FATAL RESULTS.

- | | | |
|-------------|---------------|--|
| 19.5 | Top latch | <ul style="list-style-type: none">(i) Ensure the indicator spigot is flush with, or slightly protruding from the face of the top latch plunger(ii) Ensure the top latch plunger is flush with, or slightly below, the plunger housing face (<u>Fig. 8</u>) and (<u>Fig. 9 and 10</u>) |
| 19.6 | Lifting sling | Remove |

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- 1 DOWEL PIN
- 2 INNER PISTON
- 3 UPPER CROSS MEMBER

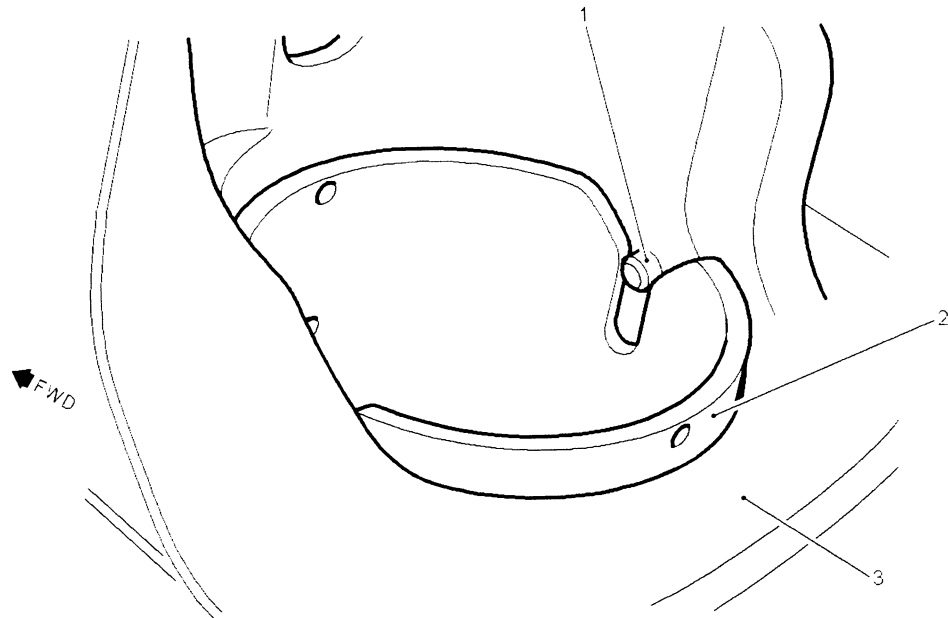


Fig. 7. Correct protrusion of inner piston through upper cross members and correct location of dowel pin in V shaped groove

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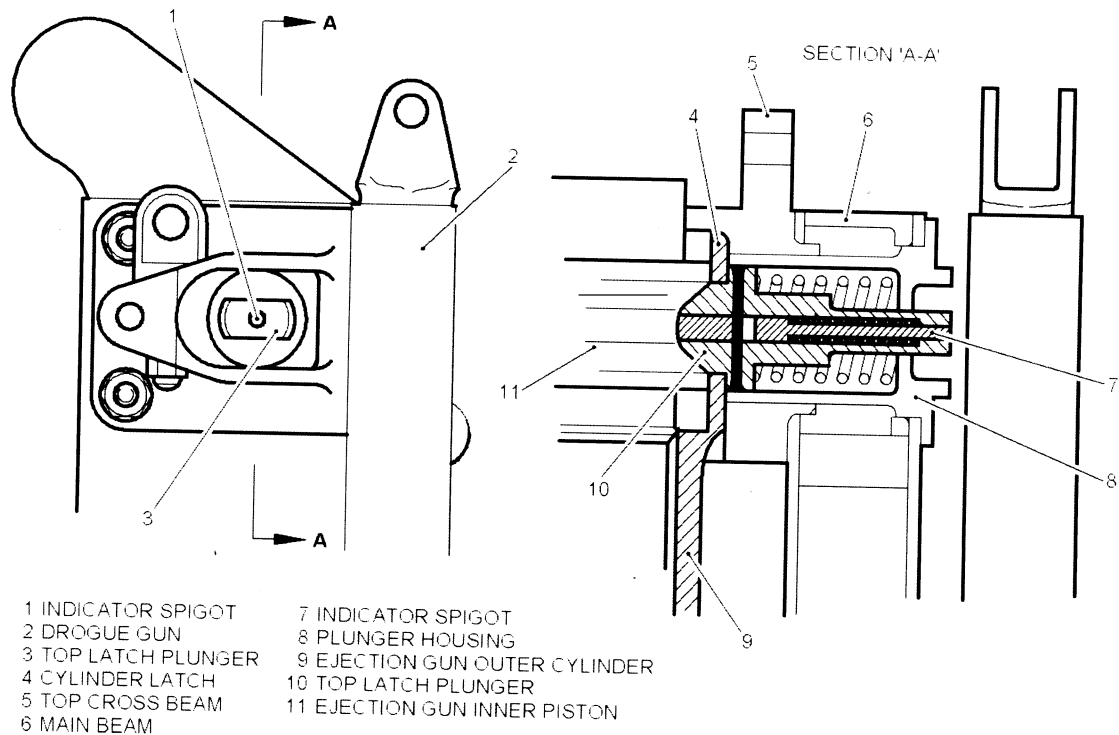


Fig. 8. Correct engagement of the top latch

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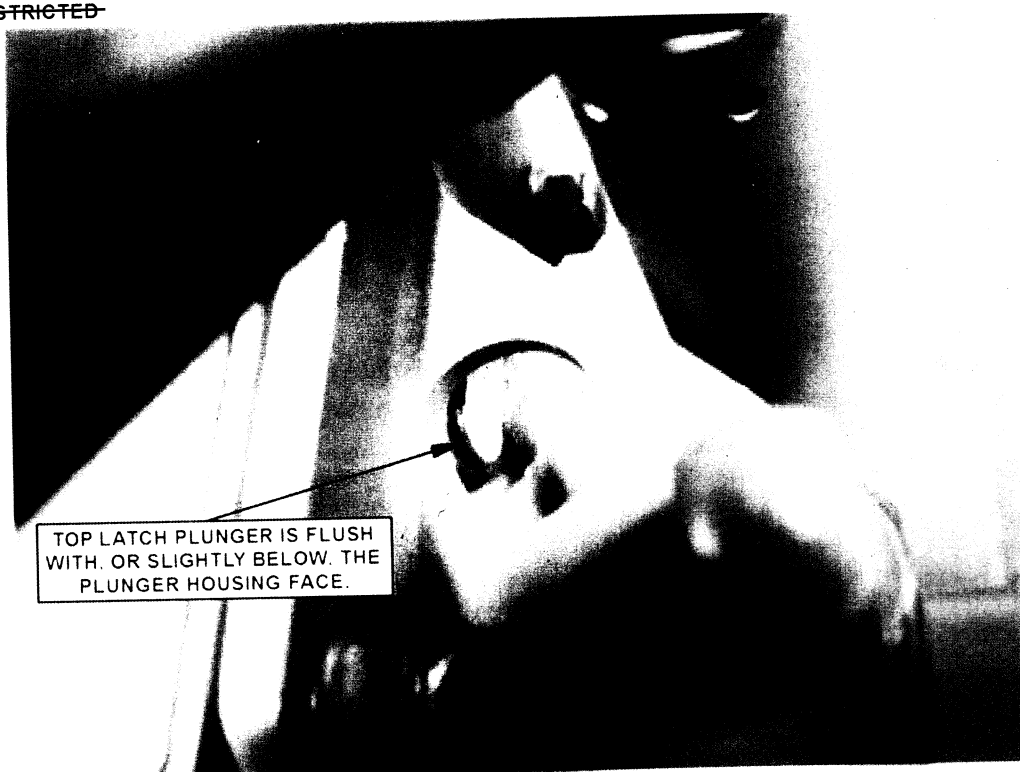


Fig. 9. Correct engagement of the top latch-plunger view

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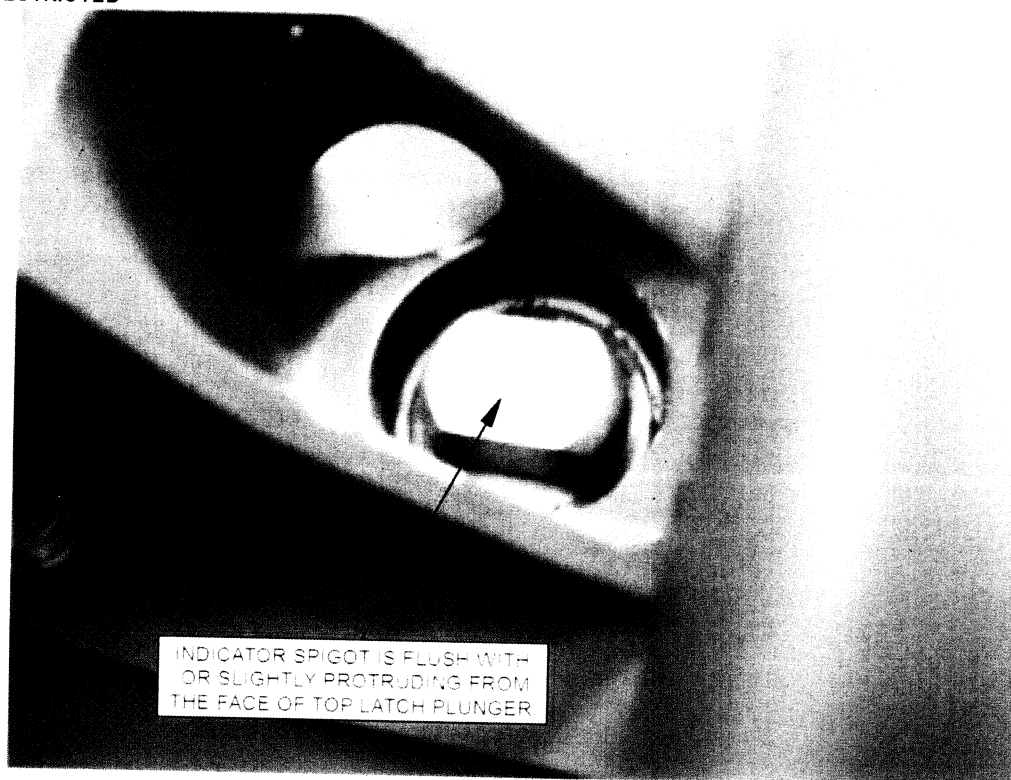


Fig. 10. Correct engagement of the top latch-spigot view

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(end of work block)

WEAPONS NCO

20. VITAL CHECKS

WARNING . . .

**FAILURE TO ENSURE CORRECT ENGAGEMENT OF THE TOP LATCH PLUNGER
COULD, DURING CERTAIN MANOEUVRES, RESULT IN THE SEAT AND OCCUPANT
MOVING UP THE GUIDE RAILS WITH POSSIBLE FATAL RESULTS.**

- | | | |
|-------------|---------------------------|---|
| 20.1 | Top latch | <ul style="list-style-type: none">(i) Ensure the indicator spigot is flush with, or slightly protruding from the face of the top latch plunger(ii) Ensure the top latch plunger is flush with, or slightly below, the plunger housing face (<u>Fig. 8</u>) and (<u>Fig. 9</u> and <u>10</u>) |
| 20.2 | Ejection gun inner piston | Ensure protruding through the upper cross member and the dowel pin on the right hand inside face of the upper cross member is located in the V shaped groove of the inner piston (<u>Fig. 7</u>) |

(end of work block)

WEAPONS

21. SEAT STRUCTURE CONNECTION

- | | | |
|-------------|---------------------------------------|--|
| 21.1 | Drogue gun trip rod | <ul style="list-style-type: none">(i) Examine(ii) Reconnect to the trip rod attachment bracket(iii) Check orientation of connections: yellow pin head, white anchorage lug, yellow trip rod, white anchorage lug(iv) Ensure positive locking of the securing pin by attempting to withdraw the pin without depressing the plunger |
| 21.2 | Barostatic time-release unit trip rod | <ul style="list-style-type: none">(i) Examine |

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- (ii) Reconnect to the trip rod attachment bracket rear anchorage point
- (iii) Check orientation of connections: yellow pin head, white anchorage lug, yellow trip rod, white anchorage lug
- (iv) Ensure positive locking of the securing pin by attempting to withdraw the pin without depressing the plunger

CAUTION . . .

The MDC trip rod is assembled with a shear pin which is designed to fail just after the MDC has been fired. The condition of this shear pin is critical to the correct functioning of the escape system and, because of this, the trip rod must be replaced at the slightest suspicion of damage.

21.3 MDC trip rod

- (i) Check the roller for freedom of movement by rotating the roller slowly under finger pressure
- (ii) Reconnect to the cross-shaft
- (iii) Ensure the roller is just touching the tongue of the lever attached to the cockpit cross-shaft
- (iv) Ensure clevis pins (1), washers (2) and split pins (3) are orientated as shown (Fig. 11)

21.4 Aircraft

Ensure electrically safe. (Check circuit-breaker (CB) 122 and 165 tripped)

Note . . .

When carrying out Item 21.5, socket connector 2MG/4MG is correctly reconnected when a contrasting colour stripe under the coupling ring is visible. The contrasting colour stripe is only visible when the fully mated condition is achieved.

21.5 Seat pan actuator/IFF socket connector (2MG front seat, 4MG rear seat)

- (i) Remove from its stowage
- (ii) Examine
- (iii) Reconnect to the mating plug connector

Note . . .

Item 21.6 is only applicable when fitting pre Mod. 02556 ejection seats to post Mod. 02555B installations.

21.6 HMCS cockpit floor cable

Ensure stowed

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Note . . . Item 21.7 is only applicable when fitting post Mod. 02556 ejection seats to post Mod. 02555B installations.

21.7 HMCS cockpit floor cable

- (i) Ensure HMCS cockpit floor cable and lanyard are routed outboard of seat actuator/IFF lanyard and underneath seat actuator/IFF cable (Fig. 1)
- (ii) Ensure HMCS cockpit floor cable and seat cable connector indicator marks are aligned
- (iii) Ensure HMCS cockpit floor and seat cable connector are correctly connected and red witness mark not visible
- (iv) Route HMCS cockpit floor cable inboard of the rocket pack 2 outer tubes (Fig. 12)

21.8 PEC aircraft portion

Reconnect to seat portion

21.9 Arm and leg restraint lines

- (i) Remove QRP from leg restraint line securing brackets
- (ii) Reconnect to floor anchorage. Ensure QRP is correctly locked (lock lever at nominal 90 degrees to axis of pin and anodised lock button is protruding). Without touching the anodised lock button, take up free play in lock lever and attempt to withdraw pin. The pin must be securely retained
- (iii) Ensure arm restraint line is secured to floor anchorage with long side of link uppermost and point facing forward
- (iv) Ensure roller is positioned to rear of floor anchorage
- (v) Ensure link rotates freely to a vertical position when arm restraint system is manually tensioned

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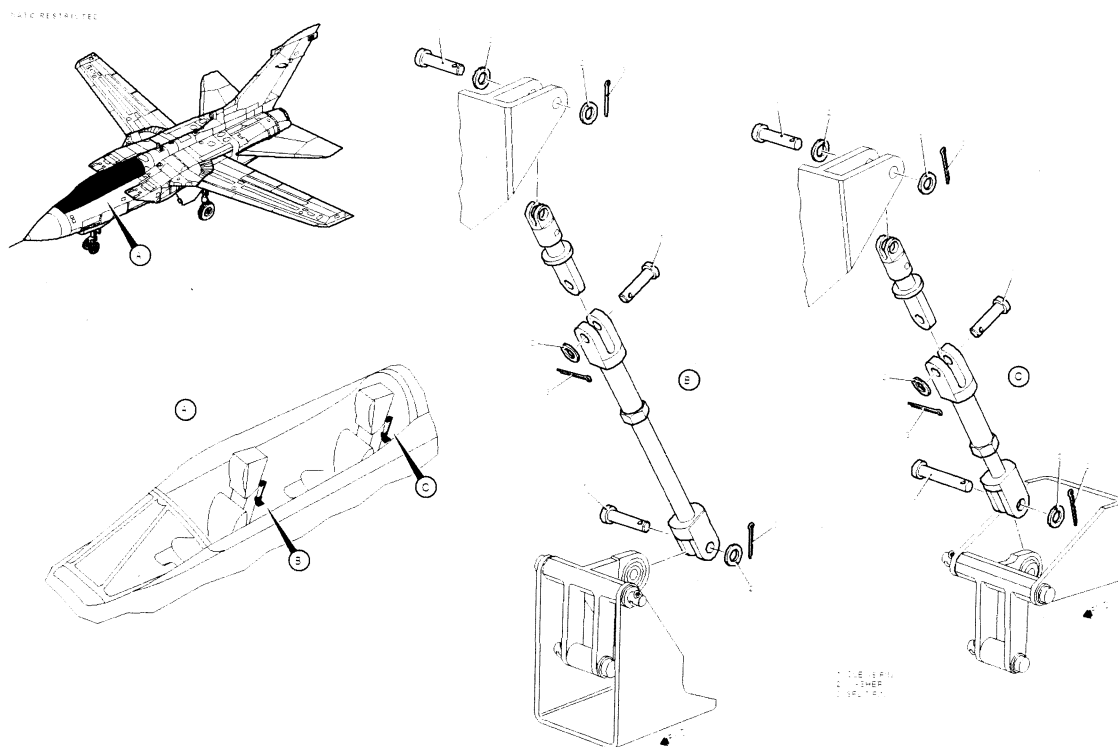


Fig. 11. MDC trip rods
(Illustration revised)

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Fig. 12. Aircraft cable routeing
(New illustration)

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(end of work block)

WEAPONS

22. BAROSTATIC TIME-RELEASE UNIT

- | | | |
|------|-------------|---|
| 22.1 | Breech | Remove from firing body |
| 22.2 | Cartridge | (i) Ensure the correct modification state for the seat being installed
(ii) Insert into breech |
| 22.3 | Firing body | Ensure the firing pin is not protruding |
| 22.4 | Breech | (i) Insert into firing body
(ii) Torque tighten to 28 N.m
(iii) Lock with wire |

(end of work block)

WEAPONS

23. EJECTION GUN

WARNING . . .

DURING Item 23.1, LUBRICATION OF THE PRIMARY CARTRIDGE O-SEAL IS CARRIED OUT BY USING GREASE (XG-293). REFER TO THE OILS AND LUBRICANTS WARNING IN THE PRELIMINARY PAGES OF THIS PUBLICATION.

- | | | |
|------|-------------------|---|
| 23.1 | Primary cartridge | (i) Ensure the correct modification state for the seat being installed
(ii) Fit new O-seal lubricated with grease (XG-293)
(iii) Insert into breech |
|------|-------------------|---|

Note . . .

It should be noted that the foil identification labels referred to in the following caution were removed under log modification 4326 and replaced with the details engraved onto

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the BTDFU. However some BTDFUs with foil identification labels may still remain in circulation.

CAUTIONS . . .

- (1) **During Item 23.2, care must be taken during the fitment of the time-delay firing unit to ensure the foil identification label is not damaged by the breech dowel pins, causing pieces of the label to fall onto the primary cartridge. Damaged labels must be replaced.**
- (2) **When screwing the BTDFU into the ejection gun, the drogue shackle link must be rotated forward to prevent the BTDFU rubbing against the link and eroding protective finish.**
- (3) **When the final torque tightening load is applied to the BTDFU, ensure the gas adaptor on top of the BTDFU is positioned such that it does not foul against the ejection seat upper cross member/gas shackle.**
- (4) **The lockwire from the BTDFU to the inner piston must not foul on the gas supply flexible hose or the quick-release pins that secure the gas supply flexible hose to the BTDFU gas adaptor.**

23.2 Time delay firing unit

- (i) Ensure the firing pin is not protruding
- (ii) Insert into breech past the dowel pins
- (iii) Torque load to 28 N.m
- (iv) Lock with wire, with the wire starting at the time delay firing unit and finishing at the ejection gun inner piston

23.3 Time-delay firing unit gas supply flexible hose

- (i) Remove pins
- (ii) Connect to the gas adaptor on top of the time-delay firing unit
- (iii) Fit the quick-release pins (2 off) to secure the hose to the time-delay firing unit. Ensure the ends of the quick-release pins (2 off) are not in contact with the castellations of the BTDFU or in contact with the lockwire
- (iv) Without depressing the release plunger, ensure the quick-release pins are correctly locked and free to move
- (v) If any of the above criteria cannot be met, remove the quick-release pins (2 off) and disconnect the gas pipe from the BTDFU
- (vi) Holding the gas pipe (MBEU 116671) rotate the connecting block (MBEU 111476) on the pipe to ease the repositioning of the quick-release pins

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- (vii) Refit the gas pipe to the BTDFU, refit the quick-release pins (2 off) and repeat the checks at 23.3 (iii) and (iv)

(end of work block)

WEAPONS

24. DROGUE GUN

- 24.1 Barrel
- Inspect water seal and replace if necessary

WARNING . . .

DURING Item 24.2, LUBRICATION OF THE PRIMARY CARTRIDGE O-SEAL IS CARRIED OUT BY USING GREASE (XG-293). REFER TO THE OILS AND LUBRICANTS WARNING IN THE PRELIMINARY PAGES OF THIS PUBLICATION.

- 24.2 Primary cartridge
- (i) Ensure the correct modification state for the seat being installed
 - (ii) Fit new O-seal lubricated with grease (XG-293)
 - (iii) Insert into the barrel
- 24.3 Firing body
- Ensure the firing pin is not protruding
- 24.4 Barrel
- (i) Remove shear pin
 - (ii) Screw barrel into drogue gun body
 - (iii) Torque tighten to 18 N.m
 - (iv) Turn the piston inside the barrel so that the hole in the piston fork is perpendicular to the ejection seat left hand main beam, with the fork threaded hole facing inboard. Turn the piston clockwise (looking down) so that the hole in the piston is aligned with the next available hole in the barrel
 - (v) Make a record of the piston position, relative to the barrel, with the piston and barrel holes in alignment
 - (vi) Unscrew the barrel sufficiently to allow installation of the shear pin in the aligned holes identified in step (v) and fit the pin with the head of the pin inboard. Splay the legs of the pin to lock the pin in position.

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- (vii) Torque tighten the barrel to 18 N.m and lock with wire
- (viii) Ensure the shear pin final position lies between being aligned perpendicular to the ejection seat left hand main beam, and rotated up to 60 degrees clockwise when looking down. The head of the pin is to be inboard.
- (ix) Ensure the piston position is such that the fork end groove lies between being aligned in the longitudinal axis of the aircraft and rotated up to 60 degrees in a clockwise direction when looking down

(end of work block)

WEAPONS

25. SAFETY EQUIPMENT

25.1	Safety equipment	Refit (MP 29-30/2)
------	------------------	--------------------

(end of work block)

WEAPONS

26. PROCEDURE

26.1	Head spray connections	Reconnect
26.2	Command ejection quick-disconnect	Reconnect to sequencing manifold ensuring red line on sequencing manifold is not visible when viewed from the horizontal

(end of work block)

WEAPONS NCO

27. VITAL CHECKS

27.1	Ejection seats	Ensure the safety pin is fully inserted in each seat pan firing handle
------	----------------	--

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- | | | |
|-------------|-----------------------------|---|
| 27.2 | Canopy jettison system | Ensure the safety pin is fitted in the canopy jettison initiator unit |
| 27.3 | MDC | Ensure a safety pin is fitted in each MDC initiator unit |
| 27.4 | Command ejection controller | Ensure set to REAR |

(end of work block)

ELECTRICAL

28. EXTERNAL POWER SUPPLY

- | | | |
|-------------|----------------------------|---|
| 28.1 | External a.c. power supply | Connect and switch ON (<u>Chap.55-40</u>) |
| 28.2 | CB 122 | Set (<u>Chap.55-50</u>) |

(end of work block)

WEAPONS NCO

29. VITAL CHECK

CAUTION . . .

Prolonged operation of the motor will cause overheating; the seat pan actuator must not be operated for more than 1 min in 8 min.

Note . . .

Sub-item 29.1(ii) is applicable to post Mod. 02556 installations only.

- | | | |
|-------------|-------------------|--|
| 29.1 | Seat pan actuator | <ul style="list-style-type: none">(i) Operate over the complete range, ensuring the aircraft portion PEC remains connected with the seat pan in the highest position(ii) Ensure HMCS cockpit floor cable remains connected to HMCS seat cable with the seat pan in the highest position |
|-------------|-------------------|--|

(end of work block)

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throughout the work detailed on this card

ELECTRICAL

30. EXTERNAL POWER SUPPLY

30.1 External a.c. power supply Switch OFF (Chap.55-40)

(end of work block)

WEAPONS NCO

31. VITAL CHECKS

31.1 Seat sequencing system telescopic pipes

- (i) Ensure reconnected correctly
- (ii) Ensure the securing pin has been refitted

31.2 BTRU

(a) Firing unit

Ensure refitted correctly and locked with wire

(b) Trip rod

- (i) Ensure reconnected to cross-beam rear anchorage point with trip rod (yellow) located between attachment bracket lugs (white) and securing pin (yellow head) positively located through attachment bracket and trip rod
- (ii) Ensure positive locking of the securing pin by attempting to withdraw the pin without depressing the plunger

31.3 Ejection gun time-delay firing unit

(a) Unit

Ensure refitted correctly and locked with wire, with the wire starting at the time delay firing unit and finishing at the ejection gun inner piston

31.4 Time-delay firing unit gas supply flexible hose

- (i) Ensure connected correctly
- (ii) Ensure the ends of the quick-release pins (2 off) are not in contact with the castellations of the BTDFU or in contact with the lockwire
- (iii) Without depressing the release plunger, ensure the quick-release pins are correctly locked and free to move

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31.5

Droque gun

(a) Piston

Ensure piston fork-end groove lies between being aligned with the aircraft longitudinal axis and rotated up to 60 degrees clockwise when looking down

(b) Special shear pin

Ensure fitted head inboard with end splayed. The shear pin position is to lie between being perpendicular to the ejection seat left hand main beam and rotated up to 60 degrees clockwise when looking down

(c) Barrel

Ensure refitted correctly and locked with wire

(d) Trip rod

- (i) Ensure reconnected to cross beam anchorage point with trip rod (yellow) located between attachment bracket lugs (white) and securing pin (yellow head) positively located through attachment bracket and trip rod
- (ii) Ensure positive locking of the securing pin by attempting to withdraw the pin without depressing the plunger
- (iii) Ensure remote rocket initiator static line has been reconnected

31.6

Remote rocket initiator telescopic pipe

- (i) Ensure reconnected correctly
- (ii) Ensure securing pin has been refitted

31.7

MDC trip rod

- (i) Ensure reconnected correctly
- (ii) Check the roller for freedom of movement by rotating the roller slowly under finger pressure
- (iii) Ensure roller is just touching tongue of lever attached to cockpit cross-shaft

31.8

PEC

(a) Aircraft portion

Ensure reconnected correctly

(b) Static line

Ensure reconnected and routed correctly to floor anchorage brackets. Ensure QRP is correctly locked (lock lever at nominal 90 degrees to axis of pin and anodised button is protruding). Without touching the anodised lock button, take up free play in lock lever and

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attempt to withdraw pin, the pin must be securely retained.

31.9 Leg and arm restraint lines

- (i) Ensure reconnected and routed correctly to floor anchorage brackets. Ensure QRP is correctly locked (lock lever at nominal 90 degrees to axis of pin and anodised button is protruding). Without touching the anodised lock button, take up free play in lock lever and attempt to withdraw pin, the pin must be securely retained
- (ii) Ensure arm restraint line is secured to floor anchorage with long side of link uppermost and point facing forward
- (iii) Ensure roller is positioned to rear of floor anchorage
- (iv) Ensure link rotates freely to a vertical position when arm restraint system is manually tensioned and lays flat, sufficiently so not to foul the rocket pack or any structure of the ejection seat when untensioned
- (v) Ensure the arm restraint lines are routed behind the PSP cushion stud fastened brackets

Note . . .

When carrying out Item 31.10, socket connector 2MG/4MG is correctly reconnected when a contrasting colour stripe under the coupling ring is visible. The contrasting colour stripe is only visible when the fully mated condition is achieved.

31.10

Seat pan actuator/IFF socket connector (2MG front seat, 4MG rear seat)

Ensure correctly reconnected to its mating plug connector

Note . . .

Item 31.11 is applicable to post Mod. 02556 installations only.

31.11

HMCS cockpit floor and seat cables

- (i) Ensure HMCS cockpit floor cable and lanyard are routed outboard of seat actuator/IFF lanyard and underneath seat actuator/IFF cable (Fig. 1)
- (ii) Ensure HMCS cockpit floor cable and seat cable connector indicator marks are aligned
- (iii) Ensure correctly connected and red witness marks are not visible

'HAZARD AND MAINTENANCE INFORMATION' (AP 101B-4104-5A2) is to be complied with throughout the work detailed on this card

		(iv) Ensure HMCS cockpit floor cable is routed inboard of the rocket pack 2 outer tubes (Fig. 12)
31.12	Command ejection quick-disconnect	(i) Ensure reconnected to seat manifold (ii) Ensure red line on seat manifold is not visible when viewed from the horizontal (iii) Ensure static line is reconnected to cross-beam forward anchorage point. Ensure positive locking of the securing pin by attempting to withdraw the pin without depressing the plunger
31.13	Parachute container	Ensure refitted correctly
31.14	Parachute withdrawal line lock	Ensure correctly located above the release mechanism
31.15	Drogue withdrawal shackle bolt	Ensure refitted correctly in the shackle
31.16	Gas-operated shackle safety tie	Ensure routed correctly and intact
31.17	Drogue withdrawal line	(i) Ensure routed correctly (ii) Ensure reconnected to the drogue gun piston
31.18	Headspray connections	Ensure connected correctly
31.19	Harness assembly	
	(a) Upper harness	Ensure refitted correctly and held by the seat locks
	(b) Lap straps	Ensure refitted correctly and held by the seat locks
	(c) Negative-g strap	Ensure refitted correctly and held by the seat locks
31.20	PSP release connectors	Ensure routed and reconnected correctly
31.21	Sticker straps (2 off)	(i) Ensure sticker straps are routed above and clear of the personal survival pack connector straps and the harness lap straps (ii) Ensure the sticker strap lugs are outboard of the leaf spring within the related sticker clip

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throughout the work detailed on this card

- (iii) Ensure the sticker straps are free to rotate within the sticker clip assemblies

WARNING . . .

AUTOMATIC LIFERAFT INFLATION UNIT (ALIU) BATTERY STATIC LINE CONNECTIONS ARE ONLY APPLICABLE WHEN FITTING TEMPERATE, TROPICAL, DESERT SUMMER, DESERT WINTER AND JUNGLE VARIANT PSPs.

- | | | |
|--------------|---------------------------------------|---|
| 31.22 | PSP | |
| | (a) ALIU battery static line | Ensure the static line is correctly reconnected to the seat pan anchor bracket with the clevis pin fitted from inboard to outboard and secured with split pin |
| | (b) Lowering line arrowhead connector | Ensure reconnected to sticker clip |
| | (c) ADU operating static line | Ensure the static line is correctly reconnected to the seat pan anchor bracket with the clevis pin fitted from inboard to outboard and secured with split pin |
| | (d) ADU mode selector | Ensure set to AUTO |
| | (e) ADU safety pin | Ensure removed |
| | (f) Right hand side PSP D-ring | Ensure secure by applying a gentle pull upwards |
| 31.23 | Maintenance documentation | Enter as follows: <ul style="list-style-type: none">(i) Certified vital checks satisfactorily completed(ii) Record the following information in respect of all ejection seat cartridges:<ul style="list-style-type: none">(a) Maker/filler(b) Lot No.(c) Date of manufacture(d) Date of renewal |

(end of work block)

'HAZARD AND MAINTENANCE INFORMATION' (AP 101B-4104-5A2) is to be complied with throughout the work detailed on this card

AIRFRAME

32. PEC SEAT PORTION

- 32.1 Main oxygen system functional test Carry out (MP 25-11/1)

Note . . .

Item 32.2 is only applicable if the ejection seat/PEC is being refitted after scheduled maintenance or replacement.

- 32.2 Anti-G system functional test Carry out (MP 24-40/1)

(end of work block)

AVIONIC

33. PEC SEAT PORTION

- 33.1 MIC/TEL system (pre Mod. 02500) Carry out an inter-cockpit check (MP 60-40/1)
- 33.2 MIC/TEL system (post Mod. 02500) Carry out an inter-cockpit check (MP 60-40A/1)

(end of work block)

AVIONIC

Note . . .

Block 34. is applicable only to pre Mod. 02383 aircraft.

34. PREPARATION - IFF INTEGRITY TEST

- 34.1 Transponder:
- | | |
|---------------------|-------------------|
| (a) MASTER switch | Ensure set to OFF |
| (b) M-1/OUT switch | Set to M-1 |
| (c) M-2/OUT switch | Set to M-2 |
| (d) M-3A/OUT switch | Set to M-3A |
| (e) M-C/OUT switch | Set to M-C |

'HAZARD AND MAINTENANCE INFORMATION' (AP 101B-4104-5A2) is to be complied with throughout the work detailed on this card

- | | | |
|-------------|--------------------------------|--|
| | (f) MODE 1 code selectors | Set to 00 |
| | (g) MODE 3A code selectors | Set to 0000 |
| 34.2 | IFF-701 test set | Carry out self test as follows: |
| | (a) POWER key | Press |
| | (b) SELF TEST key | Press to enter the self test screen |
| | (c) ANTENNA connector | Terminate with 50 ohm connector |
| | (d) RUN/STOP key | Press to initiate self test and ensure when completed, the GREEN LED is illuminated and check the display to verify that all modules have passed |
| 34.3 | IFF-701 test set AUTO TEST key | Press to display the 1st line test screen (will show the results of the last AUTO TEST on the display) |

Note . . . Operation 34.4 is applicable only to pre Mod. 02383 aircraft.

- | | | |
|-------------|---------------------------|--|
| 34.4 | IFF-701 test set SLEW key | Select the required configuration as MK12-M4 |
|-------------|---------------------------|--|

(end of work block)

ELECTRICAL

Note . . . Block 35 is applicable only to pre Mod. 02383 aircraft.

35. PREPARATION

- | | | |
|-------------|----------------------------|---|
| 35.1 | CB 165 | Ensure set (<u>Chap.55-50</u>) |
| 35.2 | External a.c. power supply | Connect and switch ON (<u>Chap.55-40</u>) |

(end of work block)

AVIONIC

Note . . . Block 36 is applicable only to pre Mod. 02383 aircraft.

'HAZARD AND MAINTENANCE INFORMATION' (AP 101B-4104-5A2) is to be complied with throughout the work detailed on this card

36. PROCEDURE

36.1

Transponder:

(a) MASTER switch

- (i) Set to SBY and allow 3 min warm-up period
- (ii) Set to N

(b) TEST push button

Press and ensure the FAULT indicator is not white

36.2

IFF-701 test set SEL key

Press to select MODE 1, 2 REPLY TEST

36.3

IFF-701 test set RUN/STOP key

Press to initiate MODE 1, 2 REPLY TEST and ensure MODE 1 code reading is correct

36.4

CB 170

Trip ([Chap.55-50](#))

36.5

Radome assembly and radar maxi skirt

Open ([Chap.15-11](#))

36.6

Connectors 23SKB and 23SKC

Locate (zone 12) and disconnect, fit 50Ω termination lead to 23SKC

36.7

IFF-701 test set

Connect coaxial cable between test set ANTENNA connector and 23SKb (stowage point)

36.8

Transponder MASTER switch

Set to STBY

36.9

CB 170

Set ([Chap.55-50](#))

36.10

IFF-701 test set RUN/STOP key

Press and ensure the MODE 1 code reply is suffixed by the letters EM

36.11

IFF-701 test set RUN/STOP key

Press to end MODE 1, 2 REPLY TEST

36.12

IFF-701 test set

Disconnect coaxial cable between test set ANTENNA connector and 23SKb

36.13

Connector 23SKC

Remove the 50Ω termination and reconnect to 23SKc at the aircraft stowage point

36.14

Connectors 23SKB

Reconnect to 23SKb at the aircraft stowage point

36.15

Radome assembly and radar maxi skirt

Close ([Chap.15-11](#))

36.16

IFF-701 test set POWER key

Press to power down test set

36.17

Transponder MASTER switch

Set to OFF

(end of work block)

'HAZARD AND MAINTENANCE INFORMATION' (AP 101B-4104-5A2) is to be complied with throughout the work detailed on this card

ELECTRICAL

Note . . .

Block 37. is applicable only to pre Mod. 02383 aircraft.

37. COMPLETION

37.1 External a.c. power supply Switch OFF and disconnect (Chap.55-40)

(end of work block)

AVIONIC

Note . . .

Block 38. is applicable only to post Mod. 02383 aircraft.

38. PREPARATION - SUCCESSOR IDENTIFICATION FRIEND OR FOE (SIFF) INTEGRITY TEST

38.1 IFF inhibit/enable switch Set to 'ENABLE'

38.2 Access door R122 Open and secure (MP 07-40/1)

38.3 Transponder control and display unit (TCDU):

(a) Mode enable switches M1, M2, Set to OUT position
M3/A, MC, MS and M5

(b) MASTER switch Ensure in the PULL OFF position

38.4 RAPID TAKE OFF panel IGNITION switch Set to FLIGHT

38.5 IFF-701 test set Carry out self test as follows:

(a) POWER key Press

(b) SELF TEST key Press to enter the self test screen

(c) ANTENNA connector Terminate with 50 ohm connector

(d) RUN/STOP key Press to initiate self test and ensure when completed, the GREEN LED is illuminated and check the display to verify that all modules have passed

(end of work block)

'HAZARD AND MAINTENANCE INFORMATION' (AP 101B-4104-5A2) is to be complied with throughout the work detailed on this card

ELECTRICAL

Note . . .

Block 39. is applicable only to post Mod. 02383 aircraft.

39. PREPARATION

- | | | |
|-------------|----------------------------|---|
| 39.1 | CB 322 | Ensure tripped (<u>Chap.55-50</u>) |
| 39.2 | CB 3, 165, 170 and 355 | Ensure set (<u>Chap.55-50</u>) |
| 39.3 | External a.c. power supply | Connect and switch ON (<u>Chap.55-40</u>) |

(end of work block)

AVIONIC

Note . . .

Block 40. is applicable only to post Mod. 02383 aircraft.

40. PROCEDURE

- | | | |
|-------------|-------------|--|
| 40.1 | Transponder | Disconnect aerial connectors 48SKD (J2) and 48SKE (J3) |
|-------------|-------------|--|

CAUTION . . .

To prevent damage to IFF-701 test set, do not connect the transponder to the ANTENNA connector when set for direct connect.

- | | | |
|-------------|--------------------------------|--|
| 40.2 | IFF-701 test set | Connect the direct connect cable from RF I/O socket directly to J3 on the transponder |
| 40.3 | 50 Ω dummy load | Connect to J2 on the transponder |
| 40.4 | IFF-701 test set AUTO TEST key | Press to display the 1st line test screen (will show the results of the last AUTO TEST on the display) |
| 40.5 | IFF-701 test set SLEW key | Set the required configuration as MK12S-M4 |
| 40.6 | TCDU: | |
| | (a) MASTER switch | Set to STBY |
| | (b) Alphanumeric displays | Ensure SELF TEST displayed, followed by TEST PASS displayed for 5s on completion of PBIT |
| | (c) MASTER switch | Set to NORM |

'HAZARD AND MAINTENANCE INFORMATION' (AP 101B-4104-5A2) is to be complied with throughout the work detailed on this card

	(d) MODE 1 CODE	Set to 7300
	(e) MODE 2 CODE	Take note of the preset MODE 2 code, then set it to 7777
40.7	CB 170	Trip (<u>Chap.55-50</u>)
40.8	TCDU:	
	Alphanumeric display	Ensure EMER EMER displayed
40.9	IFF-701 test set SEL key	Select MODE 1, 2 REPLY TEST
40.10	IFF-701 test set RUN/STOP key	Press and ensure MODE 1 code of 7300 EM and MODE 2 code of 7777 EM displayed
40.11	IFF-701 test set SEL key	Select ATCRBS REPLY TEST
40.12	IFF-701 test set RUN/STOP key	Press and ensure MODE 3/A code of 7700 EM displayed
40.13	CB 170	Set (<u>Chap.55-50</u>)
40.14	TCDU:	
	(a) Alphanumeric display	Ensure EMER EMER no longer displayed
	(b) MODE 2 CODE	Reset MODE 2 code to that noted at Step 40.6(e)
	(c) MASTER switch	Set to PULL OFF position
40.15	IFF-701 test set POWER key	Press to power down test set
40.16	IFF-701 test set	Disconnect direct connect cable from RF I/O socket
40.17	Transponder	<ul style="list-style-type: none"> (i) Disconnect direct cable from J3 (ii) Disconnect 50Ω dummy load from J2 (iii) Connect aerial connectors 48SKD (J2) and 48SKE (J3)
40.18	SIFF upper and lower antenna post installation test	Carry out <u>MP 64-11/2</u>

(end of work block)

AVIONIC

Note . . .

Block 41 is applicable only to post Mod. 02383 aircraft.

'HAZARD AND MAINTENANCE INFORMATION' (AP 101B-4104-5A2) is to be complied with
throughout the work detailed on this card

41. COMPLETION

- | | | |
|-------------|--------------------------------------|---|
| 41.1 | RAPID TAKE OFF panel IGNITION switch | Set to OFF |
| 41.2 | External a.c. power supply | Switch OFF and disconnect (<u>Chap.55-40</u>) |
| 41.3 | Access door R122 | Close and secure (<u>MP 07-40/1</u>) |

(end of work block)

WEAPONS SNCO

42. INDEPENDENT CHECKS

- | | | |
|-------------|-------------------|--|
| 42.1 | Seat installation | Carry out independent checks (<u>MP 29-10/6</u>) |
|-------------|-------------------|--|

(end of work block)

AIRFRAME

43. COMPLETION

- | | | |
|-------------|--------|---------------------------|
| 43.1 | Canopy | Fit (<u>MP 15-13/2</u>) |
|-------------|--------|---------------------------|

(end of work block)

WEAPONS

44. MAINTENANCE DOCUMENTATION

Note . . .

Due to the increase in weight of the post Mod.02198B seat, following initial installation of the post Mod.02198B seat(s), the mass and moment information of the aircraft is to be updated accordingly iaw para.12 Mod.02198B Lft and Chap.10-30.

- | | | |
|-------------|---------------------------|----------|
| 44.1 | Maintenance documentation | Complete |
|-------------|---------------------------|----------|

(end of work block)
(END OF MP)

